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THE ALPHABET

AN ACCOUNT OF THE

Origin and Development of Letters

VOL. I.

25a

THE ALPHABET

AN ACCOUNT OF THE

Origin and Development of Letters

By ISAAC TAYLOR, M.A., LL.D.

IN TWO VOLUMES

VOL. I.

Semitic Alphabets



27/22
5/6/93.

LONDON

KEGAN PAUL, TRENCH, & CO., 1, PATERNOSTER SQUARE

1883

P
211
T3
V. 1

LONDON:
PRINTED BY GILBERT & RIVINGTON (LIMITED),
ST. JOHN'S SQUARE, CLERKENWELL ROAD.

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P R E F A C E.

THIS book represents the labour of many years. It was undertaken with the intention of compiling a brief account of recent discoveries as to the origin of the Alphabet, and its subsequent developments. Knowing how extensive was the literature of the subject, I did not suppose that there would be need or place for original research in connection with such a well-worn theme. It soon became manifest, however, not only that the History of the Alphabet had never been written, but that to some extent it had not even been discovered. Although many departments of the subject had been exhaustively discussed, I found that the origin of several important Alphabets would have to be investigated anew, while with regard to some of the best known scripts various collateral problems still awaited a solution. Such questions, arising one by one, necessitated unforeseen and tedious investigation, the accumulation of many books, and the study of manuscripts and inscriptions in distant Libraries and Museums. Hence the delays in the appearance of a work, a considerable portion of which had been

written when it was originally announced for publication in 1876.

In dealing with a subject so extensive, and with materials so copious, it has proved no easy task to keep the book within any reasonable limits. Mere technical details have been as far as possible suppressed, or relegated to the notes, while opinions which are stated in a sentence, or data which are epitomized in a single column of a Table, frequently represent the results of prolonged research. The vast accumulations of epigraphic material which are now at command have been carefully sifted, so as to make the account of inscriptions and manuscripts selective, rather than exhaustive. It seemed better to attempt a somewhat full description of a few great cardinal monuments, rather than to give mere barren references to many of only secondary importance. *Inopem me copia fecit* is the excuse I have to plead for numberless deliberate but unavoidable omissions. If the book was to be complete, it was impossible that it should also be comprehensive.

The difficulty of compressing essential details into small compass has been chiefly met by presenting the fundamental facts in tabular form. The numerous Tables of Alphabets, which will doubtless only be glanced at by the general reader, will be found by the real student to be of primary importance.

It will probably be a matter of surprise that the ground taken up in this book should not already have

been occupied. An explanation, however, is not far to seek. It is only within the last few years that extensive discoveries of fresh epigraphic material, the reproduction in trustworthy photographic facsimile of important records, the gradual recognition of those fundamental principles of Palæographic Science which are set forth in the concluding chapter of this book, together with the publication of valuable monographs dealing with small departments of the subject, have made possible a History of the Alphabet. It cannot, however, be affirmed that its history has hitherto been written. Existing treatises on the subject are either books belonging to the pre-scientific era, such as the works of Astle and Humphreys, or are wholly popular and uncritical, like Faulmann's *Geschichte der Schrift*, or mere outline sketches by competent writers, such as the essays of Maspero and Peile, or uncompleted fragments, like the brilliant chapters of the vast work which Lenormant, in despair, has abandoned in the middle of a sentence.

But, although no general History of the Alphabet exists, limited departments of the subject have been diligently investigated by a host of specialists. One obscure point after another has been cleared up by the labours of scholars who have devoted themselves to the exhaustive treatment of special branches of epigraphy or numismatics. It may suffice to specify the labours of Blau on the coins of the Achæmenian satraps, of Levy on the Sinaitic inscriptions, or of

Burnell on the ancient Dravidian Alphabets. Many pages would be occupied by a mere enumeration of similar monographs. Some of the most valuable of these treatises are practically inaccessible or unknown, being scattered through the volumes of scientific periodicals and the Transactions of learned Societies.

Such researches, while they have made possible the task of the present writer, have at the same time rendered it a more formidable enterprise. In these days of excessive specialization, to venture on a wide field, small portions of which have occupied the exclusive attention of eminent scholars, requires no little courage, and none the less, because, while making constant use of their labours, it has been needful to exercise an independent judgment as to their conclusions. To take shelter beneath the authority of great names is doubtless the readiest way of escaping blame, but this is not the method by which knowledge can be advanced. If I have ventured occasionally to differ from scholars of such eminence as Benfey, Ritschl, Böckh, Lepsius, Lagarde, Lenormant, Mommsen, Kirchhoff, or Wattenbach, it has been with the utmost diffidence, and because I have found it impossible to reconcile their opinions with the logic of indisputable facts.

While endeavouring honestly to recognize the claims of all fellow-workers in the field, and to take credit for no discovery which I did not believe to be my own, I have avoided parade of authorities for the facts on

which opinions have been founded, or any needless multiplication of references to standard works which go over portions of my own ground. Among the arts of bookmaking no process is more facile or more useless than the compilation of bulky foot-notes, crammed with references, which give a book a cheap but deceptive appearance of erudition. Thus to have burdened the present volumes would have easily doubled their size, and for the sake of a very dubious advantage. The ordinary reader has no occasion for such notes, while to the specialist they are superfluous, as he necessarily has at hand works of reference in which this need is amply provided for. Thus, in order to trace the epigraphic material on which the account of the Phœnician Alphabets is based, it will usually suffice for the student to turn to Schröder's *Phönizische Sprache*, or to Lenormant's *Alphabet Phénicien*. Similarly, for the Hellenic Alphabets, the great *Corpora Inscriptionum*, Greek, Attic, Latin, and Italic, with the hand-books of Kirchhoff, Fabretti, Hicks, Wattenbach, and Gardthausen, will, as a rule, supply the needful references.

Where no such systematic manuals are available the chief sources of information have been indicated in general bibliographical notes, which it is believed will enable any student of ordinary diligence to discover for himself the authorities for all essential facts. These notes, it is hoped, may also prove useful to those who may desire to enter upon the study of any special

department of Palæography, or to use this book as a general introduction to the subject.

With regard to the spelling of foreign, and especially of Oriental names, I have endeavoured to keep to accepted usages, and to avoid all appearance of pedantry. It seems inexpedient to write Narbadá, Mírath, Dihli and Kálíghát, instead of the familiar forms Nerbudda, Meerut, Delhi and Calcutta. Such innovations teach nothing to the learned, and only perplex the simple. Again, in the case of a single language, precise transliteration presents no formidable difficulties: in dealing with many languages it is otherwise. Any system of diacritical marks which aims at being universal must necessarily be either cumbrous, incomplete, or inconsistent. If the same symbol be used invariably to denote the same precise sound, it would be needful to make use of an artificial alphabet containing upwards of seventy vowel signs, while the nasal, *n*, would require twelve separate symbols, and the liquid, *r*, no fewer than twenty-three;—an expedient which would drive writers, readers, and printers, to despair.

A perfect system being practically unattainable, transliteration becomes only a question of degree. Where ought the line to be drawn? If, as is customary, we write Aṣoka, Pāli, Devanāgarī and Nepāl, we ought also, to be consistent, write Tamiḷ, Sanskr̥it, Drāviḍian, Baṅgāl, Brāhmaṇ, Prākṛit and Mahrāthī, as well as Islām, Afghān and Hindūstān. But even

the most rigorous purists are occasionally content in these and similar instances to follow ordinary usages.

Nor have I thought it needful to adopt the somewhat pedantic spelling of Greek names which is now in vogue, but have adhered to the system followed by such scholars as Professors Jowett, Jebb, and Ellis, who are still content to spell as Bentley and Porson spelt. To write Homêros and Thoukudidês, Ktêsias and Kuklôps, is an affectation which cannot be justified even on the ground of accuracy, since the very forms of the letters which confront us on the page testify that Greek names transliterated into a Latin alphabet are subject to the laws of Latin phonology. Names which have established themselves in English may retain their familiar dress, names commonly used by Latin authors may be spelt, in our Latin alphabet, according to the Latin system of transliteration, while Greek names known only from an inscription or a coin may perhaps be conformed to Greek orthography.

Lastly, I have to acknowledge the generous aid of many eminent specialists who have placed at my disposal their stores of knowledge or of books. To M. Lenormant, Mr. A. J. Ellis, Professors Friedrich Müller, Jagić, and Robertson Smith my obligations have been partially acknowledged in the notes. Dr. Euting has most kindly allowed me to discuss with him many obscure points, and has revised my account of the Aramean and Iranian alphabets. Professor Jebb, Mr. Morfill, Dr. Burnell, Mr. Cust, and Mr. Stallebrass

have supplied valuable suggestions in connection with the Greek, the Slavonic, the Indian, and the Mongolian alphabets, and have read and annotated many of the proofs. To Professor Percy Gardner and Mr. Barclay Head I have never applied in vain for information respecting coins, by which alone the history of several obscure local alphabets can be traced. The difficulty, in a remote Yorkshire village, of obtaining access to costly or unpurchasable books has been greatly lessened by the kindness of Dr. Rost and Mr. Vaux. But my thanks are more especially due to my friend Professor Sayce, who, during the long course of years that the book has been in progress, has given me constant encouragement in my task, taking the trouble to read nearly all the proofs, and most generously allowing me to make use of his own unpublished discoveries in connection with several of the most difficult scripts with which I have had to deal, such, for instance, as the Hittite and Cuneiform syllabaries, and the Asianic alphabets.

The typographic difficulties involved in the production of these pages have been so formidable, that a word of acknowledgment is due to the skill and pains with which they have been overcome by my printers, Messrs. Gilbert and Rivington, who have placed at my disposal their collection of Oriental types, unrivalled probably by any private office, and excelled only by the Government establishments at Paris and Vienna.

I. T.

SETTRINGTON, *March*, 1883.

CONTENTS OF VOL. I.

CHAPTER I.—THE INVENTORS OF WRITING.

	PAGE
§ 1. Alphabetic and Non-Alphabetic Writing	1
§ 2. Ideograms and Phonograms	5
§ 3. Classification of the Primitive Systems of Writing	13
§ 4. The Picture Writing of Savage Tribes	15
§ 5. The Chinese Characters	25
§ 6. The Japanese Syllabaries	33
§ 7. The Cuneiform Writing	39
§ 8. The Egyptian Hieroglyphics	55

CHAPTER II.—THE ORIGIN OF THE ALPHABET.

§ 1. The Genealogy of the English Alphabet	70
§ 2. The Alphabetic Tradition	82
§ 3. The History of de Rouge's Discovery	88
§ 4. The Papyrus Prisse	92
§ 5. Identification of the Egyptian Prototypes of the Semitic Letters	98
§ 6. Objections to de Rouge's Hypothesis	116
§ 7. The Chronological Conditions	132
§ 8. The Geographical Probabilities	147

CHAPTER III.—THE PRIMITIVE LETTERS.

§ 1. The Characteristics of the Semitic Alphabets	158
§ 2. The Names of the Letters	166
§ 3. Their Phonetic Powers	175
§ 4. The Alphabetic Order	185

CHAPTER IV.—THE PHŒNICIAN ALPHABET.

	PAGE
§ 1. The Two Types of the Phœnician Alphabet	197
§ 2. The Inscriptions of the First Epoch	206
§ 3. The Inscriptions of the Second Epoch	220
§ 4. The Punic Alphabet	226
§ 5. The Alphabet of Israel	230

CHAPTER V.—THE ARAMEAN ALPHABETS.

§ 1. Aram	245
§ 2. Nineveh and the Satrapies	252
§ 3. Egypt	259
§ 4. Palmyra	263
§ 5. Hebrew	268
§ 6. Syriac	283
§ 7. Mongolian	297
§ 8. Arabic	312

CHAPTER VI.—THE SOUTH SEMITIC ALPHABETS.

§ 1. Affiliation of the South Semitic Alphabets	335
§ 2. The Thamudite Inscriptions of Safa	342
§ 3. The Himyaritic or Sabeian Alphabet	345
§ 4. The Ethiopic Alphabet	349

T A B L E S .

	PAGE
Development of the letter M	11
The Hieroglyphic Alphabet	67
Genealogy of the English letters	72
The Semitic and Greek Alphabets	75, 78
Genealogy of the Semitic family of Alphabets	81
Origin of the Alphabet	99
Transliteration of the Semitic letters	176
Phœnician test forms	201, 204, 215
The Phœnician Alphabets	227
Alphabets of Jerusalem and Samaria	243
The Aramean Alphabets	250
Aramean test forms	251
Hebrew Alphabets	270
Syriac Alphabets	288
The Mongolian Alphabet	308
The Syriac and Arabic Alphabets	315
Origin of the Arabic Alphabet	326
Transliteration of Arabic and Persian letters	333
The South Semitic Alphabets	338
The Ethiopic Alphabet	350

ILLUSTRATIONS.

	PAGE
Palæolithic Picture	16
Pictorial record from Ohio	19
IDEOGRAMS :—	
Aztec	23
Chinese	26, 27, 31, 37, 38
Babylonian	41, 42, 53
Egyptian	59-61, 66, 170, 172
Hieratic writing of Papyrus Prisse	97
INSCRIPTIONS :—	
Moabite Stone	208
Baal Lebanon Bowls	213, 214
Assyrian Lion Weight	218
Eshmunazar Sarcophagus	221
Punic Coin	230
The Siloam Inscription	234
Jewish Shekels	240, 241
Assyrian Dockets	254, 255
Lion Weight from Abydos	257
The Turin Papyrus	262
Mongolian Paternoster	303
Inscription of Abdalmalik	322
Kufic Coins	324
Record from Safa	343
Himyaritic Monument	348

CHAPTER I.

THE INVENTORS OF WRITING.

§ 1. *Alphabetic and non-Alphabetic Writing.* § 2. *Ideograms and Phonograms.* § 3. *Classification of the Primitive Systems of Writing.* § 4. *The Picture-writing of Savage Tribes.* § 5. *The Chinese Characters.* § 6. *The Japanese Syllabaries.* § 7. *The Cuneiform Writing.* § 8. *The Egyptian Hieroglyphics.*

§ I. ALPHABETIC AND NON-ALPHABETIC WRITING.

To us nothing seems more natural or more easy than to express on paper the sounds of our spoken words by means of those twenty-six simple signs which we call the letters of the Alphabet. The phrase "as easy as A.B.C." has actually become a proverbial expression.

And yet, if we set aside the still more wonderful invention of speech, the discovery of the Alphabet may fairly be accounted the most difficult as well as the most fruitful of all the past achievements of

the human intellect. It has been at once the triumph, the instrument, and the register of the progress of our race.

But, long before the Alphabet had been invented, men had contrived other systems of graphic representation by means of which words could be recorded. The discovery of some rude form of the art of writing was, we may believe, the first permanent step that was taken in the progress towards civilization. Till men could leave behind them a record of acquired knowledge the sum of their acquisitions must have remained almost stationary. Thus only could successive generations be enabled to profit by the labours of those who had gone before, and begin their onward progress from the most advanced point which their predecessors had attained.

It is true that at a time when writing was unknown it would be possible for civilization to advance in certain defined directions. There would, for example, be nothing to prevent a considerable development of artistic skill; the metallurgic, the ceramic, and the textile arts might flourish, and certain forms of poetry—lyric, epic, and dramatic—would not altogether be impossible. All this might easily be the case, but, on the other hand, law would be mainly custom, science could be little more than vague tradition, history would be uncertain legend, while religion must have consisted mainly of rhythmic adorations, and of formulas of magical incantation. The Vedic hymns,

the Arval chants, the rhapsodies of the Kalevala, the metrical maledictions of Accadian priests, the tale of Troy, the legend of Romulus, the traditional folk lore of the Maories, may give us a measure of the extreme limits which are attainable by the religion, the literature, the history, and the science of unlettered nations. It is more than a mere epigram to affirm that unlettered races must of necessity be illiterate.

But not only may a people have a literature without letters, but they may possess the Art of Writing without the knowledge of an Alphabet. Every system of non-alphabetic writing will, however, either be so limited in its power of expression as to be of small practical value, or, on the other hand, it will be so difficult and complicated as to be unsuited for general use. It is only by means of the potent simplicity of the alphabet that the art of writing can be brought within general reach. The familiar instances of Egypt, Assyria, and China are sufficient to prove that without the alphabet any complete system for the graphic representation of speech is an acquirement so arduous as to demand the labour of a lifetime. Under such conditions, science and religion necessarily tend to remain the exclusive property of a sacerdotal caste; any diffused and extended national culture becomes impossible, religion degenerates into magic, the chasm which separates the rulers and the ruled grows greater and more impassable, and the very art of writing, instead of being the most effective of all the means of progress,

becomes one of the most powerful of the instruments by which the masses of mankind can be held enslaved.

Hence it must be admitted that the really important factor in human progress is not so much the discovery of a method by which words can be recorded, as the invention of some facile graphic device, such as the alphabet, by means of which the art of writing can be so far simplified as to become attainable before the years of adolescence have been passed.

But though alphabetic writing, when once invented, becomes an art easy to acquire, it has proved itself to be a discovery most difficult to effect. To invent and to bring to perfection the score or so of handy symbols for the expression of spoken sounds which we call our Alphabet, has proved to be the most arduous enterprise on which the human intellect has ever been engaged. Its achievement tasked the genius of the three most gifted races of the ancient world. It was begun by the Egyptians, continued by the Semites, and finally perfected by the Greeks. To show that from certain Egyptian hieroglyphic pictures, which were in use long before the Pyramids were erected, it is possible to deduce the actual outlines of almost every letter of our modern English Alphabet; to recount the history and to investigate the transformations of these ancient phonograms through the period of 6000 years during which they have been in use; to trace also the unity and the historical connec-

tion which subsists between all the various existing alphabets of the world ; these are the tasks to which the following pages will be devoted.

§ 2. IDEOGRAMS AND PHONOGRAMS.

The Egyptian hieroglyphic writing, although it is the source of all existing alphabets, is far from being the only graphic system which has been invented, or even the only one which attained the alphabetic stage of development. Again and again, at different epochs, men of various races have independently succeeded in inventing methods of Writing, which may be defined as "the art of recording events and sending messages." In all such cases the starting point and the general direction of development have been the same. Every system of writing has begun with rude pictures of objects ; these pictures, more or less conventionalized, were gradually assumed as the representatives of words, and afterwards became the symbols of more or less elementary sounds.

To use the convenient technical phraseology which is now generally adopted, we may say that Writing began with IDEOGRAMS, which afterwards developed into PHONOGRAMS.

IDEOGRAMS may be defined to be pictures intended to represent either things or thoughts. There are two kinds of Ideograms ; (1) Pictures, or actual representations of objects ; (2) Pictorial symbols, which are used to suggest abstract ideas.

PHONOGRAMS may be defined as the graphic symbols of sounds. They have usually arisen out of conventionalized Ideograms, which have been taken to represent sounds instead of things. Phonograms are of three kinds ; (1) Verbal signs, which stand for entire words ; (2) Syllabic signs, which stand for the articulations of which words are composed ; (3) Alphabetic signs, or letters, which represent the elementary sounds into which the syllable can be resolved.

The development of alphabetic writing proceeds regularly through these five successive stages.


Although our own writing has reached the alphabetic stage, yet we still continue to employ a considerable number of phonographic and ideographic signs. According to Grotefend, several of the Roman numerals are ancient ideograms. That the digits I., II., III., may be regarded as pictures of fingers is implied by their very name, and on the whole it is most probable that V was at first a picture of the fork of the hand, with the fingers collected and the thumb apart, so that **VV** or **X** represents the two hands, while **IV** and **VI** would be a picture of the hand with the subtraction or addition of a finger.¹








¹ Ritschl, *Zur Geschichte des lateinischen Alphabets* (*Rheinisches Museum für Philologie*, 1869), has undertaken to explain the origin of the Roman numerals from unused letters of the Greek alphabet. His explanation may be accepted so far as concerns the origin of **M** and **D** from Ⓞ , of **C** from ⊙ , and of **L** from Ⓢ , but with regard to the numerals **V** and **X**, relying on the opinion of Mommsen (*Die*

The zodiacal and planetary signs used by astronomers are also ideograms. The symbol ☿ is the caduceus of Mercury entwined by two serpents; ♀ is the mirror of Venus, with its handle; and ♂ is the shield and spear of Mars. The symbol ♃, which denotes Jupiter, resolves itself into an arm grasping a thunderbolt; while ♄, which stands for Saturn, is a mower's scythe. On the celebrated zodiac of Dendera, the date of which is believed to be about 700 B.C., the signs of the zodiac are exhibited in a primitive pictorial form, which leaves no doubt as to their signification. Thus we see that in ♈, the modern sign for Aries, nothing is left but the curved horns of the Ram; in ♉ we may recognize the head and horns of Taurus; in ♏ we have the arrow and a portion of the bow of Sagittarius, while the curious symbol ♊ is found actually to preserve the whole outline of the

unteritalischen Dialekte, pp. 33, 34), I venture to differ even from a scholar so great as Ritschl. Not only does his explanation seem to be unsupported by evidence, but it is difficult to reconcile it with such evidence as exists. The Etruscan and Roman numerals cannot be dissociated. The famous Etruscan gem of the "Calculator," now at Paris (Fabretti, No. 2578 *ter*), seems to me to be fatal to Ritschl's theory. The two numerals, ⊕ and X, which Ritschl would identify as successive forms of the same sign, appear side by side on the calculating board, evidently denoting different numbers, doubtless 100 and 10. It is also most improbable that the two forms of theta, ⊕ and ⊙, should have the entirely different values of 10 and 100. The Etruscan 5 is Λ, apparently an ideogram of the hand like the Roman V; while I and >, which stand for 1 and $\frac{1}{2}$, seem to represent respectively the forefinger, and the forefinger partly doubled down.

primitive picture of Capricornus, the small circle being the head of the Goat, with the forelegs below, the body and tail extending to the left.







Among other ideograms which we employ may be enumerated the crown and the broad arrow, sundry trade marks and armorial bearings,¹ together with several printers' signs, such as , !, and =. To these we may add certain shop signs, such as the barber's pole with its spiral bandages, which is a significant ideogram of the bloodletter, or the three golden balls of our pawnbrokers, a curious survival of the boluses which denoted the ancestral calling of the Florentine family of the Medici.

Such symbols as *℥. s. d.*, though alphabetic in their origin, are now used simply as convenient phonograms, standing for the words "pounds" "shillings" and "pence." To the same class belong the signs &c., ?, \$, lbs., cwt.; most of the Arabic numerals are degraded forms of Semitic letters; while the successive forms *ET ET*        show that the algebraical sign + is a contraction of the Latin word *et*, as - is of *minus*.

The letters of the alphabet, on the other hand, are phonograms which by the process of long continued detrition have reached an extreme stage of simplicity both as regards form and value. If the history of any one of our alphabetic symbols be traced backwards, it will be found to resolve itself ultimately into the

¹ "Canting arms" such as those of Ash-ton, a tree growing in a tun, are phonograms rather than ideograms.

conventionalized picture of some object. In spite of long continued usage during so many centuries, the modern letter retains in almost every instance manifest features derived from the primitive picture from which it has descended.

As an illustration we may examine the history of the letter *m*, which is known to be the conventionalized picture of an owl. In the old Egyptian language the name of the owl was *mulak*. The picture of the owl must have been primarily used as an ideogram to denote the bird itself, secondly as a phonogram standing for the name of the bird; it then became a syllabic sign used to express the sound *mu*, the first syllable of the name, until ultimately it came to be employed simply to denote *m*, the initial sound of that syllable. During the progress of these changes in the value of the symbol the monumental representation remained so far unchanged that it can be recognized at once as being consciously intended for the picture of an owl. But when the Hieroglyphics were written on papyrus instead of stone the old Hieroglyphic picture, , assumed a cursive form which could be more rapidly and easily written, and we have the character  standing for *m*. In the Hieratic writing the picture was so entirely conventionalized that there seems to be no remaining consciousness of the significance of the original picture, the back and legs are omitted, and we obtain the forms , and . In the Demotic writing, which is still more cursive, we find further simplifications, first , and then . It will presently

be shown that the Semitic letters must have been derived from the Hieratic forms of the Egyptian characters. The earliest known specimen of Semitic writing is the inscription on the Moabite stone. In this inscription the letter *m* appears as 𐤌 , a form which can without difficulty be connected with the Hieratic prototype 𐎎 . From the Moabite letter the transition is easy to the early Greek form Μ , whence are derived the later Greek forms Μ , Μ and μ . From the Greek colonies in Italy came the Roman capital M , from which we obtain the minuscule *m*, and, finally, our modern script form *m*.

It will be noticed that our English letter has preserved, throughout its long history of 6000 years, certain features by which it may be recognized as the conventionalized picture of an owl. In the capital letter M the two peaks, which are the lineal descendants of the two ears of the owl, still retain between them a not inapt representation of the beak, while the first of the vertical strokes represents the breast. In the script form *m*, the central hanger stands for the beak, on either side of which are seen the two curves which represent the ears.

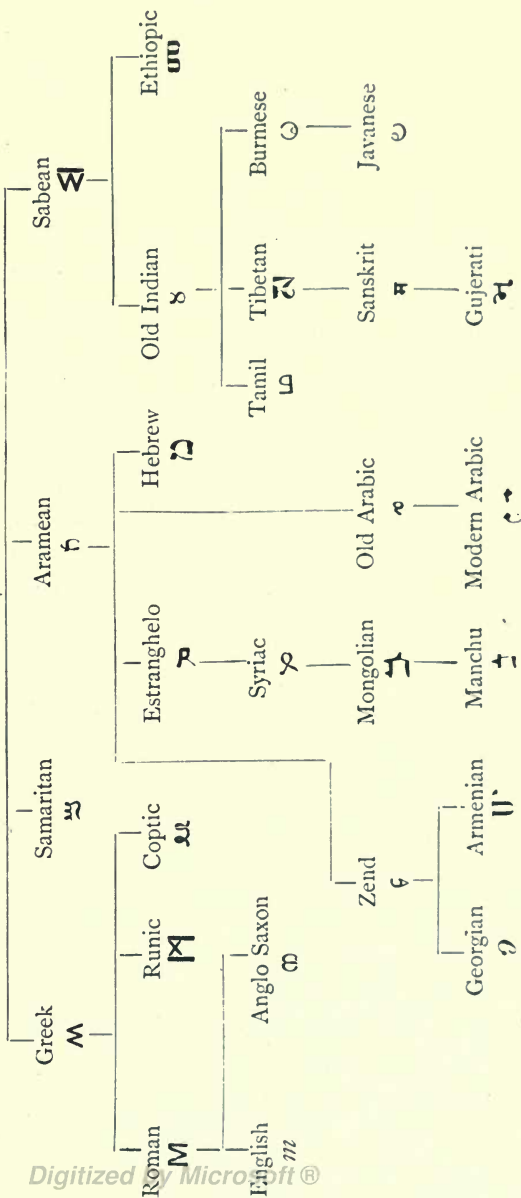
But this is only a small portion of the long and varied history of this letter. The same essential features may be traced with more or less distinctness throughout all the marvellous transformations which the form of this letter has undergone in other alphabets, some of the more typical of which are given in the subjoined table.










THE LETTER M.

Egyptian



Phoenician



In these varied symbols of this sound, as well as in many other forms which might easily have been added, it is possible, without any very great difficulty, to detect surviving elements of the primitive Hieroglyphic picture, and to make out either the ears, the beak, or the breast of the owl. Almost any other letter might have been taken as an illustration of the way in which modern Alphabetic signs may be traced back to their primitive picture forms. Thus the letter F is derived from , the Hieroglyphic picture of the cerastes, or horned Egyptian asp. The two bars of our F are the survivals of the two horns, while the vertical stroke represents the body. In the letter Y, which comes from the same Hieroglyphic picture, the two horns and the body of the asp are retained; but in the derivatives V and U the body has entirely disappeared, while the reduplicated character W is constructed of four strokes, which stand simply for four horns. In the Hebrew , the Samaritan , the Armenian , and the Runic , the horns and the body may easily be discerned; in the Syriac , the Arabic , and the Sanskrit , the two horns have coalesced into a loop, while in the Burmese  the body has disappeared, and the loop alone is left as a representative of the horns. In like manner it might be shown that the letter A was originally the picture of an eagle, R of the mouth, D of the hand, and so on with the rest.

The origin and developments of the several letters

of the alphabet will be investigated in detail in subsequent chapters; the foregoing instances being here brought forward only as illustrations of the proposition as to the pictorial origin of our letters, and also with the object of giving some general notion of the way in which all existing alphabets are linked together by the tie of a common parentage. But before entering upon the task of investigating systematically the origin and connection of the many hundred alphabetic signs which are in use in different parts of the world, it will be necessary to give an account of ideographic and syllabic signs, out of which alphabetic characters have arisen. The remainder of this preliminary chapter will therefore be devoted to a rapid sketch of the various systems of non-alphabetic writing, with the special object of investigating the processes by which primitive picture ideograms have passed through the successive stages of phonograms and syllabic signs till they finally developed into letters.

§ 3. CLASSIFICATION OF THE PRIMITIVE SYSTEMS OF WRITING.

There are no less than five great systems of picture writing which have independently been invented. These, together with their principal developments in the direction of phonetic writing, may be enumerated as follows.

We have—

I. THE EGYPTIAN.

1. The Monumental Hieroglyphic.
2. The Cursive Hieratic.
3. The Semitic Alphabet.
4. The Cursive Demotic.
5. The Coptic Alphabet (in part).

II. THE CUNEIFORM.

1. The Linear Babylonian Hieroglyphs.
2. The Archaic Babylonian Cuneiform.
3. The Hieratic Babylonian.
4. The Susian Syllabary.
5. The Assyrian Cuneiform.
6. The Armenian Cuneiform, or Alarodian.
7. The later Babylonian (3rd Achæmenian).
8. The Protomedic Syllabary (2nd Achæmenian).
9. The Persian Cuneiform Alphabet (1st Achæmenian).

III. THE CHINESE.

1. The Ku-wen picture ideograms.
2. The square Kyai-shu, or "model" character.
3. The Japanese Katakana Syllabary.
4. The cursive Tsau-shu, or "grass" character.
5. The Japanese Hirakana Syllabary.

IV. THE MEXICAN.

1. The Aztec picture ideograms.
2. The Maya Alphabet of Yucatan.

V. THE HITTITE.

1. The Carchemish Hieroglyphs.
2. The Asia Minor Syllabary.
3. The Lycian Alphabet (in part).
4. The Cypriote Syllabary.

In addition to these systems we have the independently invented picture writing of various semi-savage tribes, such as the North American Indians, the Picts, the Laplanders and the Eskimos.

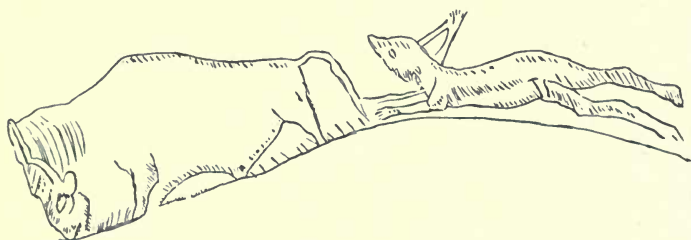
§ 4. THE PICTURE-WRITING OF SAVAGE TRIBES.

The great historic systems of writing are of such immense antiquity that their history has to be explained to a great extent by the aid of conjecture and analogy. Hence the rudimentary forms of picture writing, which we find among the less cultured races, are of considerable interest and value, inasmuch as they throw light on the earlier stages of the development of graphic symbols.

The earliest attempts at the graphic art of which we have any knowledge reach back to a more primæval period than even the piles of potsherds which mark so many of the sites of pre-historic habitation. In the rock shelters of Southern France the palæolithic men, who followed the retreating ice of the last glacial epoch, and who were contemporaries of the woolly rhinoceros, the hyena, the cave bear, and the mam-

moth, have left behind them numerous records of their pursuits, rudely scratched by means of flint flakes on the bones, horns, and tusks of the extinct beasts with whom they struggled for existence.

Probably the very earliest record which we possess of any actual event is the scene depicted on a fragment of an antler, which was found in the rock shelter at Laugerie Basse, in Auvergne. A primæval hunter, naked save for the long hair which protects his body from the cold, has crept up to a gigantic Urus, feeding in the grass, and is seen in the very act of casting a spear at his unsuspecting prey.



On another piece of antler from the same locality we have portrayed in the most spirited manner the charge of an elephant, who comes on with mouth wide open and elevated trunk.¹ From caves of the same palæolithic age we have also representations of the mammoth, the reindeer, the seal, the whale, and the cave bear, and on one curious fragment the chase of the wild horse is cleverly represented.

¹ See Boyd Dawkins, *Early Man in Britain*, pp. 213—215.

These graphic efforts of the palæolithic men are remarkable, not only for a very high degree of artistic excellence, but also for their immense antiquity. The "Cave Men" who have left behind them these records of their pursuits were of Pleistocene age—an antiquity not as yet measurable to us by any computation of years, or even of centuries. But the evidence enables us to assign these early attempts at a graphic record of events to a period more remote than the invention of pottery or of spinning—prior even to the taming of any domestic animal, or the cultivation of cereals; earlier, so far as we know, than the construction of any kind of human habitation.

Coming down to more recent times, we find similar attempts among many savage races. The grave of a chief is indicated by his totem scratched upon a slab: tribal boundaries are marked by stones engraved with the totem of the tribe. The very curious records on the Pictish Stones of Scotland, the pictures on the magic drums of the Laplanders, the drawings found on rocks in Australia, Siberia, Peru and Arabia, not only show how keenly men of different races have striven to record their thoughts, and to leave behind them some lasting memorial of their deeds, but are also of value as proving the essential similarity of the means which they have adopted to give effect to their desires.

Of a somewhat different nature are mnemonic records, used as an aid to the memory of a messenger

or narrator. To this category belong the wampum belts which constitute the tribal records of the North American Indians. Wampum is the name given to strings of perforated shells, usually the great clam, the pearl oyster, or the Venus shell, which are woven into belts of various patterns, into which dates, treaties, and national events are "talked." The belts are committed to the care of special custodians, and are handed down from generation to generation as the archives of the various tribes. A belt of wampum made of fresh-water univalves constituted the great charter of the Iroquois league; and the treaty which the Delaware or Leni Lenape Indians made with Penn in 1682 is commemorated by a belt of white and purple wampum, which is still preserved at Philadelphia.¹

To the same class of records belong the quippus, or knotted cords, by which the Incas of Peru transmitted orders to the outlying provinces of their empire; and which were also made to serve as biographical memoirs of the events in the lives of distinguished persons, and were frequently buried with them in their graves.

Wampum and quippus are mnemonic records of the most elementary kind. Of a more elaborate character are the curious birch bark pictures which are employed by the North American Indians to suggest to the mind the order of the successive verses of the songs

¹ Dawson, *Fossil Men*, pp. 143, 144.

of love or war which are chanted over the camp fires. The attempt to interpret such memorials is usually hopeless unless the clue is known. More easy to explain are the warnings of danger, or the records of hunting exploits which were scratched on rocks or scored on the blazed trunks of trees, in which certain conventional signs are usually employed. Intelligible memorials of certain important events have occasionally been preserved by means of pictorial records of this nature. A good example is supplied by a rude drawing which was cut more than a century ago on the bark of a tree in Ohio. This drawing, a facsimile of which is given below, commemorates the achievements of Wingemund, a chief of the Leni Lenape tribe, who attacked the English settlements in the years 1762 and 1763.



At the bottom of the picture we see twenty-three warriors, who are bending forward to show that they are proceeding on the war-path. The sun has made ten pathways, the arrangement of which in two groups

indicates two expeditions, one of six days in duration, the other of four. We have in the centre the representation of the three English forts which were attacked. The lowest is Fort Pitt, at the confluence of two rivers, the Alleghany and the Monogehala. The square bastioned fort enclosing two buildings represents the trading station at Detroit, and the third is a smaller fort, situated on an island in Lake Erie. To the left are seen ten vanquished enemies. The four who retain their heads were taken prisoners, the other six represent the slain. In the corner is seen the figure of a tortoise. This is an ideogram which is found at the end of other similar records, and may probably denote "return to land," or perhaps "safety." The introduction of this ideogram marks the furthest stage reached by the Red Men in the graphic art. In the other portions of the design we have only representations of concrete objects. The figure of the tortoise is an immense step in advance: it marks the beginning of symbolism. The tortoise is a pure ideogram, the picture of an object being taken as the conventional symbol of an abstract thought.

It is manifest that the introduction of symbolic ideograms renders possible a greatly extended development of the art of graphic representation. Schoolcraft, in his account of the Indian tribes, gives a considerable number of these conventional symbols. Thus a pipe stands for "peace," a vine for "friendship," a fowl with outstretched wings denotes "haste," a fire means a

“family circle,” and concentric circles or suns represent “time.” By the aid of the French missionaries this system of pictorial symbolism has been developed among the Mikmaks of Nova Scotia and New Brunswick to so great an extent that whole sentences can be ideographically expressed. A few years ago a religious work was printed at Vienna in the Mikmak language, in which no less than 5701 ideographic symbols are employed.

A further extension of the system of picture writing became possible when it was discovered that complex ideas could be conveyed by combinations of simple ideograms. Thus in the primitive Chinese writing we find a “wife” is denoted by the combination of the conventional pictures of a “woman” and a “broom,” and the verb “to love” is expressed by the pictures of a “woman” and a “son.” In the early Cuneiform writing precisely the same procedure was employed. The symbol for “prison” is a combination of the symbols for “house” and “darkness,” while a “tear” is denoted by the signs for “eye” and “water.” This device is familiar to the philologist, such a compound noun as “eye-water” being admissible in numerous languages.

It is plain that pure picture writing is absolutely independent of language. Such a record as that of the Leni Lenape chief could have been interpreted as well by a Huron as a Cree, by a French trapper from Canada, or by an English settler from Virginia. This,

however, ceases to be the case in the next stage of the development of writing, in which ideograms give birth to phonograms. From pictures which represent things or thoughts were derived pictures which represent sounds.

The form of conundrum called the *rebus* affords a familiar instance of the simplest kind of phonogram. In the *rebus* the picture of an object is taken to denote any word or part of a word which has the same sound as the name of the thing pictured.¹ If, for instance, like the ancient Egyptians, we were to adopt a circle with a central dot as our ordinary written symbol for the sun, this would be a pure ideogram. But if we were to go on, and, after the Egyptian or Chinese method, were to use the same symbol to express also the word "son," we should have a phonogram of that primitive type which has repeatedly served to bridge over the gap between picture ideograms and phonetic characters.

It is probable that the adoption of the important step by which the advance was made from ideograms to phonograms arose out of the necessity of expressing proper names. This is indicated by the Mexican picture writing, which at the time of the arrival of the Spaniards was just reaching the stage of the phono-

¹ As in the well known *rebus* in which the sentence "I saw a boy swallow a gooseberry" is represented by pictures of an eye, a saw, a boy, a swallow, a goose, and a berry.

graphic expression of the names of persons and places. Thus the name of the fourth Mexican monarch was Itz-coatl, or "Knife-Snake." In the Le Tellier Codex the name of this king is represented by obsidian

knives, *itzli*, surrounding a serpent, *coatl*.



This is mere picture writing, like the

Accadian "eye-water," or the Chinese "broom-woman." But in the Vergara Codex the name of the same king is represented phonographically by a *rebus*. The

first syllable *itz* is denoted ideographically



as before by means of a weapon armed with blades of obsidian, *itzli*, but the remainder of the word is expressed, not by a snake, *coatl*, but by two phono-

grams, an earthen pot, *co(mitl)* and the sign of water *a(tl)*.¹ This example proves that the Aztecs, at the time of the Spanish conquest, had taken the first step on the road to the invention of a system of phonographic writing. The necessity of being able to express proper names had brought them to the crucial point which separates ideograms from phonograms. Under the tuition of Spanish missionaries the Mexican ideograms were subsequently developed so as to be capable of expressing the sounds of a foreign idiom, as is shown by a Latin Pater-Noster wholly transcribed by means of pictorial phonograms.

¹ See Tylor, *Early History of Mankind*, p. 93; Houghton, in *Trans. Soc. Biblical Archaeology*, vi. p. 456; Lenormant, *L'Alphabet Phénicien*, p. 25; De Rosny, *Écritures Figuratives*, p. 17.

But without such foreign assistance another nation of Central America had advanced still further on the path which leads to Alphabetic writing. At Palenqué, the ruined capital of the Mayas of Yucatan, several inscriptions have been found written with phonetic signs, which are believed to have been derived from the Mexican Hieroglyphics; and three MSS.,¹ written in the same character, have fortunately been preserved. From the writings of Diego de Landa we obtain the key to this curious Maya writing. It appears that, in addition to a certain number of syllabic signs and a few ideograms, the Mayas employed twenty-seven characters which must be admitted to be alphabetic. The high state of civilization attained by this people is thus attested, not only by the ruins of their magnificent buildings, but by the invention of a system of writing actually superior in simplicity and convenience to that employed at the present day by the Chinese, or even by the great Assyrian nation at the epoch of its greatest power and glory. The systems of picture writing, which were invented and developed by the tribes of Central America, are however so obscure, and so little is really known about their history, that they must be regarded rather as literary curiosities than as affording suitable materials for enabling us to arrive at any

¹ The "Dresden Codex," the "Manuscript Troano," and the "Second Mexican MS.," in the National Library at Paris. Sayce, *Science of Language*, ii., p. 220.

general conclusions as to the nature of the early stages of the development of the graphic art.

§ 5. THE CHINESE CHARACTERS.


It is in the case of the Chinese characters that we find the most notable instance of a graphic system which has never succeeded in advancing beyond the most rudimentary stage of conventionalized picture writing. The early processes in the development of picture writing may therefore be studied to the best advantage in connexion with Chinese.



The complicated characters which fill the columns of a Chinese book seem to the uninitiated to present a mere hopeless maze of unintelligible puzzles. Recent investigations into the history of these characters throw unexpected light upon their origin and meaning. We possess a chronological series of authentic dated inscriptions which extend back to the time of the Shang Dynasty, and there are other inscriptions which are considerably older, but of less certain date. When, by the aid of the more ancient monuments, the modern Chinese characters are traced back to their earlier types, it becomes evident, as has been shown by de Rosny and Dr. Edkins,¹ that they are conventionalized forms, descended from rude pictures to which they now bear little or no resemblance. For example, taking one

¹ De Rosny, *Écritures Figuratives*, Paris, 1870; Edkins, *Introduction to the Study of the Chinese Characters*, London, 1876.

or two of the more simple characters, we find that the word *k'iuen*, a "dog," is denoted by the character 犬, and *mu* "wood" by 木. These two characters present a much closer resemblance to each other than either of them possesses to the object whose name it bears. But when these characters are traced back to their earlier forms the difficulty disappears. The character for *mu*, "wood," was originally written 𣎵 or 𣎶, a form in which the representation of a tree, with its branches, trunk, and roots, can be plainly recognized. In the other case we find the character for *k'iuen*, a "dog," takes the forms 𤝵, 𤝶, and 𤝷, in which it is not difficult to perceive a rude outline intended for the picture of a dog. The earlier forms of the ideogram make it easy to recognize in the modern character the particular strokes which correspond to the body, legs, tail, head, and ears in the primitive picture. Even in the contracted form 𤝸, which is used in compound characters, it is not impossible to detect the original signification of the several strokes.

The foregoing are comparatively simple cases. Many characters which have a more complicated appearance can also be referred with equal certainty to their primitive picture forms. The modern square or model character 馬, *ma*, signifies a "horse." Every stroke of this character can be recognized in the ancient form 𤝹, which belongs to the Lieu-wen style of writing, the date of which is about 800 B.C. Even at this remote date the resemblance to the horse is by no

means conspicuous ; but if we go back to the still more ancient Ku-wen writing, the original pictorial significance of each of the several strokes becomes manifest, and the primitive pictures  and enable us to discover in the modern character the particular strokes by which the head, mane, legs and tail of the animal were originally represented.

The next step is to resolve the compound characters into the combinations of pictures of which they are composed. Thus a "hermit" is denoted by the two characters , which in their ancient forms  are easily seen to be pictures intended to represent a "man" on a "mountain."

A further extension of the system of graphic representation was effected by the aid of the principle of symbolism. The pictures of things were employed as the symbols of abstract ideas. Thus "safe" is expressed by the picture of a "hand" stretching down to help a "woman," and "danger" by a "man" on a "cliff." The "sun" seen under a "tree" means "dark," while the "sun" over a "tree," or the "sun" and "moon" side by side, mean "light." To "assist" a person demands deeds as well as words, and is expressed by pictures of a "mouth" and a "hand." Two hands joined together stand for a "friend," and a picture of a knife, which signifies to "divide," in conjunction with the symbol for money, signifies "poor." In this way most of the signs for the 40,000 words which are

said to be contained in the Chinese Dictionaries may ultimately be resolved into conventionalized pictures. It would perhaps be more correct to call them symbols rather than pictures, as in their modern forms very few of them manifest any appreciable resemblance to the original pictures from which they have descended.

In examining such a system of writing we are as much amazed at its excessive cumbrousness as at its extreme ingenuity. It is quite as remarkable that the Chinese should have succeeded in elaborating a vast system of picture writing of such immense difficulty, as that they should altogether have failed in discovering any simpler syllabic or alphabetic device.

In fact, it is owing to the unique character of the language that the invention of the Chinese writing became possible. The Chinese language is a language of roots; it has no terminations to denote number, case, tense, mood, or person; the same word, without change of form, may be used as a noun, a verb, an adjective, an adverb, or a particle;¹ grammatical relations are denoted only by position; and no word consists of more than one syllable. The number of the distinct monosyllabic combinations of consonant and vowel amount in the Chinese language to 450. By means of the four "tones," or variations of accent, it becomes possible to utter as many as 1203 distinguishable

¹ Thus the syllable *ta*, according to its position in the sentence, may mean either great, greatness, to increase, much, or very.

monosyllabic words. But it is manifest that the needs of a people so advanced in civilization as the Chinese cannot be satisfied by means of so limited a vocabulary. Hence there are necessarily in Chinese a large number of homophones; that is, the same articulation has to do duty for several wholly different words. Most of the Chinese monosyllables have therefore more than one meaning.¹ In the five spoken dialects (all of which differ considerably from the conventional language which is employed in books) confusion is avoided by the use of gesture and "tone;" in the written speech the necessity for the adoption of some corresponding expedient is manifest. When such cases of homophony occur in our own language the difficulty is frequently solved for us by the fortunate accident of the anomalies of our historical spelling, which, whatever its demerits, is not without compensating advantages. For instance, we have in English the four homophones *rite, write, right, and wright*. By the aid of the variant spelling a child readily learns that these homophones are really four different words which happen to be pronounced alike. The advantages of a variant spelling are perhaps more clearly seen in the case of a foreign language, such as French, in which the reader welcomes the aid of the variant

¹ For instance, the sound *yu* may mean either me, agree, rejoice, measure, stupid, or black ox; and *lu* may be either forge, vehicle, precious stone, dew, way, or turn aside.

spelling of such homophones as sang, cent, sans, and s'en. There would be a very appreciable inconvenience if English and French were either written ideographically like Chinese, or phonetically according to the schemes of certain spelling reformers, instead of by means of an elastic alphabet. Much more considerable would be the ambiguities in Chinese, where nearly every phonetic symbol has to represent a considerable number of homophonic words. To meet this difficulty a device has been adopted, which is worthy of note as being almost exactly the same as the expedient by which the same difficulty, which must be encountered in every ideographic system of writing, was solved in the Egyptian Hieroglyphics and in the Assyrian Cuneiform.

To denote graphically any Chinese word two symbols are employed in combination. One of these is a phonogram, which conveys the sound of the word, the other is an ideogram determining which of all the words having this sound is the one intended to be expressed. These explanatory ideograms, which in Egyptian and Cuneiform are called "determinatives," in Chinese go by the name of "keys," "radicals," or "primitives"—terms which are somewhat misleading, as the Chinese name, *wen*, means rather "classes."

An example will make more clear the way in which these explanatory ideograms are employed. The sound *pa*, for instance, has in Chinese eight distinct significations, that is there are eight different words

which are thus pronounced. One of the phonograms which expresses the sound *pa* is 巴, the original form of which, 𠂔, is apparently the picture of the "tail" of some animal. In conjunction with the key of "plants" the phonogram denotes a "banana tree," with the key of "iron" it signifies a "war-chariot," with the key of "sickness" it means a "scar," with the key of "mouth" it stands for a "cry," and so on with the four other meanings which the sound may have.

To return to the case of the four English homophonic words already cited, the Chinese plan is much as if we were to take the picture of a pen as a phonogram to denote the sound *write*. Together with the picture of a church as a key or determinative this picture of a pen might stand for "rite," with the key of a book it might signify "write," while with the keys of a straight line and a hammer it would denote "right" and "wright."

Compared with the ease and simplicity of alphabetic writing the complexity and difficulty of the Chinese method is obvious. It seems moreover to be unavoidable. In the Egyptian and Cuneiform systems it was also found necessary, in order to overcome the difficulty of expressing homophones without confusion, to adopt the very same expedient; the phonetic signs were explained and interpreted by means of determinatives.

The Egyptians employed between 300 and 400 phonetic signs, which were interpreted by about 94 generic determinatives, while for the Assyrian Cunei-

form 522 phonetics and 27 determinatives are catalogued in Prof. Sayce's Grammar. Both classes of signs are more numerous in Chinese. The phonetic characters have been reckoned by Dr. Marshman at 3867, and the ideographic signs are supposed to amount to nearly 2000. Many of these however are rare, or fallen out of use, and it may be said that only 1144 phonetic signs and 214 ideographic "keys" are practically required. By means of these 1358 conventionalized pictures, taken in groups, two and two together, any one of the forty thousand words in the Chinese language can be written down without ambiguity.

It is plain that to acquire an exhaustive knowledge of such a cumbrous system of writing would be a very formidable task. But even to obtain such an acquaintance with it as to be able to write a common business letter, or to read an ordinary book, it is necessary for a Chinese student to commit to memory some 6000 or 7000 of these groups of characters. This by itself constitutes a serious tax upon the memory, and the tax on the faculties of attention and accuracy is even greater, for many of the characters being necessarily very much alike, it is most difficult to distinguish them without mistake, as will be seen by the inspection of the columns of any Chinese book. The result is that at the age of twenty-five a diligent Chinese student has barely acquired the same amount of facility in reading and writing which is usually attained by a child in an English village school at the age of ten. It may fairly

be said that with the Chinese method it takes twenty years instead of five to learn to read and write. About 6000 words are found in the authorized version of the English Bible, in an ordinary English Dictionary there are about 43,000, while a Dictionary which includes scientific terms may probably contain no less than 100,000 words. By learning how to form twenty-six very simple characters an English child acquires the power of writing down any ordinary English words. But in China it would be necessary for him to learn to delineate from memory the difficult forms of more than a thousand distinct characters, and also to remember the arbitrary meanings of something like 6000 groups of signs. It is evident that there would be a considerable number of persons who would not possess the needful accuracy of hand and brain, not to speak of the leisure and patience, necessary for learning to read and write on such a system. Hence in countries which have not had the good fortune to be in possession of an alphabet, the art of writing, demanding so many years for its acquirement, has necessarily become a rare accomplishment, confined to a learned caste. Among the Egyptians and Assyrians, as well as among the Chinese, to be a "scribe" has constituted a profession by itself.

§ 6. THE JAPANESE SYLLABARIES.

SYLLABISM, the next stage in the progress of writing, finds its best illustration in the development of the Japanese writing out of the Chinese.

The monosyllabic nature of the language of the Chinese enabled them to elaborate the *rebus* into a graphic system so complete as to make it possible to dispense with any advance towards an alphabetic method. In a monosyllabic language the interval which ordinarily separates the *rebus* from syllabic writing does not exist. Hence it was possible for the Chinese system of verbal phonograms to remain essentially unchanged for a period which their tradition fixes at upwards of 4000 years. But in Japan the conditions of the problem were wholly different. About the 3rd century A.D., at the time of the great Eastern extension of the Buddhist faith, the Japanese came into contact with the civilization of China, and obtained a knowledge of the characters in which the Chinese literature was written. The Japanese language being polysyllabic, the Chinese characters, which are verbal phonograms, could only be used for the expression of the polysyllabic Japanese words by being treated as syllabic signs. The advance to syllabism was thus inevitable. A number of characters sufficient to constitute a syllabary having been selected from the numerous Chinese phonograms, it was found that the whole apparatus of "keys" might be rejected, being no longer indispensable to the reader. By these two changes an almost incredible simplification of the Chinese writing was effected. But though syllabism is a great advance on a system of verbal phonograms, yet it is necessarily somewhat cumbrous, owing to the

considerable number of characters which are required. In Amharic, for instance, which is printed syllabically, there are 33 consonantal sounds, each of which may combine with any of the seven vowels. Hence, to print a page of an Amharic book 7×33 or 231 different types are required, instead of the 40 types which would suffice on an alphabetic method. In Japanese this difficulty is less formidable than in many other languages, owing to the simplicity of the phonetic system, which possesses only five vowel sounds and the fifteen consonantal sounds, *r, f, b, p, n, t, d, ts, w, k, g, y, s, z, m*. There are therefore only 75 possible syllabic combinations of a consonant followed by a vowel. Several of these potential combinations do not actually occur in the language, and hence it is possible, with somewhat less than fifty distinct syllabic signs, to write down any Japanese word.





The Japanese have two syllabaries, both of which were independently derived from the Chinese at some time before the end of the 9th century A.D. The Hirakana syllabary was derived from a cursive form of the Chinese writing called the Tsau or "grass" character. In the Hirakana syllabary there are about 300 signs, a large number of which are either variants or homophones. The Katakana syllabary is more simple. It was obtained from the Kyai or "model" type of the Chinese character, and comprises only a single sign, written more or less cursorily, for each of the forty-seven syllabic sounds in the Japanese language.

The Japanese word *kata* means "side," one side or part of the Chinese character being usually taken to represent the whole. In this way, the outline of the character being in most cases considerably simplified, and all determinatives, variants and homophones being omitted, the Japanese have provided themselves with one of the best syllabaries which has ever been constructed.

Here, however, the development has stopped short. The fact that during more than a thousand years it should never have occurred to a people so ingenious and inventive as the Japanese to develop their syllabary into an alphabet, may suffice to show that the discovery of the alphabetic principle of writing is not such an easy or obvious a matter as might be supposed. It is true that most of the independent systems of writing, as the Mexican, the cuneiform and the Egyptian, ultimately reached the alphabetic stage, and it has frequently been asserted that the Chinese forms no exception to the rule, the alphabet of Corea being, it is alleged, only a development of the Japanese Katakana. The forms however, and more especially the order of the letters of the Corean alphabet, prove that it must be classed, with the Pali or Buddhist alphabets, as one of the outlying members of the Indian family of alphabets. The development of the Chinese and Japanese writing must therefore be held to have stopped short at the syllabic stage. Now, however, that Japan has been brought into contact with

Western civilization, the convenience and simplicity of the Roman alphabet is being gradually recognized, and a movement is on foot to substitute it for the native syllabary. If this attempt succeeds, as may not improbably be the case, we shall have under our own eyes an illustration of the process by which the Egyptian hieroglyphics and the Babylonian cuneiform were replaced, some two thousand years ago, by characters ultimately derived from the great Semitic alphabet.¹


A few examples of the way in which the Japanese syllabaries were constructed may here be given.


In the Hirakana syllabary the sign for the syllable *tsi* is , and in the Katakana it is , which is cursorily written . These symbols were derived from the Chinese character 子 *si*, a "son," the ancient form being obviously intended for the picture  of a new-born child.

We have already seen that the Chinese character 木 represents a "tree," with its trunk, roots, and branches. This character, by the addition of a bar to indicate the topmost bough of the tree, becomes 末, and then stands for the Chinese word *mo*, which

¹ This process is now going on in Annam, where a modification of the Roman alphabet is used by the French missionaries to replace the local Annamese syllabary, whose history is similar to that of Japan, having been derived from the Chinese writing by the selection and adaptation of a certain number of characters which are used phonetically.

means the "end" of a thing. In Japanese this sign becomes ㇿ in the Hirakana, and ㇾ in the Katakana, with the syllabic value of *ma*.

As another illustration, we may take the syllable *ro*, which in the Hirakana is represented by ろ, and in the Katakana by ㇰ. A Japanese *r* answers to a Chinese *l*, and hence the origin of the Japanese signs is to be referred to the Chinese character 呂 *li*, "vertebræ," which is shown by the ancient form  to be intended for a picture of two joints of the spine.

In this manner it would be possible to go through the signs of the two Japanese syllabaries, and trace back the whole of the symbols to the original picture ideograms of the ancient Chinese writing. We might, for example, investigate the successive steps by which the Japanese character ㇗ *no* is derived from a picture of a woman's breasts , while ㇛ *se* resolves itself into an ideographic symbol for "age." We might show that ㇜ *mo* was once a representation of "hair," while ㇝ *mu* originally denoted a "slave," literally a "handmaiden," being composed, in its primitive form, of the pictures of a "woman" and a "hand." These transformations are not only curious in themselves, but will be found useful as illustrations of the parallel processes by which the picture writing of the primitive populations of Babylonia gave birth to the various cuneiform syllabaries, and by which our own alphabet was itself developed out of the hieroglyphic pictures of ancient Egypt.

§ 7. THE CUNEIFORM.

In the creation of the Japanese and Annamese syllabaries out of the Chinese ideograms we have instances of a very general law which governs the development of graphic systems. During a period of four thousand years the Chinese, left to themselves, were unable to advance beyond ideographic writing. But this important step was, as we have seen, readily accomplished when the Chinese writing had to be adapted to a language of another type. As a rule it is found that the advance from one stage in the development of writing to the next is only attained by the transmission of a graphic system from one nation to another. The transmission of the Aztec Hieroglyphs to the Mayas of Yucatan, of the Egyptian Hieroglyphs to the Semites, and the thrice repeated transmission of the Semitic alphabet to Aryan nations—to the Greeks, to the Persians, and to the Indians—are instances in point. Each of these transmissions was accompanied by important developments in the art of writing. But the action of this general law is perhaps best exhibited in the case of the repeated transmissions of the cuneiform writing. It was invented by the Accadians, a Turanian people; from them it was transmitted to the Semitic Assyrians and Babylonians; while out of the Semitic cuneiform arose on the one hand the Turanian Proto-Medic

syllabary, and on the other the cuneiform alphabet of the Aryan Persians. The history of the cuneiform writing also illustrates with great completeness the successive stages through which writing tends to pass; the primitive picture ideograms developing themselves, through verbal phonograms, into syllabic signs, until finally the alphabetic stage is reached.

The most primitive monuments of the cuneiform writing consist of inscribed bricks from the ruins of the cities of Mugheir, Warka, and Senkereh, in Lower Babylonia. This writing, which goes by the name of the "Linear Babylonian," consists of picture ideograms in which it is not difficult to detect the outlines of the objects which are meant to be represented. The material used being tablets of the soft clay which was abundant in Babylonia, at a very early period these outline pictures came to be replaced, as a matter of graphic convenience, by groups of wedge-shaped strokes, which are the forms most easily imprinted by a style upon unbaked clay. In these conventional ideograms, which go by the name of the "Archaic Babylonian Cuneiform," the pictorial significance, though not so entirely lost as in the later Assyrian and Babylonian forms, is more difficult to recognize than is the case with other kinds of ideographic writing, such as the Mexican or the Egyptian, where a different material was used. But by aid of the primitive outline pictures of the linear Babylonian the original significance of many of the cuneiform



groups can be detected with a fair approach to certainty.

A few instances may be given of the way in which the cuneiform characters may be thus traced back, by means of the older forms, to the original picture ideograms.¹ We may begin with the Assyrian character *alpu*, which means an "ox." The Assyrian form was derived from the Hieratic Babylonian which in the linear Babylonian is . If this picture be partly turned round it is at once recognized as the profile of the head and horns of an ox, looked at from the front, . It may be noted that this primitive picture does not differ very materially from the character , in which the Phœnicians recognized the likeness of the head of the "ox," *aleph* (the same word as *alpu*), which has given us the name of our *alpha-bet*.

The ideogram of the "fish" is as easy to trace as that of the "ox." In the Assyrian cuneiform we find the character (*kha*), a "fish." The resemblance to the object has almost entirely disappeared, but it can be recognized when we go back to the archaic Babylonian, in which the form of the character is . A still older form is , while in the linear Babylonian we have the form , a figure in

¹ These instances are chiefly taken from Mr. Houghton's paper in the *Transactions of the Society of Biblical Archaeology*, vol. vi., pp. 454—483.

which the head, body, tail, and fins of the fish are unmistakably portrayed.

It is often possible to detect the mode in which compound, or, as we may call them, agglutinated characters, arose from the combination of simpler forms. The ideogram used to denote the city of Nineveh was . The archaic form of this character is  which proves that it was compounded of the ideographic picture of a "house," enclosing the ideogram of the "fish." We have here a curious fragment of primæval history, showing us that imperial Nineveh was at first, as its name implies,¹ merely a collection of huts of fishermen.

The graphic system which was thus invented by the primitive Turanian inhabitants of Babylonia was adopted by their Semitic conquerors, who took it with them to Assyria, where it underwent considerable modifications. Even among the Accadians the primitive ideograms had come to be used as phonograms, a device which was greatly extended by the Semites, who created a huge syllabary out of the Accadian characters.

In the cuneiform the transition from ideograms to phonograms had to be effected in a way somewhat different from that which was possible in China. The Chinese being a monosyllabic language,

¹ The first syllable is identical with *nun*, "fish," the name of the fourteenth letter of the Semitic alphabet.

the primitive phonograms were necessarily syllabic signs, and the limited number of possible monosyllabic articulations could be expressed by about 1200 phonetic symbols. But the languages spoken by the inventors of the cuneiform writing being polysyllabic, a new device became necessary, as otherwise the number of separate phonograms must have been nearly equal to the actual number of words, so that many thousands of distinct characters would have had to be invented and remembered. The obvious remedy for this difficulty was Syllabism. But a polysyllabic language did not lend itself so readily as the Chinese to this solution. According to Halévy the difficulty was overcome by the adoption of the powerful principle of Acrology. He contends that a primitive ideographic picture having been taken as a phonogram to denote the name of an object, the symbol was used "acrologically," to express simply the initial syllable of the word. It is generally supposed, however, that certain dissyllabic Accadian words were simply worn down by phonetic decay into monosyllables, which became the phonetic values of the characters. Thus the common character $\rightarrow\Upsilon$, which denotes "the sky," is a simplified form of \star , which was the ideographic picture of a "star." The foundation of the Proto-Babylonian religion being planetary worship, the character was employed as a symbolic ideogram to denote "God." The primitive Accadian word was *ana*, which was afterwards contracted into *an*. Hence

the character was used as an ideogram to signify the sky, also as the determinative prefix to denote deity, and was ultimately employed as a phonogram to express simply the articulation *an*.

The invention of the syllabic method, however it may have been brought about, was an almost necessary step in the progress towards alphabetic writing. It solved the problem of expressing the words of a polysyllabic language by means of phonetic signs, and thus, as we shall presently see, it served in Egypt, as well as in Babylonia, as the means by which the most formidable difficulties of phonetic writing were overcome.

A syllabary having been thus constructed out of the primitive phonograms, the next step was to combine the syllabic characters, as in Mexico and Japan, so as to express polysyllabic words. Thus the syllabic sign 𐎗𐎍 *nap*, "light," was combined with the sign for *sat*, "mountain," to give the compound phonogram 𐎗𐎍𐎗𐎍 , *nap-sat*, "soul."

In the Assyrian cuneiform the Proto-Babylonian characters were not only employed phonographically to denote the sound of the original Accadian word, but also ideographically, to express any of the Semitic words by which the Accadian word might be translated. It is evident that a very high degree of complexity would be thus produced.

As an illustration, we may take the cuneiform character 𐎗𐎍 , which was originally an ideographic

picture of an "ear," as is seen when it is traced back to the primitive form $\xi\Upsilon$ -. An "ear" in Accadian is *pi*. But the sound *pi* denoted in Accadian a "drop of water" as well as an "ear," and hence the cuneiform symbol was used both as a phonogram to signify a "drop," and as an ideogram to denote an "ear." When the Accadian syllabary was taken over by the Semites, the character retained its phonetic value of *pi*, and was also used as the equivalent of the two Semitic words *uznu* an "ear," and *giltanu*, a "drop of water."

In like manner the Accadian character Υ *su*, "foot," was originally the picture of a leg, as is indicated by the older forms Υ and Υ . The character was then used as a phonogram to express the sound *su*, which in Accadian meant "overthrow" as well as "foot." In the Semitic cuneiform the character not only possesses the old syllabic value *su*, but is also used as the equivalent of the Semitic words *sepu*, a "foot," and *sakhu*, "overthrow." In some instances the confusion is far greater. Thus the character Υ , which was originally an ideographic picture of the "sun," has nine phonetic values, and may also represent ideographically fourteen separate Semitic words. When therefore the character occurs in an Assyrian inscription there are no less than twenty-three different ways in which it may be rendered.

From these instances it will be seen how great an element of ambiguity was introduced by the polyphony which arose from the adaptation of a Turanian sylla-

bary to a Semitic language. Hence, as in China, the employment of determinative ideograms side by side with the syllabic phonograms became indispensable, in order to aid the reader in ascertaining the particular value to be assigned to each of the polyphonic characters.


A further complication arose when the Assyrian characters were adapted to a third language of an entirely different structure. About the ninth century B.C. the Assyrian cuneiform became known to the Alarodian tribes who dwelt in the neighbourhood of Lake Van. This Vannic or Armenian cuneiform has hitherto been only imperfectly deciphered. A certain number of characters seem to have been taken over from the Assyrian syllabary, some of which were used as syllabics and others as the symbols of Alarodian words of similar signification, but of totally different sound. The device must have been much the same as that which we employ when we use alphabetic symbols derived from foreign languages as the graphic equivalents of English words, reading such signs as *lbs.*, *e.g.*, *s.v.p.*, as if they stood for such English expressions as "pounds," "for instance," "if you please."

The transmissions of the cuneiform writing which have been hitherto considered, resulted only in increased complexity. The primitive Accadian writing was comparatively easy and simple, the obscurity of the Assyrian cuneiform, with its cumbrous apparatus

of variants, homophones, polyphones, ideograms, and determinatives, being mainly attributable to the polyphony arising from the clumsy adaptation of Turanian writing to the needs of Semitic speech. The Alarodian adaptation still further increased the difficulty.

Other transmissions of the cuneiform writing exhibit a directly opposite result. When in the 8th century B.C. the Proto-Medic tribes, who spoke an agglutinative language of the Ural-Altai class, borrowed from their Semitic neighbours the elements of a graphic system, they were able to effect a simplification somewhat of the same nature as that which took place when the Japanese syllabary was constructed out of the Chinese ideograms. By discarding numerous phonograms and ideograms, and by assigning a single syllabic value to the characters which were retained, the Scythic tribes of Media were able to dispense with more than 400 of the symbols used in the Assyrian cuneiform, so as to reduce it to a comparatively simple and certain syllabary of 96 characters. In this manner the ambiguities of the Assyrian writing were so far removed that it became possible to do away with the whole apparatus of determinative ideograms, with the exception of about half a dozen signs, which were employed, not altogether without advantage, to distinguish generically certain classes of words which frequently recur, such as *king, god, month, man, road, water, animal*. This amounts to little more than the device which we ourselves find convenient, when we use

initial capitals to distinguish proper names, when we print words from foreign languages in italics, or mark quotations by means of inverted commas.

The relative simplicity of the Proto-Medic syllabary, as compared with the Assyrian cuneiform from which it was derived, may be exhibited by means of one or two examples. Thus the Proto-Babylonian ideographic picture of an ear, which has already been cited, had acquired in the Assyrian cuneiform no less than seven phonetic and ideographic values. But in the Proto-Medic syllabary it appears in a simplified form, retaining the single primitive syllabic value of *pi*. In like manner the ancient ideographic picture of the sun , which in Assyrian could be rendered in no less than twenty-three different ways, retains in the Proto-Medic syllabary one only of its values, *ut*, with the form $\varepsilon\gamma$. So also the Accadian character $\varepsilon\gamma$ *pa*, which signified the "royal sceptre," and was originally the picture of the branch of a tree, became $\gamma\varepsilon$ in Proto-Medic, with the single value *pa* instead of the eight values which it might have in the Assyrian cuneiform.

At a still earlier period the Elamites, who, like the Proto-Medes, spoke an agglutinative language, compiled for themselves a simple syllabary out of existing materials. We possess very scanty remains of the Elamite cuneiform, but it would seem that a limited number of syllabic signs were selected from the

Babylonian cuneiform, ideograms and determinatives being almost entirely rejected.

Whether the Cypriote syllabary was derived, according to the hypothesis of Dr. Deecke, from the Assyrian cuneiform, or, as Professor Sayce supposes, from the Hittite Hieroglyphics, must still be regarded as an unsettled question. The account of the Cypriote syllabary, from which several letters in the Lycian alphabet were derived, must be reserved till the time comes for describing the alphabets of Asia Minor. But the Cypriote syllabary is of great interest, inasmuch as it shows that if the Greeks had not obtained their alphabet from the Phœnicians they would before long have succeeded in developing from a wholly different source an alphabet of nearly equal excellence, which would in all probability have ultimately become the parent of the modern alphabets of Western Europe.

The radical nature of the vowel sounds, together with the delicate inflexional machinery of the Aryan languages, must be reckoned among the chief reasons why the final stages of alphabetic development should in so many cases have been effected by Aryan nations. So it was that while the Ionian Greeks were bringing to perfection the Phœnician alphabet, the Dorians of Cyprus were in process of creating an alphabet out of the ancient syllabary of Asia Minor. At a later time the Zend alphabet, with its fifteen vowel signs, was evolved by the Persians out of the vowelless North Semitic alphabet, while the South

Semitic, passing into the possession of the Aryan races of Northern India, became the parent of the most perfect scientific alphabet which has ever been invented.


Hence it can be no matter of surprise to find that the nearest approach to a real alphabet which was attained by the cuneiform writing was effected when, in the time of Darius, it passed from the Semitic and Turanian nations of Western Asia into the hands of the Aryan Persians.



It must, however, be acknowledged that the idea of alphabetism may not improbably have been suggested to the Persians by their acquaintance with the Phœnician alphabet, which, as early as the 8th century B.C., was used in the valley of the Euphrates concurrently with the cuneiform writing. The somewhat artificial plan on which the Persian cuneiform alphabet was constructed favours this belief. According to the very probable explanation given by Oppert, a certain number of cuneiform characters were taken from the Proto-Medic syllabary, their forms were regularized and simplified, and their ideographic meanings having been translated into Persian, the first letter of the Persian word thus obtained was assumed, on the acrologic principle, as the new alphabetic value to be assigned to the modified cuneiform character.




The Persian cuneiform, though essentially alphabetic in its principle, yet just stops short of being a pure alphabet. It retains vestiges—survivals we may






call them—of the syllabic writing out of which it sprang. Some of the symbols, such as those for *p*, *b*, or *f*, represent pure consonants, and can be employed indifferently in conjunction with any one of the three Persian vowel signs; but in the case of some of the consonantal sounds, such as *k* or *m*, the character appears to have possessed a sort of inherent vowel sound, since the symbol which is employed varies in accordance with the nature of the vowel which is to follow. These curious survivals from a prior syllabic stage needlessly multiply the Persian alphabetic symbols: eleven of them might have been discarded without disadvantage. If, after a brief existence of about a century, the Persian cuneiform had not been superseded by the Semitic alphabet, it is probable that the thirty-six symbols would have been ultimately reduced to a pure alphabet of twenty-five characters.





In addition to these vestiges of a prior syllabism, a few ideographic characters are retained, as in the Proto-Medic syllabary, to designate certain frequently recurring words, such as *king*, *country*, *son*, *name*, and *Persian*.

An example or two will show better than any explanation the ingenious manner in which the Persian alphabet was constructed out of existing materials. The origin of the characters used for *m* (*a*) and *m* (*i*) will serve as convenient illustrations. In the archaic Babylonian we find the compound ideogram  standing for the two words *nun* and *zil*, which mean

“lord” or “master.” The character seems originally to have formed a representation of a sceptre, the first portion being the picture of the branch of a tree, and the second of a hand, the vertical wedge denoting the wrist, and the horizontal strokes the thumb and fingers. In the Assyrian cuneiform only the first part of the symbol is retained, and we have the character  standing for the Semitic word *rabu*, “prince,” or “master,” allied to *rabu*, “great,” which we recognize in the Assyrian name Rabshakeh and the Hebrew Rabbi. The Persian equivalent is *mathista*, an Indo-European word which is familiar to us under the forms *μέγιστος*, *magister*, and *master*. Hence we see the reason why the Persian character  came to be selected acrologically for the initial sound of *mathista*, and stands in the alphabet for *m* when followed by *a*.

When, however, *m* is followed by *i*, the Persian character is . This seems to have been obtained acrologically from the Persian *mizda*, an Aryan word cognate with the Greek *μισθός* and the English *meed*, and which is equivalent to the Proto-Babylonian  *di*, a “reward” or “recompense.” The primitive meaning of *di* seems to have been “ending” or “rest,” and the symbol may be traced back to the linear Babylonian form , which is an ideographic picture of the setting sun. The first part of the Persian letter *m* (*i*) is therefore seen to be the outline of the sun, while the two horizontal wedges represent parallel bars of cloud near the horizon.

Two more instances may be added. In the linear Babylonian the ideogram , which forms a portion of the last symbol, is a picture intended to represent the "sun." In the archaic Babylonian, which was written with wedges instead of lines, the symbol becomes , and is used as a phonogram for the Turanian word *ut*, "sun." In the Assyrian Cuneiform, as we have already seen, the character is written , with the wedges rearranged for greater convenience in writing, and is used phonographically to denote the syllable *ut*, and also as an ideogram for the Semitic word *samsu*, the "sun," which appears in the name of Samson. In the Proto-Medic syllabary the symbol becomes  with the sole syllabic value *ut*. The Persian word *kuru* is the translation of the Turanian and Semitic words. Hence in the Persian alphabet the character  stands for the letter *k* when followed by *u*.

Another curious instance is afforded by the Persian , *g(u)*, the initial sound of the word *guzaka*, which is the Persian equivalent of , which stands for the Assyrian *sepu* and the Accadian *ner*, a "foot." The Assyrian character may be connected by means of a series of intermediate forms  with the linear Babylonian ideogram  which shows that the Persian letter is the picture of a foot, the double wedge to the left standing for the ankle, the two small horizontal wedges being the

sandals, while the two longer horizontal wedges represent respectively the instep and the sole.

These instances are given not only as examples of the curious remoteness of the primitive ideas out of which the characters of the Persian alphabet were acrologically evolved, but because they help to establish a general law of great importance. The chief lesson to be learned is the universal prevalence of the law of Evolution. In dealing with the history of writing we are met by the same phenomenon which is so conspicuous in the history of language, namely, the fact that there is no such thing as arbitrary invention. The written symbols of speech are subject to the laws of evolution as absolutely as plants or animals, or the spoken words of speech. Thus the processes by which the Persian alphabetic signs were evolved from existing characters, themselves the remote descendants of primitive pictures, may help us to understand the no less wonderful series of evolutions by which the letters of our own alphabet have descended from the primitive hieroglyphic pictures of the Egyptian monuments.

The great trilingual Behistun inscription exhibits in a very striking manner the three chief stages of the development of the cuneiform writing, in its gradual progress from ideograms and phonograms, through syllabism, to an alphabetic system. The three columns of this inscription contain three versions of the famous historical edict of Darius; in one the

language is Aryan, in another Turanian, in the third it is Semitic. The third column contains a version written in the cumbrous Semitic cuneiform, with its 500 symbols — ideograms, phonograms, and homophones. Side by side with this, there appears in the second column the Proto-Medic translation, written in a syllabary of ninety-six pure syllabic signs, accompanied by seven surviving ideograms, while the Persian version in the first column exhibits a graphic system limited to thirty-six alphabetic signs, four only of the primitive ideograms being retained.

§ 8. THE EGYPTIAN HIEROGLYPHICS.

One other primitive system of writing, more ancient and more important than any of the rest, still remains to be described.

The Proto-Babylonian cuneiform can be carried back at least as far as the 27th century B.C.,¹ while Chinese legend doubtfully claims an almost equal antiquity for the first rude beginnings of the Chinese picture ideograms; there are, however, still in existence not a few Egyptian records to which must be assigned a date more ancient by some fifteen or even twenty centuries.

¹ This is the usual computation of the date to be assigned to the texts of Lig-bagas, King of Ur. Prof. Sayce considers that the oldest Accadian inscriptions may be as early as 3000 B.C.—*Science of Language*, ii. p. 321.




It is indeed difficult fully to realize the immense antiquity and the unchanging stability of the Egyptian Hieroglyphic writing. It is exhibited in its supreme perfection on the great monuments of the eighteenth and nineteenth dynasties, which are themselves older than the Hebrew Exodus. But even at that remote period, some thirty-five centuries ago, the Hieroglyphic writing was already a venerable system of vast antiquity. We may go back beyond the Exodus for a further period of six-and-twenty centuries, and even then, on the monuments of the great pyramid builders of the fourth dynasty we find Hieroglyphic records inscribed in a character identical in all essential respects with that used in the inscriptions written in the reigns of Thothmes and Rameses. It is even possible to go back for another 500 years, when we come at last to the very earliest extant inscription in the world. This venerable record is a tablet now in the Ashmolean Museum at Oxford, which was erected by Sent, a king of the second dynasty, to the memory of SHERA, who appears to have been his grandson. According to the chronological scheme of M. Mariette, King Sent must have lived about the year 4700 B.C.¹ But, as will presently be shown, this very inscription, the oldest written record in existence, affords conclusive proof that even at that distant date of some 60 or 70 centuries, the Hieroglyphic writing

¹ According to Brugsch, about 4000 B.C.

was already an extremely ancient graphic system, with long ages of previous development stretching out behind it into a distant past of almost inconceivable remoteness.

The immense antiquity of the time at which the Egyptian Hieroglyphic writing is found to have already assumed a definite and conventional form renders it highly improbable that any monuments will ever be recovered which may actually exhibit it to us in the primitive stages of its formation. But during the long period of four or five thousand years over which the Hieroglyphic records extend—from the time of King Sent down to the reign of Domitian, or even of Trajan—the Hieroglyphic writing continues to exhibit such abundant survivals from the earlier and ruder forms of graphic expression, that by aid of the analogies derived from the history of the Cuneiform and Chinese writing, it becomes possible to determine with considerable certainty the way in which it originated, and the methods by which it must have been developed.


It is plain that the Egyptian Hieroglyphics, like every other primitive mode of writing, commenced with picture ideograms, many of which continued to be used to the very last. Thus the common symbol ☉ is manifestly a pictorial ideogram used to denote the "sun." Abstract ideas, which could not be thus directly represented, were expressed, as in China, by means of symbolical pictures. The idea of "thirst"

 was represented by the picture of a calf running towards water, "power" , by a brandished whip, and "battle" , by two arms, one holding a shield and the other a javelin.

The next stage of the development must have been the same as that which has been traced in the case of the cuneiform writing. The primitive ideographic signs must have given birth to verbal phonograms, and then, by the introduction of the principle of Acrology, these verbal phonograms came to be used as syllabic signs.

An example will illustrate the way in which syllabic phonograms were developed out of the primitive picture ideograms. The picture of a "lute" was used symbolically by the Egyptian scribes to denote "excellence." It then came to stand as a phonogram to express the word *nefer*, "good." But in the Egyptian language this sound represented two homophonic words, *nefer* "good," and *nefer* "as far as." Hence we find that the character may be used as a pictorial ideogram to represent a lute, and as a symbolic ideogram to mean excellence; then as a phonogram for the preposition *nefer*, and lastly as a syllabic sign to denote *ne*, the first syllable of the word *nefer*.



The problem of phonetic denotation having thus been solved, these syllabic signs were combined so as to form compound phonograms on the principle of the *rebus*. In an inscription of Ptolemy XV., at Edfu, we find an amusing instance of a compound phonogram,

in which it seems not impossible to detect a faint flavour of ancient Egyptian humour. The name of *lapis lazuli* was *khesteb*. Now the word *khesf* meant to "stop," and the syllable *teb* denoted a "pig." Hence the *rebus* "stop-pig" was invented to express graphically the name of *lapis lazuli*, which is figured by the picture of a man stopping a pig  by pulling at its tail.

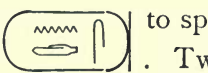





But it would almost necessarily happen in Egyptian, as in the cuneiform, that many symbols would be polyphonic. Thus "giving" is represented by the picture of an outstretched arm with a loaf as a symbolic ideogram. Now there are two Egyptian words, *tu* and *ma*, both of which signify "gift." Hence the pictorial representation of "gift" came to bear both of these phonetic values, even in words which have no connection with giving.

The ambiguities arising from the use of this mixed system of ideographic and phonographic signs, many of which were polyphonous, made necessary, as in Babylonia and China, the simultaneous employment of explanatory determinatives, which were placed after words phonetically expressed in order to serve as an aid to the reader in determining the meaning.

These determinatives are of two kinds, Special Determinatives, whose use is confined to one word or one idea; and Generic Determinatives, which, like the Chinese "keys," refer to whole classes of words. The special determinatives are very numerous, and seem to

have been added by the scribe almost at his discretion. Thus in the group , , *ser*, a "giraffe," the first two symbols, which are phonograms expressing the sound *ser*, are followed by the picture of the animal as a special determinative for this particular word. On the other hand, the generic determinatives, which are only about one hundred in number, were fixed conventional signs, employed with considerable strictness. For instance, the picture of a man squatting down is used as the generic determinative for the proper names of persons, for pronouns, and participles; three hills are used as the determinative for the names of countries and nations; an eye for words relating to seeing and knowing; a man with his hand pointing to the mouth for words relating to eating, speaking, or thinking; two legs for words connected with locomotion; and a hand with a club for actions implying the use of force. A dry branch is the determinative for objects made of wood, three rings for articles of metal, while a piece of skin is used for quadrupeds, a duck for birds, and for all words implying smallness, inferiority, vileness, or wickedness, the determinative is the picture of a sparrow.

Up to this point the history of Egyptian writing, as a system of phonograms developed out of primitive picture ideograms and interpreted by means of determinative signs, offers a remarkable parallel to the development of other primitive methods of writing, such as the cuneiform or the Chinese. But we are

now confronted with a phenomenon of supreme importance, as to which the Egyptian writing differs from all other primitive graphic systems. Associated with the numerous ideographic and syllabic signs we find certain other characters, limited in number, which must be pronounced to be ALPHABETIC in their nature. These alphabetic symbols are the actual germs out of which our own alphabet has grown. They are not confined to inscriptions of late date, but make their appearance on the most ancient monuments. In the inscription of King Sent, which is the oldest written record in existence, three of these alphabetic characters are employed  to spell the monarch's name, which reads . Two of our English letters, *n* and *d*, are derived, in strict historical filiation, from two of the alphabetic signs,  and , by means of which the name of King Sent is expressed. As another instance, we may take the cartouche of Khefu (Cheops), the first king of the fourth dynasty, who was the builder of the great pyramid. Here also we find alphabetic symbols which have descended to ourselves. The first character  *kh*, is the parent of our **H**, a letter which still retains one of the transverse bars of the Egyptian character. The second character is the cerastes , from which the letters **F**, **Y**, **V**, **U**, **W** have been derived.

The immensely early date at which symbols of an alphabetic nature are found on the Egyptian monuments is a fact of great interest and importance. It is

of great interest, inasmuch as it constitutes the starting point in the history of the Alphabet, establishing the literal truth of the assertion that the letters of the alphabet are older than the pyramids—older probably than any other existing monument of human civilization, with the possible exception of the signs of the zodiac.

Of considerable importance also, as bearing on the history of civilization, is the fact that at the date of the very oldest Hieroglyphic records the Egyptians had already advanced to the great conception of alphabetic writing. That this conception is no such easy matter as it may seem is shown by the fact that neither the Babylonians, the Assyrians, the Medes, or the Japanese succeeded in passing beyond the stage of syllabism. Symbols for vowel sounds are found in the syllabaries of these nations, but the more difficult conception of a consonant was not attained or even approached. Easy as it seems to ourselves, who are familiar with it, the notion of a *con-sonant*, a sound that cannot be sounded except in conjunction with some other sound, different from itself, is by no means so simple as it may appear. It involves the decomposition of the syllable into its ultimate phonetic elements—the mental isolation, for instance, of the unpronounceable sound *t*, which is common to the articulations *tea*, *tie*, *toe*, and *two*, and yet is not identical with any of them. That so many cultivated races should have failed in attaining to this pregnant generalization may, by itself, be accepted as






a sufficient proof of its inherent difficulty, while certain peculiarities which attach to the Hieroglyphic letters clearly indicate that the Egyptian alphabet was not, so to speak, an invention, but was obtained by gradual evolution out of a prior syllabary. That the Egyptian consonantal signs must be regarded as alphabetic rather than syllabic, is shown by the fact that most of them can unite with any of the vowels. Yet that they have been developed out of a syllabary is indicated by the existence of certain survivals from the syllabic stage. These survivals are somewhat of the same nature as those which in the case of the Persian cuneiform alphabet point so unmistakably to a syllabic origin. Now Egyptologists have noted that each of the Egyptian consonants has its "complementary vowel," which in reading must often be treated as a mere expletive. The consonants also show a preference for certain vowels, and an aversion for others. This latent syllabism, which underlies the alphabetism of the Hieroglyphic writing, indicates with sufficient clearness the origin of the Egyptian alphabet. This conclusion has an important bearing on any estimate of the date to be assigned to the beginning of the Egyptian writing, and consequently of the Egyptian civilization. The alphabetic characters must have slowly grown out of syllabic signs, and these in turn must have been developed out of verbal phonograms. The verbal phonograms must have arisen from ideograms, which again could only have originated in

mere picture writing. The analogy of other graphic systems, more especially the cuneiform and the Chinese, leads to the belief that it must have taken many generations to effect each of these five stages of development, and it would not be unreasonable to suppose that the whole series of evolutions by which alphabetic symbols were ultimately produced could not have been effected in a period of less than a thousand years. King Sent, in whose reign the alphabetic characters were already in use, may be taken to have lived between 4000 and 4700 B.C. Startling as the result of such calculations may appear, it must be affirmed to be probable that the beginnings of the graphic art in the valley of the Nile must be relegated to a date of seven or eight thousand years from the present time.

The success of the Egyptians in passing the difficult barrier which divides syllabic from alphabetic writing was no doubt facilitated by the nature of their language. The Egyptian vowels seem to have been of a more indeterminate character than the vowels in many other languages, partaking probably of the nature of that *uvocal* or fundamental vowel sound into which our English vowels tend to lapse, as in the words *about*, *assert*, *bird*, *oven*, *but*, *double*. Egyptian words are constantly written without the vowel signs, the complementary vowels of each consonant being especially liable to omission. We may suppose that the vowel was in a sort of way regarded as inherent in the
















































preceding consonant, very much as in the case of Sanskrit and Ethiopic, in which languages every consonant is regarded as containing the short *i* as an inherent vowel, unless some other vowel is expressly indicated. In this way it seems to have been assumed that each of the Egyptian letters was followed by its complementary vowel, only initial and final vowels, and medial vowels when emphatic, being necessarily written down. Thus the alphabetic symbol \rightarrow (*s*) was originally the picture of a "bolt," *ses*, and its primitive syllabic value must have been *se*. In conjunction with \backslash (*i*) the group $\overline{\backslash}$ is read *si*, the vowel sound of *e* being elided, so that the symbol \rightarrow has the power of a pure consonant. It may be regarded as probable that it was in some such manner that the difficult conception of a consonant grew up, slowly and almost unconsciously.

The next stage in the formation of the Egyptian alphabet seems to have been the gradual selection of preferential symbols for alphabetic use. Almost any one of the 400 Egyptian phonograms could be employed acrologically to denote the initial sound of the word, but we find that in practice this wide liberty was greatly abridged. A useful convention gradually restricted the arbitrary use of these phonograms, and it became customary for the scribes to confine their choice of the symbols that might be used to denote any particular sound to two or three of the more easily written hieroglyphs.

The number of characters which at various times were thus used alphabetically may be reckoned at forty-five. Several of these characters, however, are either of comparatively rare occurrence, or were confined to some particular period, or are used only in writing certain words. Thus the sound of *p* can be represented either by the "shutter" , or by the "flying bird" . The first of these characters is used universally at every period, while the second is rare, especially on the earlier monuments. For the sound *n* three symbols may be employed. The "water line"  was the sign in general use. The representation of the "red crown" of Lower Egypt , is only found on monuments of comparatively late date, while the "vase"  is rare, its use being confined to certain words. It will be observed that for each of these two consonants, *p* and *n*, we have a normal sign, used at every period, and not limited to any particular words, together with one or two variants, whose use is more or less exceptional. In this way the forty-five alphabetic symbols may practically be reduced to twenty-five. This result agrees with the tradition handed down by Plutarch, that the Egyptians possessed an alphabet of twenty-five letters. These letters are as follows, the conventional values being expressed in the symbols of the Standard Alphabet.¹

¹ See *Transactions of Congress of Orientalists* (1874), p. 441; de Rougé, *Mémoire*, pp. 17—20; Lepsius, *Standard Alphabet*, p. 193.

EGYPTIAN HIEROGLYPHIC ALPHABET.

	Values.	Name.	Normal Characters.	Variants.
1	<i>a</i>	eagle		
2	<i>ā</i>	reed		
3	<i>ā</i>	arm		
4	<i>i</i>	parallels		
5	<i>ī</i>	double reed		
6	<i>u</i>	chick		 
7	<i>k</i>	bowl		
8	<i>k</i>	throne		
9	<i>q</i>	angle		
10	<i>χ</i>	sieve		 
11	<i>h</i>	mæander		 
12	<i>h</i>	knotted cord		
13	<i>t</i>	semicircle		
14	<i>t</i>	hand		
15	<i>t'</i>	snake		 
16	<i>θ</i>	tongs		 
17	<i>s</i>	chairback		 
18	<i>š</i>	inundated garden		
19	<i>p</i>	shutter		
20	<i>b</i>	leg		
21	<i>f</i>	cerastes		
22	<i>r</i>	mouth		
23	<i>l</i>	lioness		
24	<i>m</i>	owl		 
25	<i>n</i>	water-line		 

Thus we see that from the times of the earliest known monuments the hieroglyphic writers possessed a sufficient number of true letters to enable them to write alphabetically. They seem, however, not to have dared to trust themselves with their own great invention, by confining themselves, as they might have done, to the magnificent simplicity of the alphabet which they had potentially discovered. They thought it needful to interpret the meaning of their alphabetic symbols by perplexing additions of ideographic and syllabic signs. We find a word spelt out alphabetically, a needless syllabic sign is then added, and this is followed by an unnecessary ideogram. The plan is so cumbrous as to seem to us almost inconceivable. We have letters, syllabics, and ideograms piled up one on another in a perplexing confusion. So many crutches were thought necessary, that walking became an art of the utmost difficulty.

But all the same, in the tangled wilderness of the hieroglyphic writing the letters of the alphabet lay concealed. All that remained to be done was to take one simple step—boldly to discard all the non-alphabetic elements, at once to sweep away the superfluous lumber, rejecting all the ideograms, the homophones, the polyphones, the syllabics, and the symbolic signs to which the Egyptian scribes so fondly clung, and so to leave revealed, in its grand simplicity, the nearly perfect alphabet of which, without knowing it, the Egyptians had been virtually in possession for almost countless ages.

But this great achievement, simple and easy as it seems, was beyond the power of Egyptian conservatism to effect. The step was so easy as almost to be impossible. It was left to another people to take up the unsolved problem, and to effect the grand discovery—a discovery at once so fertile in its results, so weighty in the history of the progress of human culture. The triumph of this great conception was reserved for the gifted Semitic race. To the sons of Shem we owe the two most precious possessions of mankind. The first of them is the Alphabet: the second is the Book, and the Religion of the Book.

The story of the transition from Hieroglyphs to Letters must be reserved for another chapter.

CHAPTER II.

THE ORIGIN OF THE ALPHABET.

- § 1. *The Genealogy of the English Alphabet.* § 2. *The Alphabetic Tradition.* § 3. *The History of de Rouge's Discovery.* § 4. *The Papyrus Prisse.* § 5. *Identification of the Egyptian Prototypes of the Semitic letters.* § 6. *Objections to de Rouge's Hypothesis.* § 7. *The Chronological Conditions.* § 8. *The Geographical Probabilities.*

§ 1. THE GENEALOGY OF THE ENGLISH ALPHABET.

In the preceding chapter the ultimate derivation of our own alphabet from the Egyptian hieroglyphics has been assumed as an admitted conclusion of science. In the present chapter the arguments by which scholars have been led to accept this opinion will be stated in detail.

The immediate parentage of our English alphabet is not difficult to determine. By a series of easy steps the forms of the very letters which the reader has before him on this printed page may be traced back for some five-and-twenty centuries. These "Roman types," as they are appropriately called, have not varied appreciably in their forms from the types used at Subiaco, Rome, and Venice by the Italian printers of the

15th century. The forms of these types were imitated from the letters of the beautiful minuscule manuscripts of the 10th and 11th centuries. These minuscule letters are cursive forms of the earlier uncials, which were themselves derived from the Roman letters of the Augustan age, which are very nearly the same as the capital letters which are now used by printers. These Roman capitals are practically identical with the letters employed at Rome in the 3rd century B.C., such, for instance, as are seen in the well-known inscriptions on the tombs of the Scipios, now among the treasures of the Vatican. These again do not differ very materially from forms used in the earliest existing specimens of Latin writing, which may probably be referred to the end of the 5th century B.C.

Thus it appears that our English alphabet is a member of that great Latin family of alphabets, whose geographical extension was originally conterminous, or nearly so, with the limits of the Western Empire, and afterwards with the ancient obedience to the Roman See.

There is therefore no difficulty in tracing back our alphabet for some twenty-three centuries to its early home in central Italy. Going backward another step in search of the source of the primitive alphabet of Rome, we find that it was derived from a local form of the Greek alphabet, which prevailed in Bœotia and Eubœa about the 6th century B.C. This Eubœan alphabet seems to have been introduced into Italy by

GENEALOGY OF THE ENGLISH ALPHABET.

Old Greek.	Euboëan.	Latin.	Uncial.	Minuscule.	Venetian.	Roman.
Α	A	A	Α	α α	<i>a</i>	a
Β	B	B	Bb	b	<i>b</i>	b
Γ	Γ	C < { G	Ϟ	c	<i>c</i>	c
Δ	▷		D	Ϟ Ϟ	ϛ ϛ ϛ	<i>d</i>	d
Ε	Ε	E	εε	ε ε	<i>e</i>	e
Ϝ	F	F	Ϝ	f	<i>f</i>	f
Ζ	Ζ	Z	Ϛ	z	<i>z</i>	z
Η	H	H	ηη	η	<i>h</i>	h
Θ	I	I	Ι	ι ι	<i>ij</i>	ij
Κ	K	K	Κ	κ κ	<i>k</i>	k
Λ	Λ	Λ L	λλ	l	<i>l</i>	l
Μ	M	MM	Ϟ	m	<i>m</i>	m
Ν	N	N	Ν	n	<i>n</i>	n
Ξ	+	X	Χ	χ χ	<i>x</i>	x
Ο	O	O	Ο	ο	<i>o</i>	o
Ρ	Ρ	PP	ρ	ρ	<i>p</i>	p
Ϙ	Ϙ	Q	ϙ ϙ	q	<i>q</i>	q
ϙ	ϙ	RR	ϙ	ρ ϙ	<i>r</i>	r
Ϛ	Ϛ	Ϛ S	Ϛ	ϙ ϛ	<i>fs</i>	fs
Τ	T	T	ϛ ϛ	τ t	<i>t</i>	t
Υ	VY	U V Y	υ	υ υ υ	<i>u v w</i>	u v w
				ϙ	y	<i>y</i>	y
I	II	III.	IV.	V.	VI.	VII.

means of colonies from Chalcis, which were established in Sicily, and also in central Italy at Cumæ and Neapolis. The Chalcidian alphabet was a variety of the archaic alphabet of Greece, our knowledge of which is derived from numerous inscriptions, the earliest of which may probably belong to the eighth or even to the ninth century before Christ.¹

If, pursuing the investigation one step further, we inquire into the source from which the primitive Greek alphabet was derived, we find that classical writers agree in attributing the invention of letters to the Phœnicians, from whose trading posts in the Ægean they were obtained by the Greeks. Our earliest authority is Herodotus. He says, "the Phœnicians introduced into Greece the knowledge of letters, of which, as it seems to me, the Greeks had heretofore been ignorant." The testimony of Diodorus Siculus is much to the same effect, and Pliny affirms that "to the Phœnicians belongs the glory of the invention of the alphabet."² Lucan, Clemens Alexandrinus, and Pomponius Mela repeat the same widely spread tradition.

But the universal belief of the ancient world, weighty as it is, cannot be deemed so conclusive as the internal evidence which is afforded by an examination of the

¹ These changes are roughly exhibited in the Table on the opposite page. Being only a 'type table,' it has no pretensions to absolute palæographic accuracy.

² Herodotus, v. 58; Diodorus Siculus, v. 74; Pliny, *N.H.* v. 12, 13.

alphabet itself. The names, the number, the order, and the forms of the letters of the primitive Greek alphabet attest the Semitic origin, not only of the individual letters, but of the alphabet as a whole.

In default of further evidence, the very word ALPHABET¹ might suffice to disclose the secret of its origin. It is obviously derived from the names of the two letters *alpha* and *beta*, which stand at the head of the Greek alphabet, and which are plainly identical with the names *aleph* and *beth* borne by the corresponding Semitic characters. These names, which are meaningless in Greek, are significant Semitic words, *aleph* denoting an "ox," and *beth* a "house."

Not only do the names of the Greek letters thus testify to a Semitic origin, but the arrangement of the characters proves that they were handed over in the form of a complete alphabet by the Semites to the Greeks.

The following Table exhibits this essential identity of the two alphabets. The Hebrew has been selected as the type of a Semitic alphabet, as being more familiar than any other. Certain Greek letters of secondary origin, such as ϕ , χ , ψ , are omitted, while

¹ Although the actual word *alphabetum* does not happen to be used by any writer earlier than Tertullian, its existence may be inferred from the use of the compound *ἀναλφάβητος*, which dates from the time of Philyllius, a writer of the middle Comedy. The Roman usage appears from the often quoted line—

"Hoc discut omnes ante *alpha* et *beta* puellæ."—Juvenal, xiv. 209.

NAMES AND ORDER OF THE SEMITIC & GREEK LETTERS.

THE HEBREW ALPHABET.					The Primitive Order.	THE GREEK ALPHABET.				
Numerical Values.	Phonetic Values.	Forms.	Names.	Meanings.		Forms.	Names.	Phonetic Values.	Numerical Values.	
1	'a	א	Aleph	ox	I	α	Alpha	a	1	
2	b	ב	Beth	house	II	β	Beta	b	2	
3	g	ג	Gimel	camel	III	γ	Gamma	g	3	
4	d	ד	Daleth	door	IV	δ	Delta	d	4	
5	h	ה	He	window	V	ε	E-pilon	ě	5	
6	v	ו	Vau	hook	VI	ς	Vau	caret	6	
7	z	ז	Zayin	weapons	VII	ζ	[Zeta]	z	7	
8	ch	ח	Cheth	fence	VIII	η	Eta	ē	8	
9	t	ט	Teth	serpent?	IX	θ	Theta	th	9	
10	y	י	Yod	hand	X	ι	Iota	i	10	
20	k	כ	Kaph	palm of hand	XI	κ	Kappa	k	20	
30	l	ל	Lamed	ox-goad	XII	λ	Lambda	l	30	
40	m	מ	Mem	waters	XIII	μ	Mu	m	40	
50	n	נ	Nun	fish	XIV	ν	Nu	n	50	
60	s	ס	Samekh	post	XV	ξ	[Xi]	x	60	
70	'a	ע	'Ayin	eye	XVI	ο	O-micron	o	70	
80	p	פ	Pe	mouth	XVII	π	Pi	p	80	
90	ts	צ	Tsade	javelin?	XVIII	Ϟ	[San]	caret	90	
100	q	ק	Qoph	knot?	XIX	ϙ	Koppa	caret	90	
200	r	ר	Resh	head	XX	ρ	Rho	r	100	
300	sh	ש	Shin	teeth	XXI	σ	[Sigma]	s	200	
400	t	ת	Tau	mark	XXII	τ	Tau	t	300	

two obsolete letters, *vau* and *koppa*, are inserted, as they kept their places as numerals, although they fell into disuse as phonetic signs. The numerical values of the characters are also given, as they serve to establish the identity of the arrangement of the letters in the two alphabets.

It will be observed that the correspondence between the Greek and the Semitic names does not extend to the sibilants, a circumstance of which an explanation will hereafter be attempted.

Striking as is the agreement of the names and the arrangement of the letters in the Greek and Hebrew alphabets, no less conspicuous is the absence of the similarity which we might expect to discover in the forms of the corresponding characters. Thus the first Hebrew letter, *aleph* א, exhibits scarcely any appreciable resemblance to α , the Greek letter with which it is identified both by its name, *alpha*, and by its position at the head of the alphabet. Nor do we find in the forms of the second and the third letters, א *beth*, and ג *gimel*, any closer approximation to their Greek equivalents, β *beta*, and γ *gamma*. In spite, however, of this nearly absolute dissemblance of form, the correspondence between the names, the values, and the order of the letters is sufficient to establish the common parentage of the two alphabets.

We are here taught, by an elementary example, a lesson of frequent application in the History of Alphabets; namely, the extreme variability, under

certain conditions, of the forms assumed by the characters. We shall hereafter discover that a comparison between either the names or the order of the letters frequently makes it possible to establish the close connection of alphabets in which the characters themselves exhibit little or no resemblance.

In the case of the Greek and Hebrew alphabets the dissimilarity between the forms of the characters can easily be explained. The cursive Greek and the square Hebrew are both of comparatively recent origin, and they can be traced backwards to their common source by means of a complete series of intermediate forms. Hence, for the present purpose, the modern characters may be set aside, and the ancient Greek and the ancient Semitic letters may be compared in the forms which are presented in early inscriptions.

The following Table exhibits the manner in which the forms of the Greek and Latin letters were derived from those of the early Semitic alphabet. In column I. the modern square Hebrew letters are given for the purpose of identification and convenient reference. Column II. contains the same letters in their oldest known forms, as they appear on the Moabite stone, and other monuments of the 9th and 8th centuries B.C. Column III. shows the forms of the letters found in the earliest Greek inscriptions, which are written from right to left, according to the Semitic practice. The letters consequently face in the same direction as their Semitic prototypes, with which they are practically identical.

TRANSMISSION OF SEMITIC FORMS.

SEMITIC ALPHABETS.				GREEK ALPHABETS.							Phonetic Values.
	Phonetic Values.	Modern Square Hebrew.	Primitive Semitic.	First Epoch.	Second Epoch.	Third Epoch.		Fourth Epoch.			
				r. to l.	l. to r.	Eastern.	Western	Greek.	Latin.		
1	'a	א	𐤀	Α	Α	Α	Α	Α	Α	a	
2	b	ב	𐤁	Β Β	Β	Β	Β	Β	Β	b	
3	g	ג	𐤂	Γ	Γ	Γ	Κ	Γ	CG	c, g	
4	d	ד	𐤃	Δ	Δ	Δ	▷	Δ	D	d	
5	h	ה	𐤄	Ε	Ε	Ε	Ε	Ε	E	e	
6	v	ו	𐤅	Υ	Υ	Υ V	F Y V	V Y	F V	f, v, u	
7	z	ז	𐤆	Ζ	Ζ	Ζ	Ζ	Z	...	z	
8	ch	ח	𐤇	Θ	Θ	Η	Η	Η	Η	ē, h	
9	t	ט	𐤈	⊗	⊗	⊗ ⊙	⊕	⊙ ⊖ ⊕	...	th, ph	
10	y	י	𐤉	Ϛ	ϛ	Ι	Ι	Ι	Ι	i	
11	k	כ	𐤊	κ	κ	K X	K	K X	...	k, kh	
12	l	ל	𐤋	λ	λ	Λ	Λ	Λ	L	l	
13	m	מ	𐤌	Μ	Μ	M	M	M	M	m	
14	n	נ	𐤍	Ν	Ν	Ν	Ν	N	N	n	
15	s	ס	𐤎	Ξ	Ξ	Ξ	+	Ξ	X	x	
16	'a	ע	𐤏	ο	ο	Ο Ω	Ο	Ο Ω	O	o	
17	p	פ	𐤐	φ	Π	Π	Π	Π	P	p	
18	ts	צ	𐤑	...	M	...	M	...	...	s
19	q	ק	𐤒	φ	φ	...	φ	...	Q	q	
20	r	ר	𐤓	ρ	Ρ	Ρ	Ρ	P	R	r	
21	sh	ש	𐤔	ς	Ξ	Ξ	ς	Σ	S	s	
22	t	ת	𐤕	T	T	T	T	T	T	t	

A comparison of the forms of the corresponding characters in these two columns shows not only a resemblance amply sufficient to establish the connection of the two alphabets, but a similarity so close that it may almost be called an identity of form. This fact should be noted, as it has an important bearing on the vexed question of the date at which the Phœnician alphabet was transmitted to the Greeks.

Somewhat later is the Greek alphabet of the second epoch, which is given in column iv. It is taken from inscriptions written in the direction from left to right which subsequently prevailed in Greece. The letters consequently face to the right instead of the left, but in other respects they have undergone no important changes.

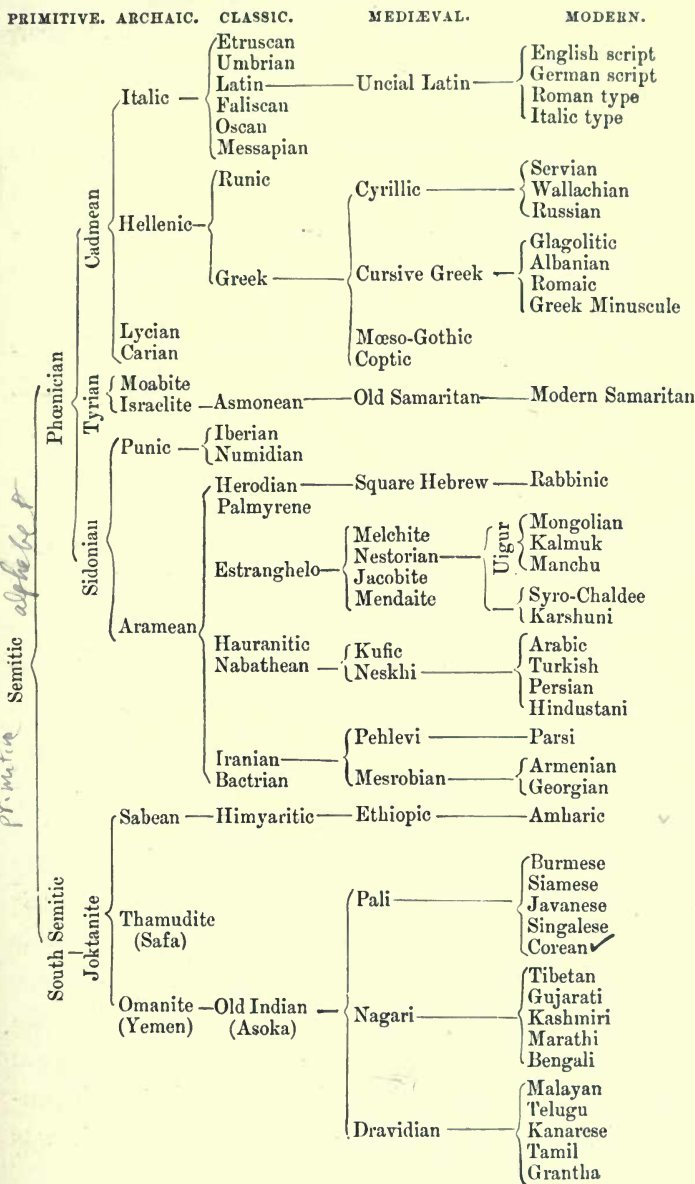
The two next columns (v. and vi.) represent the third or transition epoch of the Greek alphabet, which lasted to about the end of the 5th century B.C. It will be observed that two definite types have now arisen. The first, which may be called the Eastern type, was used in Ionia; while the second, or Western type, is chiefly found on the mainland of Hellas. These divergent types became the parents of the two great alphabets of Christendom; the Eastern, or Ionian alphabet, developing during the 4th century into the standard Greek alphabet of the classical period, given in column vii.; while the Western, or Hellenic alphabet, became the source of the alphabet of Italy, shown in column viii., from which the modern alphabets of

Western Europe have been derived. The table therefore not only completes the internal evidence by which the ancient tradition as to the Semitic origin of the Greek alphabet is established, but also conveniently exhibits the chief stages of the process by which our English capitals are connected with the most ancient known forms of the Semitic alphabet.

It is surprising to find how little change has been effected during the twenty-seven centuries which divide the oldest Semitic inscriptions from the present day. The essential features in the outline of each of our own letters may be detected without difficulty in the characters used by the king of Moab.

Few alphabets have conserved the primitive forms so tenaciously as our own, and in no case have we so complete a series of intermediate links. It will not prove, however, to be a much more difficult task to trace back to the Moabite stone the forms of the characters in many other alphabets, such as the Samaritan, the Syriac, the square Hebrew, or the Russian. In the case of certain Eastern alphabets, such as the Armenian, the Pehlevi, or the Pali, the process may not be so easy or so certain, but in spite of all difficulties, which arise chiefly from the loss of occasional links in the chain of monumental evidence, this cardinal fact may be assumed to be capable of proof—that the primitive Semitic alphabet was the source from which all existing alphabets have been derived. Thus it may be affirmed that the Moabite stone exhibits the embryo

Genealogy of the Semitic Family of Alphabets.



forms of all the letters, two or three thousand in number, in every one of the alphabets which are now in use throughout the world.

For purposes of reference it may be convenient to give in this place a genealogical table of the affiliation of the principal members of the great Semitic family of alphabets, the precise relationships of which will have hereafter to be established.

In this table the vertical arrangement is roughly geographical, while the lateral arrangement is chronological.

§ 2. THE ALPHABETIC TRADITION.

Before commencing the task of examining the evidence which goes to establish the genealogy of existing alphabets, it will be necessary to investigate the origin of the Semitic alphabet itself—the great mother alphabet, which has become the fruitful parent of so numerous a progeny.

The tradition of the ancient world, which assigned to Phœnicia the glory of the invention of letters, declared also, though in more doubtful tones, that it was from Egypt that the Phœnicians originally derived the knowledge of the art of writing, which they afterwards carried into Greece. Eusebius has preserved a passage from the alleged writings of the so-called Tyrian historian Sanchuniathon, from which we gather that the Phœnicians did not claim to be themselves the inventors of the art of writing, but admitted that it was

obtained by them from Egypt. Plato, Diodorus Siculus, Plutarch, Aulus Gellius, and Tacitus, all repeat the same statement, thereby proving how widely current throughout the ancient world was the opinion that the ultimate origin of letters must be sought in Egypt. It may suffice to quote the words of Tacitus, who says, "Primi per figuras animalium Ægyptii sensus mentis effingebant; (ea antiquissima monimenta memoriæ humanæ inpressa saxis cernuntur) et litterarum semet inventores perhibent. Inde Phœnicas, quia mari præpollebant, intulisse Græciæ, gloriamque adeptos, tanquam repererint quæ acceperant."¹

It may be a question whether this account is to be regarded in the light of a genuine tradition, or whether it may be merely the statement of a plausible hypothesis.

When, however, the value of this ancient belief, itself antecedently so probable, comes to be tested by the aid of the resources of modern scientific investigation, it is at once apparent that there is no such easy and certain transition from the Phœnician to the Egyptian writing, as from the alphabet of Greece to the primitive alphabet of the Semitic nations.

The difficulties which have caused many scholars to hesitate in accepting the ancient belief as to the Egyptian origin of the Semitic alphabet are, in truth, of a formidable nature.

Tacitus, *Ann.* xi. 14.

It has been shown in the preceding chapter that the Egyptian hieroglyphic writing was alphabetic only in a restricted sense. On the Egyptian monuments we find a limited number of alphabetic characters used in conjunction with a much larger number of ideographic and syllabic signs. Putting these aside, and taking into account the alphabetic symbols alone, we do not find, as in the parallel case of the Greek and Semitic alphabets, any appreciable correspondence in the number, the order, the names, or the forms of those characters which possess like values in the two systems of writing. If the reader will compare the letters of the ancient Semitic alphabet, as given on page 78, with the characters of the so-called hieroglyphic alphabet, on page 67, he will not only see that the general appearance of the two alphabets is wholly dissimilar, the one being geometrical and the other pictorial, but he will find it difficult to discover, among the twenty-two Semitic letters, a single instance of a character which bears any very noticeable resemblance to a character of corresponding value among the forty-five alphabetic signs of the hieroglyphic alphabet.

Such dissimilarity of form would not, however, be a fatal difficulty if certain other tests of alphabetic derivation held good. We have just seen that the names of the Greek letters furnish by themselves a convincing argument for the Semitic origin of the Greek alphabet. In the case of the Egyptian letters this test fails. The names of the Egyptian letters, so far as they are known,

do not agree with the names of the corresponding Semitic letters save in one or two instances, in which the resemblance of the names may well be accidental. And it is beyond dispute that the names of the Semitic letters must have originated among a Semitic people, since they are, with hardly an exception, significant Semitic words. These very names are, moreover, of a character which leads us to suppose that the Semites must have recognized in the forms of their letters representations of the familiar objects which were designated by the names they used.

The Semitic word *aleph*, for instance, denotes an "ox," and it is not difficult to recognize in the shape of the Phœnician letter a resemblance to the outline of the head and horns of an ox. But the objects which may be supposed to be pictured by the Semitic letters are in no case the same objects as those which are represented by the Egyptian hieroglyphic pictures which express the corresponding sounds. In no way do the Semitic and Egyptian names imply a common descent from the same system of primitive ideograms—neither were the Semitic letter names borrowed bodily from the Egyptians, nor are they even translations of the Egyptian names into Semitic speech.

Neither do we find that the order of the letters in the Egyptian alphabet was the same as the Semitic order. The arrangement of the Semitic alphabet is of considerable antiquity, as is proved by the evidence afforded by the alphabetic Psalms, as well as

by the fact of the transmission of the Semitic arrangement to the Greeks. But this ancient order was not the same as the order of the Egyptian letters, which is known to us in great part from certain curious fragments of alphabetic litanies discovered by M. Mariette,¹ from which it appears that the letters of the Egyptian alphabet were arranged somewhat as follows: *t, s, ā, u(f, b), a, p, m, n, χ(h), n̄, š(s), t', v(b)*. Although the place of other letters, as *i, k, q, g, r(l)*, has not been discovered, yet it is manifest from the fragmentary arrangement which we possess that the Semitic order could not have been based on that of the Egyptians.

It appears therefore that not one of those considerations which sufficed to establish the derivation of the Greek from the Semitic alphabet is available for any attempt to derive the Semitic letters from the hieroglyphic alphabet. The two alphabets agree neither as to the number, the order, the names, or the forms of the respective letters.

Till a very recent period these difficulties have led scholars of repute to the conclusion that classical tradition was at fault in asserting that the Phœnician letters were originally obtained from Egypt.

This was the opinion of Gesenius, who may be taken to represent the highest attainments of Semitic scholarship in the last generation. In his great work on

¹ *Revue archéologique*, N.S., vol. xv., 1867.

Semitic Palæography¹ he concludes that the Phœnician letters originated in an independent system of Semitic picture writing. For example, he considers that the letter *aleph* was originally the picture of the head of an ox, *beth* of a house or tent, *gimel* of a camel's hump, *daleth* of a door, and so on with the rest.

The state of opinion only a few years ago may be conveniently gathered from the now curiously antiquated article on the "Alphabet" which appears in the eighth edition of the *Encyclopædia Britannica*, which was published so recently as 1853. The writer sums up his antediluvial conclusions as to the origin of the alphabet in the following words:—"The Egyptian hieroglyphics, the Chinese characters, and the supposed syllabic alphabets, have been examined, and they do not afford, as is commonly asserted, any clue to lead us to the invention of the alphabet. Since we are unable, either in history, or even in imagination, to trace the origin of the alphabet, we must ascribe it, with the Rabbins, who are prepared with authenticated copies of the characters they used, and of those of Seth, Enoch, and Noah, to the first man, Adam; or we must say, with Pliny, 'ex quo apparet æternus literarum usus;' or we must admit that it was not a human, but a divine invention."

Such opinions are hardly a matter of surprise when

¹ Gesenius, *Scripturæ Linguaeque Phœnicie Monumenta*, Lipsiæ, 1837.

we find that two years later, in 1855, Ernest Renan, one of the most eminent of living Semitic scholars, thus expresses himself:—"L'origine de l'écriture, chez les Sémites, comme chez tous les peuples, se cache dans une profonde nuit."¹

Nearly twenty years later Prof. Whitney takes almost the same view, and speaks of the "venerable Phœnician" as the ultimate source of almost all known modes of written speech.²

In a subsequent volume he only goes so far as to say, "It is at least exceedingly probable, though far from admitting of demonstration, that the Phenicians learned to write of the Egyptians. Either of the Egyptian, or of some other analogous history of alphabetic development, the Phenicians inherited the results."³

§ 3. THE HISTORY OF DE ROUGÉ'S DISCOVERY OF THE ORIGIN OF THE ALPHABET.

From the foregoing citations it will be seen that down to a very recent time the classical tradition was very generally discarded, and the origin of the alphabet was deemed by the highest authorities to be an unsolved, if not an insoluble problem.

¹ Renan, *Histoire des Langues Sémitiques*, p. 113.

² Whitney, *Oriental and Linguistic Studies*, 1st series, 1874. See Max Müller, *Chips from a German Workshop*, iv. p. 486.

³ *Oriental and Linguistic Studies*, 2nd Series, 1875.

But, as in so many similar cases, the result of the latest investigations has been to rehabilitate the discredited tradition of antiquity. It may now be affirmed that scholars are pretty generally agreed, not only as to the source from which the Semitic alphabet was obtained, but also as to the special place, mode, and period in which it must have originated.

The entire glory of this great discovery is due to the genius of a French Egyptologist, Emanuel de Rougé. The first account of his investigations was given in a paper read before the *Académie des Inscriptions* in the year 1859. A meagre summary of his results was published at the time in the *Comptes rendus*, but by some mischance the MS. itself was lost, and has never been recovered. M. de Rougé's intention of rewriting the whole essay was unfortunately never carried out. After his death the rough draft of the original memoir was found among his papers, and, at last, after a delay of fifteen years, was edited, completed, and given to the world by the filial piety of M. Jacques de Rougé, the worthy son of a worthy father. This epoch-making work,¹—the first attempt to treat the problem in the modern scientific method—may be said to have made possible, at last, a History of the Alphabet.

In such a case any absolute demonstration is perhaps

¹ *Mémoire sur l'origine Égyptienne de l'alphabet Phénicien.* Paris, 1874.

unattainable, owing to the paucity of the available materials. It may, however, be affirmed that M. de Rougé's theory offers not only a possible, but the probable solution of the problem; while, on the other hand, no rival hypothesis has as yet been propounded which demands even serious discussion. Under these circumstances, M. de Rougé's theory may be placed before the reader as a conclusion which has met with general acceptance among scholars.

The secret of M. de Rougé's success in solving the problem which had baffled so many of his predecessors must be attributed to his clear perception of the fact, itself antecedently probable, that the immediate prototypes of the Semitic letters must be sought, not, as had hitherto been vainly attempted, among the hieroglyphic pictures of the Egyptian monuments, but among the cursive characters which the Egyptians had developed out of their hieroglyphs, and which were employed for literary and secular purposes, the hieroglyphic writing being reserved for monumental and sacred uses.

Of these cursive characters there are several types. That which bears the least resemblance to the hieroglyphics is the Demotic writing, a highly cursive form, which originated about the time of the twenty-second dynasty, a period when the Semitic alphabet was already in use. The Demotic writing was itself developed out of the Hieratic of the new Empire, which is represented by numerous MSS. of the nineteenth

dynasty. Till of late years these were the only known forms of cursive Egyptian writing. Rejecting both of these types, not only because they present no adequate resemblance to the Semitic letters, but also as being of a date too recent to satisfy the conditions of the problem, M. de Rougé had recourse to an immensely older form of Hieratic writing, exemplars of which have quite recently been brought to light. This earlier Hieratic arose during the early empire, and was in use at the time of the Semitic conquest of lower Egypt, the great event which is usually known as the invasion of the Hyksos. Thus M. de Rougé, with great reason, refers the origination of the Semitic alphabet to the period of five or six centuries during which a race of Semitic kings ruled in the Delta.

But, as has been well said, he first discovers who proves. M. de Rougé's suggestion of the probable source of the Semitic alphabet must have continued to be nothing more than a brilliant guess if it had not been for the skill and patience with which he followed up the clue which he had discovered, and for the rigorously scientific mode in which he applied the stores of his great learning to working out the problem in its minutest details.

M. de Rougé begins by determining the oldest known forms of the Semitic letters. For comparison with these he selects such of the Hieratic characters as were used alphabetically, confining himself to the forms which were in use prior to the expulsion of the Hyksos.

He then proceeds to investigate the exact sounds which were represented by the several symbols, examining with minute care the question as to the phonetic equivalence of each of the Egyptian and Semitic characters. In this laborious task he makes all possible use of the Semitic transcriptions of Egyptian words which occur in the Bible, but he relies chiefly on the Egyptian transliterations of the Semitic names of Syrian towns which are found in the records of the Asiatic conquests of the kings of the new Empire, and in the curious road book of Syrian travel contained in the Papyrus Anastasi.

In this way all the possible Hieratic prototypes of each of the Semitic letters are ascertained. It is then found that the primitive form of almost every Semitic letter can be easily and naturally deduced from the form of its normal Hieratic prototype. Last, but not least, a reasonable explanation can be given of the anomalous cases.

Such is a brief outline of the method pursued by M. de Rougé in establishing his thesis, a method so precise and scientific that it may serve as a model for any similar investigation.

§ 4. THE PAPYRUS PRISSE.

A brief account must now be given of the epigraphic materials which are available for working out the problem of the origin of the alphabet.

The cardinal example of the oldest epoch of Semitic palæography is the inscription of Mesha, king of Moab. Mesha was a contemporary of Ahab and Jehoram.¹ Ahab's reign extended over the two last decades of the 10th century B.C., and consequently the inscription of Mesha must have been engraved at the beginning of the 9th century. The alphabet of the Moabite stone may therefore be regarded as representing the Semitic alphabet of the 10th century.

The Moabite stone was only discovered in 1868, and certain other inscriptions² which belong to the same primitive epoch were likewise unavailable in 1859, when M. de Rougé first put forward his hypothesis. He was consequently obliged to obtain the forms of his Semitic characters from the inscription on the sarcophagus of Eshmunazar, king of Sidon, which represents a decidedly later type of the Semitic alphabet. In several important respects the subsequent discovery of earlier monuments goes to confirm the results which were obtained by M. de Rougé from the imperfect materials which alone were available at the time when his investigation was undertaken.

The materials for reconstructing the Hieratic alphabet of the early Empire are as scanty as the primitive monuments of Semitic epigraphy. Hieratic Papyri are numerous, but they belong almost exclusively to the

¹ 2 Kings iii. 4.

² As the Siloam inscription, and the inscriptions on the bronze vessels from Cyprus.

second type of the Hieratic writing, which prevailed during the new Empire.

The new Empire, which begins with the eighteenth dynasty, was preceded by a long period of Semitic domination during which three dynasties of Shepherd Kings bore rule in Egypt. As to this period, the Egyptian records are almost silent. We possess no single fragment of Hieratic writing which can be certainly assigned to the actual period of the Shepherd Kings, and there are in existence only three MSS. which are prior to the Semitic conquest.¹ It is owing solely to the accidental preservation of these three frail fragments of papyrus that the solution of the great problem of the origin of the alphabet has become possible.

These three MSS. are by no means of the same age or value, as will be seen from the following description.

1. In the Museum at Berlin there are some fragments of a Hieratic papyrus containing cartouches of the kings Amenemhat and Usurtasen, who belonged to the twelfth dynasty, which preceded the invasion of the Hyksos.

2. There is a MS. in the possession of Prof. Lepsius in which the writing is still more primitive in type, and in which mention is made of Khefu and other kings of the earlier dynasties of Memphis.

¹ The "Papyrus Ebers" belongs only to the middle of the 16th century B.C. The age of the "Geometrical Papyrus" is still unsettled.

3. The most perfect specimen of the Hieratic writing of the early period is the celebrated papyrus which was procured at Thebes by M. Prisse d'Avennes, and given by him to the Bibliothèque Nationale at Paris. This MS. is usually called, from the name of the donor, the "Papyrus Prisse." It was published in facsimile by M. Prisse in 1847, and consists of eighteen pages of a magnificent Hieratic writing, unequalled for size and beauty, the characters being unusually large, full, and firm. The first two pages are only a fragment, beginning in the middle of a sentence, and are separated from the remainder by a space where the writing has been effaced. The last sixteen pages form another and complete work. A statement at the end of the papyrus shows that it is only a copy of the original work, which purports to have been composed by Prince Ptah-Hotep, who lived during the reign of Assa, a king of the fifth dynasty. The date of the copy cannot positively be determined, but as the MS. was found in a tomb of the eleventh dynasty, the copy must be anterior to the Hyksos invasion, and therefore older by many centuries than the time of Moses,—older probably than the date usually assigned to Abraham—while the work itself, if it was really composed as it purports to be, about the time of the fifth dynasty, must be regarded as the most ancient of all existing books.

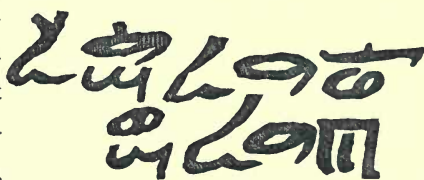
By the curious irony of chance this primæval treatise—this stray waif which has thus floated down to us

from the days of the very childhood of the world—has for its subject the moralizing of an aged sage, who deploras the deterioration of his age, and laments the good old times which had passed away. He describes pathetically the infirmities of old age, he gives precepts for younger men founded on his own experience; and declares that study of the words of ancient wisdom, which should be the food alike of children and of grown men, is the one thing from which solid satisfaction can be derived. Humility and obedience, these are the foundation of all virtue. Sons should be obedient: God loves the obedient, and hates the disobedient. He goes on thus to commend humility:—"If thou art become great, if after being in poverty thou hast amassed riches, and art become the first in thy city, if thou art known for thy wealth and art become a great lord, let not thy heart become proud, for it is God who is the author of them for thee."¹

This priceless MS., the most ancient of all books, supplies the best type of the Hieratic character which was in ordinary use for literary and commercial purposes at the time of the Semitic conquest. The evidence which it affords is supplemented and strengthened by the two other existing fragments of the cur-

¹ The best account of this most interesting MS. has been given by Chabas, *Le plus ancien livre du monde. Étude sur le papyrus Prisse*, in the *Revue archéologique* for 1858. See also Mahaffy, *Prolegomena to Ancient History*, pp. 277—289; Birch, *Egypt*, p. 49; Brugsch-Bey, *History of Egypt under the Pharaohs*, vol. i. pp. 92, 93; De Rougé, *Mémoire sur l'origine Égyptienne de l'Alphabet Phénicien*, p. 25.

sive writing of the early period. The three papyri agree essentially with each other as to the general style of the writing and as to the forms of the individual characters. They also agree in exhibiting a type of writing quite distinct from the Hieratic writing of the new Empire. The characteristics of the two styles are unmistakeable. The later Hieratic is more square, the strokes are fine and delicate, and the characters differ so little from the hieroglyphs from which they are derived that it might be said that the scribe seems never to lose the remembrance of the hieroglyphic forms, which he translates, as it were, by conventional abbreviations. The Hieratic writing of the new Empire is in fact hardly more than the Egyptian picture writing somewhat conventionalized. The earlier Hieratic, on the other hand, is in no sense a conventionalized picture writing: it is, as is shown by the subjoined facsimile,¹ a true cursive character, black, rounded, and bold—recalling to a much lesser extent the forms of the hieroglyphic prototypes, so much so, indeed, that to all appearance it may have been written by scribes wholly ignorant of the ancient monumental forms from which it was derived.



¹ This facsimile, which represents portions of two lines of the Papyrus Prisse, has been engraved from a tracing of the original, and gives a good notion of the size and character of the writing.








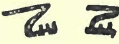


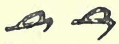





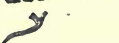

















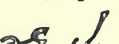


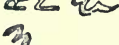





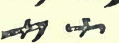


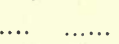





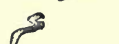





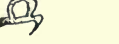







It is from this cursive writing of the early Empire, so peculiar, so unmistakeably distinct from every other form of Egyptian writing, that M. de Rougé obtains the characters which he brings forward as the prototypes of the letters of the Semitic alphabet.

§ 5. THE IDENTIFICATION OF THE EGYPTIAN PROTOTYPES
OF THE SEMITIC LETTERS.

Before entering on the exposition of the details of de Rougé's discovery it will be convenient to set forth for reference, in tabular form, a summary of the results at which he arrives.

Column IV. of the table contains the Semitic characters as they appear on the Moabite stone and other early monuments. The Hieratic forms from which de Rougé derives them are given in column III. The monumental Hieroglyphics, of which the Hieratic characters are cursive forms, together with the conventional names by which they are usually designated by Egyptologists, will be found in columns II. and I. The three last columns, V., VI. and VII., contain the corresponding letters in later alphabets. The Hieratic characters in column III. are taken, with two or three exceptions, from the Papyrus Prisse. The exact forms have been traced from the original papyrus in Paris, and reproduced from the tracings by a photographic process, in order to secure the greatest possible accuracy.

AFFILIATION OF EGYPTIAN AND SEMITIC ALPHABETS.

Values.	EGYPTIAN.		SEMITIC.	LATER EQUIVALENTS.				
	Hieroglyphic.	Hieratic.		Phœnician.	Greek.	Roman.		Hebrew.
<i>a</i>	eagle				Α	Α	א	1
<i>b</i>	crane				Β	Β	ב	2
<i>k (g)</i>	throne				Γ	С	ג	3
<i>t (d)</i>	hand				Δ	Δ	ד	4
<i>h</i>	mæander				Ε	Ε	ה	5
<i>f</i>	cerastes				Υ	Ϝ	ו	6
<i>z</i>	duck				Ϟ	Ζ	ז	7
<i>χ (kh)</i>	sieve				Η	Η	ח	8
<i>θ (th)</i>	tongs				Θ	...	ט	9
<i>i</i>	parallels				Ι	Ι	י	10
<i>k</i>	bowl				Κ	Κ	כ	11
<i>l</i>	lioness				Λ	Λ	ל	12
<i>m</i>	owl				Μ	Μ	מ	13
<i>n</i>	water				Ν	Ν	נ	14
<i>s</i>	chairback				Ξ	Χ	ס	15
<i>á</i>	.....				Ο	Ο	ע	16
<i>p</i>	shutter				Π	Ρ	פ	17
<i>t' (ts)</i>	snake				...	...	צ	18
<i>q</i>	angle				...	Q	ק	19
<i>r</i>	mouth				Ρ	Ρ	ר	20
<i>š (sh)</i>	inundated garden				Σ	Σ	ש	21
<i>t</i>	lasso				Τ	Τ	ת	22
	I.	II.	III.	IV.	V.	VI.	VII.	

In comparing the Semitic and Hieratic columns it must be remembered that the whole history of alphabetic development teaches us that considerable differences of form must have arisen during the ten or twelve centuries which separate the Papyrus Prisse from the Moabite stone. When we come to consider the conditions of the problem, the real matter for surprise is not that the resemblance should be so little, but that it should be so great. In fact, the forms of the Hieratic characters approach almost as closely to the Semitic letters as they do to the hieroglyphs, of which they are merely the cursive equivalents. It must, however, be remembered that the dissemblance of the hieroglyphic and Hieratic characters appears greater than it really is, because in many cases they face in opposite directions, the Papyrus Prisse being written, in the Semitic fashion, in horizontal lines from right to left, whereas in the hieroglyphic writing no such rule prevails, the characters being frequently arranged in vertical columns, or in horizontal lines running from left to right.




M. de Rougé sets forth with great minuteness the considerations which have led him to adopt each of his identifications. The student must be referred to his book for the details; but his exposition, though too lengthy and too technical to be adequately reproduced in this place, cannot be passed over altogether. Therefore the present section, which can be omitted by readers who are concerned only with results, will


be devoted to a brief summary of the grounds on which each of the Semitic letters has been assigned to its Hieratic prototype.



Instead of taking the letters in the order in which they appear in the Semitic alphabet, it will be more convenient to group them according to the usual physiological classification, as labials; palatals, dentals, liquids, sibilants, breaths, and semivowels.



The Hieratic characters may for convenience be designated and represented by their better known hieroglyphic prototypes, and the Semitic letters by means of the familiar square Hebrew types.

The Labials.

𐤀 (*p*). The Egyptians had two homophonic signs for *p*, the 'shutter' , and the 'flying bird' . The latter is rare in the more ancient texts, being employed only for a few special words, while the 'shutter' is one of the commonest of the hieroglyphic symbols. It constantly transliterates the Semitic 𐤀 in the names of towns, and its cursive equivalent  is the ordinary character used for *p* in the Papyrus Prisse. In the Semitic letter the three strokes at the top of the Hieratic character have disappeared. But in the Berlin Papyrus, which is somewhat later than the Papyrus Prisse, these three lines are already evanescent, appearing only as three dots. M. de Rougé acutely remarks that the form of the Semitic letter 𐤀 does not

explain the adoption of the Semitic name *pe*, 'mouth,' whereas in the Egyptian character  we have what may be regarded as a representation of the teeth. At the time when the Semitic letters received their names some vestiges probably survived of the vertical bars of the window-shutter, which would account for the Semitic name, the explanation of which is otherwise so difficult.

𐤁 (*b*).—The Egyptians had two signs for *b*, the 'leg,' , which is the normal sign, and the 'crane' . In this case the less usual symbol must be regarded as the prototype of the Semitic letter. The reason may be that the sound of the first symbol seems to have been nearer to *v* than to *b*; the 'crane' being used as the equivalent of *beth* in the transliteration of several Semitic names, such as Berytus (Beyrout) and Khirba.¹ The Hieratic trace of the 'leg' would moreover be easily confused with that of some other letters, such as the 'chick,' and the 'arm,' and would therefore be inconvenient for adoption.

The Semitic character  differs from its Hieratic prototype  in having acquired a closed loop. The closed form is so much easier to write, that the change presents no difficulty. But there is a curious bit of indirect evidence which seems to show that the Semitic

¹ M. Mariette's alphabetic liturgies, already cited, also indicate that there were two Egyptian *b* sounds, one of which could be represented only by the 'crane.'

letter in its earlier form was open, something in the shape of an \mathfrak{S} . The Greek alphabet used at Corinth, one of the earliest Phœnician colonies in Hellas, must have been derived from a type of the Semitic alphabet more archaic than that which appears on the Moabite stone. Now, in the old Corinthian alphabet the letter *beta* is not closed, but open *β*, its form being almost identical with the Hieratic prototype.

The Palatals.

The prototypes of the three Semitic palatals, *gimel*, *kaph*, and *qoph*, ought to be found among the four Egyptian palatals, namely, Δ , commonly called the 'throne,' which seems to be a picture of an apron; the 'angle' ∇ , which is probably a picture of a knee; the 'bowl' \cup , and its homophone, the uplifted 'arms' \cup . The last of these symbols may be set aside, being comparatively rare on the Egyptian monuments, and bearing no resemblance to any of the Semitic palatals.

In writing Egyptian words the three remaining symbols are to some extent used interchangeably, but in the transliteration of Semitic names a distinct tendency may be detected to appropriate one of the three Egyptian signs as the special equivalent of each of the three Semitic palatals.

𐤀 (*k*).—The letter *kaph* is, with hardly an exception, transliterated by the 'bowl,' as in the words *kafr*

'village,' and *melek*, 'king;' as well as in proper names, such as Cush, Acre, and Taanach. The only exception that has been noted is Carchemish. The resemblance of the Semitic form Υ to the Hieratic 𐤀 is sufficiently close, and presents no difficulty.

𐤁 (*q*).—The Semitic *qoph* is usually transliterated by the 'angle' or 'knee,' as in the case of Karta, 'city,' and of proper names, such as Ascalon, or Shishak. The Hieratic 𐤁 and the Semitic ק are both characterized by a loop and a tail.

𐤂 (*g*).—Apparently the Egyptians had no sound in their language which was exactly equivalent to *g*. Accordingly we find the Semitic *gimel* transliterated by any of the four Egyptian palatals, but most frequently by the 'throne' 𐤂 , as in the names Eglon and Migdol. The decided preference shown for this transliteration seems to indicate an approximation in the sounds.

The forms of the Hieratic and Semitic letters differ considerably, the lower appendage of the Hieratic 𐤂 having disappeared. The principle of 'least effort' would suffice to account for this change, and it will be shown in the next chapter that there are reasons for supposing that the primitive Semitic form may have agreed with that of the Hieratic letter.

The Dentals.


The problem is here almost the same as in the case of the palatals. The Egyptians possessed four nearly




homophonous dental signs, which were used almost interchangeably.¹ For the needs of Semitic speech, however, three distinct dental signs were required. Of the four Egyptian characters, the semicircle \ominus may be put aside, as its extremely small size makes it difficult to connect it with any of the Semitic letters. Three Egyptian signs are therefore left from which to select the prototypes of the three Semitic dentals.

𐀓 (*d*).—The 'hand' \curvearrowright seems to represent the weakest of the dental sounds, and is the character which is most commonly used to transliterate the Semitic *daleth*, as in the names of Jordan, Judah, Edom, and Migdol. The derivation of *daleth* from the 'hand,' which is thus suggested by the phonetic probabilities, derives strong support from the resemblance of the Semitic character Δ , to the form \curvearrowright , which is found in the Papyrus Prisse. In both we have a triangle with a short tail, the chief difference being that the one is rounded and the other angular, a change which would necessarily be caused by the difference in the writing material—papyrus in the one case, and stone in the other.

𐀔 (*tt, t*).—The letter *teth* is rare, and does not occur on the Moabite stone. On the whole, M. de Rougé






¹ According to Hincks, Lepsius, and de Rougé, there was, in Egyptian, really only one dental sound, corresponding to *t*, or to some sound between *t* and *d*. Brugsch, however, thinks it possible to make a distinction in the usage, and he believes that the Egyptians, like the Semites, had three distinct dentals.









inclines, from a comparison of the early forms, to affiliate it to the 'tongs' . Brugsch believes that the Egyptian letter was pronounced *lit*hpingly, which would lend probability to this identification.

𐀓 (*t, th*).—The sign  which resembles a 'noose' or 'lasso,' but which was probably intended as a picture of the 'tongue,' would be left as the prototype of the letter *tau*. Too much importance must not be attached to de Rouge's comparison of the Hieratic  and the Sidonian , neither of these being exactly the normal forms.





The Liquids.

The affiliation of the liquids presents less difficulty than that of the dentals or the palatals. The identifications both of the sounds and of the forms are for the most part free from ambiguity.






𐀍 (*m*).—This sound is represented in the Egyptian alphabet by three symbols. The 'owl' , which is the normal character, was in constant and universal use from the earliest times; the 'cave'  is less common, while the 'sickle'  is little more than a syllabic sign (*ma*) of limited application. A comparison of the forms leaves no doubt that the normal Egyptian character was the prototype of the Semitic letter, the Phœnician  differing from the Hieratic  chiefly in the angularity consequent on the change from papyrus to stone.




1 (*n*).—In this case again there can be no uncertainty. The Egyptians had three homophonic signs for *n*; the ‘water-line’ , which is normal and universal, the ‘red crown of lower Egypt’ , which does not make its appearance before the time of the new Empire, and the ‘vase’ , which is a sign of limited use. These considerations restrict our choice to the ‘water-line.’ In the Semitic letter, as in the Hieratic prototype, the undulations of the Hieroglyphic character have nearly disappeared. Contrary, however, to the usual rule, the Semitic letter exhibits a form not quite so simple as that found in the Papyrus Prisse. In other cases, such as *pe* and *gimel*, unnecessary strokes have disappeared; but here an additional stroke seems to have been added, in contravention of the ‘law of least effort.’ This exceptional development ought to be capable of explanation. It is possible that the Semitic letter may have been derived from an Egyptian form , which retained some vestige of the initial undulation of the ‘water-line.’ More probably, however, the additional stroke was added in order to distinguish the letter *nun*  from *gimel* . This conjecture is confirmed by the name, *nun*, a ‘fish,’ which the letter bears. The Hieratic character  is certainly more like a fish than the Moabite . This suggests the conjecture that the Semitic name was given to the letter before it acquired the additional stroke. Here then, as in the case of *pe*, the Papyrus Prisse offers an explanation of the Semitic name which is not supplied by any Semitic

form which we happen to possess. An incidental argument of unexpected cogency is thus supplied in favour of de Rougé's hypothesis.

𐀓 (*r*).—In Egyptian, as in some other languages, no clear distinction existed between *r* and *l*. The actual sound probably hovered between the two. This sound, whatever it was, is represented on the monuments by two symbols, apparently strict homophones, the 'mouth' , and the 'lioness' . They are used, almost indifferently, as the equivalents of either *resh* or *lamed* in Semitic words. The Semitic sounds being distinct, separate symbols were required to represent them. In adapting an Egyptian alphabet to Semitic use this might be done either by specialization or by differentiation. De Rougé considers that the two Egyptian homophones were specialized, the 'lioness' being appropriated as the symbol for *l*, and the 'mouth' for *r*. The Hieratic equivalent of the 'mouth' is , which is obviously the prototype of *resh* , the change from the rounded outline of the Papyrus Prisse to the angular form of the Moabite stone being due, as in other instances, to the difference in the materials used for writing.

𐀓 (*l*).—The origin of *lamed* is not so easy to determine. The 'lioness,' which de Rougé regards as the prototype of this letter, was decidedly rare before the time of the eighteenth dynasty, and the resemblance of the earlier forms to the Semitic letter is not conspicuous. Awaiting the discovery of further epigraphic materials,




which may possibly supply transitional forms, it becomes necessary to fall back on analogies derived from the later Hieratic writing. The Moabite letter  is not much like the figure , which we find in the Papyrus Prisse. A later form of the character is . We have  in the Hieratic of the nineteenth dynasty, and this becomes  in the Demotic. Thus the picture of the 'lioness' was gradually reduced to a representation of the chest and the fore-legs; the tail and the hind-quarters being denoted by a stroke and a dot, and finally by a dot only. In the absence of more direct evidence, it seems legitimate to assume that the Semitic letter may have had an analogous history, and that it gradually lost those elements which tended to disappear in the Egyptian character, retaining those which tended to remain.


It must be owned that de Rouge's explanation of the origin of *lamed* rests more upon conjecture and less on epigraphic evidence than is the case with other letters. There is, however, an alternative hypothesis which appears to have escaped his notice. It seems not improbable that both of the Semitic letters, *r* and *l*, were obtained by differentiations of the normal Hieratic character, the rare homophone of the 'lioness' being passed over altogether. It is plain that the Hieratic , which is commonly used to denote both *r* and *l*, would require little more than a change of position in order to give rise to the two forms  and , which may be taken as the early types of the letters *resh* and *lamed*.


This solution of the difficulty is supported by certain considerations, presently to be adduced, which tend to show that the primitive Semitic alphabet may have originally possessed only a single sign to denote the sounds of *r* and *l*.






The Sibilants.

The difficulty with regard to the affiliation of the liquids is due to the fact that the Egyptians had only three sounds, while the Semites possessed four. It is the same with the sibilants. Signs for the four Semitic sibilants, *s*, *sh*, *z*, *ts*, had to be obtained from Hieratic characters which represented only three distinct sounds.



𓂏 (*sh*).—The 'inundated garden,' , a picture of papyrus or lotus plants growing out of water, is invariably used to transliterate the Semitic letter *shin*, as in the case of the proper names Carchemish and Bethshan. The 'tank,' , being only a late homophone, need not be taken into account. The Phœnician *w* may be easily identified with the Hieratic  if we suppose that, as in the case of *gimel*, the Semitic letter has been simplified by the omission of a troublesome and unnecessary appendage, which seems to be little more than a mere flourish, and may perhaps be somewhat exaggerated by the scribe who wrote the Papyrus Prisse.

𓂐 (*s*).—This sound is represented by two hieroglyphic homophones, the 'chair-back' , and the

'crotchet' . The Hieratic forms limit the choice¹ for the prototype of *samekh* to the 'chair-back.'

ʒ (*ts*).—The Egyptians denoted their dental sibilant *t'* by three homophones, the 'snake' , the 'flame' , and the 'duck' . Among these the prototypes of the Semitic letters *tsade* and *zayin* must be sought. Of the Egyptian characters, the snake is the most common, and is constantly used to transliterate the Semitic *tsade*. The resemblance of the Hieratic character  to the Phœnician letter  is so close as to leave no doubt as to the identification.

ʒ (*z*).—For *zayin* we have to choose between the 'flame' and the 'duck.'² The transliterations give us little aid, owing to *zayin* being among the rarest of the Semitic letters, the only proper name which can be adduced being Gaza, in which the *z* is represented by the 'flame.' De Rougé, relying on the later Eshmunazar form, with which alone he was acquainted, considers the 'duck' as the most probable prototype. So far as the evidence of form goes, it may perhaps be held that the evidence of the Moabite stone is in favour of the



¹ The Semitic letter  bears a very striking resemblance to the hieroglyph of the 'plant' . This, however, is rather a syllabic (*su*), than a strictly alphabetic character, and the resemblance of the forms disappears to a considerable extent in the Hieratic trace.




² Lepsius is certainly wrong in excluding the 'flame' from the Egyptian alphabet, and considering it only as an ideogram; but, on the other hand, the 'duck' is almost as much a syllabic as an alphabetic character.

'flame.' The Baal Lebanon inscription, on the other hand, is rather for the 'duck.' Future discoveries of epigraphic materials will doubtless set at rest this, as well as some other doubtful points.

The Semivowels.

The Semites had two semivowels, *vau* and *yod*.




𐤓 (*v*).—In the Hieroglyphic alphabet the horned asp, or 'cerastes,' , had the value of *f*, and also of *v* and *u*. It would therefore serve as the prototype of *vau*. The striking resemblance between the Moabite 𐤓 and the Hieratic  leaves little doubt as to the correctness of the identification.



𐤓 (*y*).—The letter *yod* must be referred to the hieroglyph called the 'parallels' , which has the value of *i* and *y*. This character is a strict homophone, and probably only a variant of the 'double reed' , which is used to transliterate *yod* in the name of Joppa. The bar or kick at the bottom of the Semitic letter 𐤓 may be explained as a development which arose in order to prevent confusion with *kaph*. The germ of this bar may be detected in a slight thickening or knob which occasionally appears in the Hieratic trace, . If any doubt existed as to the affiliation, it would be removed by the correspondence in the size of the Egyptian and Semitic characters. In Semitic inscriptions the extremely small size of *yod* is very noticeable. On the Eshmunazar sarcophagus its height is only one-fourth



of that of some other letters. This characteristic was transmitted to the Greek and Hebrew alphabets. Hence among the 'jottings' of the philologist's notebook is the curious way in which the proverbial minuteness of this letter has given us an English verb and its derivatives.¹ The persistency with which the relative sizes of letters are preserved is very remarkable. The smallness of our English letter *i* is a peculiarity which has been transmitted for 6000 years from its remote Egyptian prototype, and is as noticeable on an Egyptian obelisk as in an English book.

The breaths.

The Egyptians had three breaths, to denote which seven signs at least could be employed. The three sounds were—

1. The soft breath, or indefinite vowel sound, of which the homophonous symbols were the 'reed,' , the 'eagle,' , and the 'arm,' .

2. The aspirate, or hard breathing (*h*), expressed either by the 'mæander,' , or by the 'knotted cord,' .

3. The guttural aspirate (*kh*), of which the signs are either the 'sickle' , or a hieroglyph usually called the 'sieve,' , which was probably the symbol of 'darkness,' denoted by a picture of the dark moon.

¹ See Matthew v. 18.

The Semites, on the other hand, had four breaths, expressed by the letters *aleph*, *he*, *cheth*, and *'ayin*.

An examination of the transliterations of Semitic names gives the following results:—

aleph is normally transliterated by the 'reed,' and less usually by the 'eagle.'

he corresponds most frequently to the 'mæander,' but sometimes to the 'knotted cord.'


cheth is usually rendered by the 'sieve,' or the 'sickle,' but occasionally by the 'knotted cord.'



'ayin does not correspond strictly to any Egyptian sound, but seems to be nearest to the 'arm.'

Guided by these correspondences, the probable prototypes of the four Semitic letters have to be selected from among the seven Egyptian characters. The choice has to be determined chiefly by the approximation of the forms.

𐀀 (*ch*).—In the case of the letter *cheth* there is no ground for hesitation. The Hieratic representation of the 'sieve' , if written, as in other cases, in an angular instead of a rounded form, gives the outline of the Semitic letter 𐤃.

𐀁 (*h*).—The letter *he* corresponds to the 'mæander' and the 'knotted cord.' The Hieratic forms show that the former must be taken as the prototype. In the Papyrus Prisse there are two types of this character; one, which is comparatively rare, is open at the bottom, , and corresponds to the Moabite 𐤄. It is much more usual, however, to find the character

completely closed. The name of the Semitic letter, which is generally supposed to mean a 'window,' would indicate that the primitive form of the letter agreed with the more usual Hieratic trace. This conjecture is curiously confirmed by the evidence afforded by the early inscriptions of Corinth, which, as we have seen in the case of *beta*, occasionally preserve alphabetic forms of a more archaic type than those found on the Moabite stone itself. Now in the primitive alphabet of Corinth we find, instead of the usual form of *epsilon*, a closed character , which is nearly identical with the form of the 'mæander' which is most usual in the Papyrus Prisse.

Ⲁ (*a*).—For the prototype of *aleph* we have to choose between the 'eagle' , and the 'reed' . Although the second of these is the most usual equivalent of the Semitic letter, a comparison of the forms seems to justify de Rougé in his selection of the 'eagle' as the probable prototype.

Ⲁ (*a*).—The Egyptians did not possess the peculiar guttural breathing denoted by the letter 'ayin, which is found only in Semitic languages. The 'arm' was used as the nearest Egyptian equivalent, but there is no appreciable resemblance between the Semitic and Hieratic forms. De Rougé asserts confidently that it is as certain that the prototype of the Semitic character is not to be discovered in the Egyptian alphabet as that the sound itself did not exist in their language.

M. Lenormant has suggested that this letter may be

regarded as an ideographic picture invented by the Semites, the symbol \circ being regarded, as the name 'ayin suggests, as the picture of an 'eye.' It is worthy of note that the only instance in which de Rougé has failed to find an Egyptian prototype for a Semitic letter is the very case in which on phonetic grounds such a failure might have been expected.

The foregoing condensed outline of de Rougé's argument may now make it possible to form an estimate of the value of his results.

It will probably be admitted that with respect to sixteen of the Semitic letters his identifications with the suggested Hieratic prototypes are reasonably satisfactory. In the remaining cases his conclusions may be deemed open to correction on the discovery of additional epigraphic materials.

Considering how imperfect are the available data, and how vast is the interval of time which separates the Moabite stone from the Papyrus Prisse, it would be strange indeed if no such uncertain cases should occur, but the doubtful identifications can hardly be said to form such a considerable proportion of the entire number as to throw any serious doubt upon the theory as a whole.

§ 6. OBJECTIONS TO DE ROUGÉ'S HYPOTHESIS.

De Rougé's hypothesis having now been placed before the reader, the objections which have been brought against it remain to be considered.

It would be unreasonable to expect that so notable an achievement should, without cavil or hesitation, be universally acclaimed. Such fortune has hitherto befallen no discoverer. Although de Rougé's theory has been accepted by the great majority of experts, including names of such authority as those of Max Müller, Sayce, Lenormant, Maspero, Ebers, Euting, Fabretti, Peile, and Mahaffy, nevertheless full weight must be given to the hesitations and objections which have been expressed in certain quarters.

The most formidable antagonist who has entered the lists is Professor Lagarde, who has expressed in no measured terms¹ his dissatisfaction with the arguments of de Rougé's book. Professor Robertson Smith owns to certain hesitations,² while Mr. R. S. Poole has stated in a succinct and accessible form the objections which de Rougé's followers have to meet.³

Professor Lagarde, as the strongest and fiercest of de Rougé's assailants, may be allowed the first hearing. His chief argument is that certain Semitic letters, such as *teth*, *tsade*, *q'oph*, and *'ayin*, denote sounds which, being peculiar to the Semitic languages, could not therefore have been represented in the Egyptian

¹ He goes so far as to say, "Ich bin selten so enttäuscht wie durch dieses Buch, das seine These in mindesten nicht bewiesen hat."—Lagarde, *Symmicta*, p. 113. (Göttingen, 1877.)

² *Encyclopædia Britannica*, Art. *Hebrew*.

³ *Ibid.* Art. *Hieroglyphics*.

alphabet. Hence, he alleges, the Semitic letters representing these peculiar sounds cannot have been obtained from Egypt, but must have been invented by the Semites themselves. A wider acquaintance with the general history of alphabets would have shown Professor Lagarde the fallacy of this argument. When alphabets are transmitted from one nation to another the adopted characters are constantly used to denote approximate rather than identical sounds. Thus very different sounds are represented by the same Roman letters in Spanish, Italian, and Wallachian; or in Welsh, Polish, and Hungarian. If Professor Lagarde's argument were valid it would actually prove that the Greek alphabet could not have been obtained from the Phœnician. The Semitic sounds represented by *teth* and 'ayin, for example, do not exist in any Aryan language, yet there can be no doubt whatever that the Semitic symbols for these peculiar sounds are to be identified with the Greek letters *theta* and *omicron*. The argument which Professor Lagarde produces with so much confidence falls therefore to the ground.

Professor Lagarde lays hardly less stress on a second objection, which Mr. Poole considers to have "great weight." We have already seen (p. 85) that the names of the Semitic letters do not refer to the objects represented by their hieroglyphic prototypes. How is it, for instance, that the name *beth* should mean 'house,' if the character was obtained from the Egyptian picture of a crane? It is difficult, Mr. Poole

thinks, to imagine such a renaming. Here again we must be guided by analogies drawn from other alphabets. The theoretic difficulty of imagining a renaming disappears in face of the fact that in the case of other alphabetic transmissions the letters are constantly thus renamed. The Russian letters, which were borrowed in the 9th century from the Greek alphabet, have lost the familiar Greek appellations, and bear new names significant in Slavonic speech. Thus the letter *b* is not called *beta* but *buki*, which means a 'beech,' while *d* has lost the old name of *delta*, and has acquired that of *dobro*, an 'oak.' The Scandinavian Runes, which were derived at an earlier period from the Greek alphabet, have also been systematically renamed. So again the Roman uncials, which constitute the Irish Bethluisnion alphabet, received Keltic tree names, while in another Irish alphabet, which is called the Bobeloth, the names are taken from the Bible history. Thus the analogy of other alphabets proves that the invention of new names, at once significant and acrologic, is actually more probable than the transmission of the old appellations. The picture alphabets of our nurseries,¹ which are found to make it easy for children to learn their letters, sufficiently explain the object and mode of such renamings.

¹ Such as the familiar rhymed alphabet which begins—

A was an Archer, who shot at a frog ;

B was a Butcher, who had a great dog.

It may be admitted that the objection urged by Professor Lagarde and Mr. Poole might have some weight if the Semitic alphabet had been derived immediately from the Egyptian Hieroglyphics, in which the pictorial intention is unmistakeable. But in the Hieratic writing the resemblance to the primitive pictures has disappeared, and the Egyptian names, being meaningless to Semitic scribes, would be difficult to remember, and translations of them would no longer be acrologic. Hence new acrologic names, significant in Semitic speech, would naturally be invented, as in other borrowed alphabets, with the object of making it easy to connect the forms and values of the several characters. This objection, which has been deemed so serious, may therefore be dismissed, as destitute of any real validity.

In the next place, Professor Lagarde believes that the Semites, if they had obtained their letters from Egypt, would have borrowed them from the Hieroglyphic rather than from the Hieratic characters. Although such conjectures are vain in the face of actual facts, it may be held that the antecedent probabilities are wholly the other way. The Semitic alphabet must have originated among a colony of Semitic aliens established in lower Egypt, either as slaves, traders, frontier guards, or conquerors. In any case the Semitic intruders would be strangers to the religion and the language of the Egyptians. It would therefore be more likely that they should make

use of the cursive and easy Hieratic, which was ordinarily employed in Egypt for secular and commercial purposes, than that they should adopt the difficult sacred script which was reserved by the Egyptian priesthood for monumental and religious uses. This supposition is confirmed by the singular absence of any Hieroglyphic monuments which can be assigned to the three dynasties of Semitic kings.

Another objection, brought forward by Mr. Poole, is geographical. Since the oldest specimens of Semitic writing belong to Asia, the presumption, it is urged, is in favour of its Asiatic origin. Putting aside the difficulty that there is no indigenous Asiatic system of writing from which the Semitic alphabet can plausibly be derived, it must be remembered that only a very few years ago the earliest known monuments of the Semitic alphabet appertained not to Assyria and Moab, but to Malta and Sardinia; yet who would on that account propound a European origin? In fact any mere negative argument from the absence of documents is not conclusive. Their preservation is very much a matter of accident, and the absence of early Semitic records in Egypt may any day be supplied by the discovery of a papyrus or a tomb.

The next argument to be met is that the range of choice among the Egyptian symbols is so wide—there are so many alternative forms from among which to select prototypes for the Semitic letters—that any result is necessarily vague and unsatisfactory.

This objection is hardly a fair comment on de Rougé's method. The process which he adopts is rigorous and strict. If, like some of his predecessors, from among the four hundred Egyptian phonograms he had arbitrarily selected twenty-two forms for comparison with the twenty-two Semitic letters, the facility of the process would have accorded with the futility of the results. De Rougé's method is wholly different. He puts aside, absolutely, the whole chaos of the miscellaneous Egyptian symbols, and confines himself to the so-called 'Egyptian Alphabet,' which, according to the tradition preserved by Plutarch, consisted of only twenty-five letters. It is from the standard Egyptian alphabet of twenty-five symbols, as now accepted by Egyptologists, that de Rougé attempts to derive the twenty-two Semitic letters. He first sets aside four of the Egyptian breaths and vowels, vowels being absent from the Semitic alphabet. Of the remaining twenty-one characters he identifies no less than eighteen with the eighteen Semitic letters which corresponded to them most closely in sound. In three cases only, *beth*, *zayin*, and *aleph*, does he pass over the normal symbols, and resort to a homophone, while the one Semitic letter for which he fails to find an Egyptian prototype is the symbol of a Semitic sound which the Egyptians did not possess. There can therefore be no ground for the imputation that de Rougé's scheme is fanciful or arbitrary, as in eighteen cases out of twenty-two the prototypes of the Semitic

letters are found to be exactly those Egyptian characters from which on theoretical grounds we might expect them to descend.

Mr. Poole also objects that "the Hieratic forms vary, like all cursive forms of writing, with the hand of each scribe. Consequently the writer who desires to establish their identity with Phœnician can scarcely avoid straining the evidence."

In reply to this it may be said that the same objection applies in a far greater degree to all other attempts to affiliate cursive scripts. To de Rougé's attempt it is singularly inapplicable, as he is compelled to rely almost exclusively on a single MS., the Papyrus Prisse, written in a hand remarkably bold, uniform, and characteristic. But to obviate any allegation that de Rougé may unconsciously have strained the evidence, I have set aside his facsimiles, and have traced from the Papyrus Prisse itself a whole series of the forms of the Hieratic characters. Where any variations can be detected I have given engravings of the chief types in the Table (p. 99). The reader will therefore be able to judge for himself how far this objection can be justified.

One only of Professor Lagarde's objections remains to be considered, namely, the want of adequate resemblance between the Semitic letters and their alleged prototypes. This objection, if it can be sustained, must be considered fatal to de Rougé's hypothesis, and demands therefore the fullest consideration.

Looking at the Hieratic and Phœnician alphabets which are put side by side in the Table on p. 99, or if the facsimile from the Papyrus Prisse on p. 97 be compared with the writing on the Moabite stone, of which a reduced facsimile is given on page 208, it must be admitted that there is a conspicuous dissimilarity in the appearance of the two scripts. An attentive examination will however show that these differences, great as they seem, are superficial rather than real.

It is a rule of very general application that a national script is liable to assume a special type of its own. It tends, for example, to become either upright or inclined, minute or bold, regular or irregular, simple or complicated. It is apt to acquire or to lose loops, hooks, and tails; to eschew forms either curved or angular, to prefer either straight lines, triangles and squares, or else curves, ovals and circles; in short, to become either geometrical or cursive. By a glance at a printed page, and without examining a single word, it is easy to recognize by their general characteristics either Greek or Latin; Hebrew or German; Sanskrit or Pali; Tamil, Ethiopic, Armenian, or Javanese.

Hereafter we shall meet frequently with instances of this general tendency of writing to acquire a special national type. Hence the considerable change in superficial aspect which we note in passing from the Hieratic to the Semitic writing is no strange phenomenon, but a circumstance entirely in accordance

with the ordinary law which governs such transmissions. It would be altogether exceptional if the Hieratic and Semitic writing did not, each of them, exhibit a distinct specific character.

Now looking broadly at the two scripts, Hieratic and Moabite, it is not difficult to specify their distinctive characteristics. In the first place we see that the Semitic writing is distinguished by greater symmetry and greater simplicity. Like soldiers on parade, the characters in the alphabetic line have been 'dressed.' The letters have become more regular and uniform; they have become more angular, more firm, and more erect; the differences in relative size have diminished; slanting characters such as *vau*, *kaph*, and *tsade*, are nearly vertical, and horizontal characters such as *he* and *samekh* are more upright. Not only is there a more general symmetry, but a greater simplicity of outline, the complicated and difficult characters especially being straightened or curtailed.

A considerable number of these distinctive peculiarities are due merely to the nature of the writing material. The early Hieratic writing seems to have been traced with thick glutinous ink on papyrus, an abundant and cheap material, by means of a pen, or rather a brush made of the soft stump of a reed. The characters are consequently thick, bold, free, and rounded. The Semitic letters, on the other hand, were laboriously carved with a chisel upon stone, a costly and difficult material—the words were "graven with an iron pen upon the rock for ever."

The result of this change from a cursive to a lapidary type is that the characters are more regular and more delicate. The rounded and flowing Hieratic forms become stiff and angular. The curved sweeping tails which are so characteristic of the Papyrus Prisse reappear on the Moabite stone as nearly straight and rigid lines, as in the case of *vau*, *tsade*, *daleth*, *q'oph*, and *resh*; the closed ovals become either triangles, as with *daleth* and *resh*, or squares, as with *cheth*, or open angles, as with *kaph*. Curved lines have been straightened, as in the case of *vau*, *zayin*, *mem*, and *shin*. Forms characterized by bold curves, so easy to write but so difficult to engrave, have been simplified by the avoidance of needless undulations, as in the case of *aleph* and *zayin*. Some of the more complicated characters have been simplified by the omission of a portion of the letter, sundry troublesome appendages, unnecessary survivals from the Hieroglyphic pictures, having dropped off. In this way, by a sort of natural atrophy, the final portions of *gimel*, *lamed*, and *shin* have disappeared.

The foregoing changes are all in the direction of least effort. On the other hand, as has been shown in the last section,¹ three letters have been differentiated, in order to distinguish them from other letters to which they bore an inconveniently close resemblance. The thickened tail of *yod* developed into a sort of

¹ See pp. 103, 107, 112, supra.

kick, 𐤀 , so as to distinguish it from *kaph*, 𐤀 . An additional stroke was acquired by *nun*, 𐤅 , apparently to distinguish it from *gimel*, 𐤂 . This involved a change by correlation in *beth*, the head of which became a closed loop, 𐤁 , instead of 𐤁 , to distinguish it from *nun*. The uncompleted loop in the Corinthian *beta*, 𐤁 , serves to mark this change as one of comparatively late introduction.

Hence it appears that the alleged dissemblances, both general and specific, between the Hieratic and Semitic characters can be accounted for, and are not greater than might be reasonably expected. Indeed the real matter for surprise is not that the resemblance should be so small, but that it should be so great. The interval of more than a thousand years which separates the Moabite stone from the Papyrus Prisse supplies ample time for the development of even greater changes in the forms of the letters than those that have taken place. The differences are not so great as those which have grown up in a much shorter time between the Roman minuscules *a, b, d, e, g, r*, or the Greek minuscules $\alpha, \gamma, \delta, \zeta, \xi, \sigma$, and the capitals out of which they were developed. Or if the Hieratic of the nineteenth dynasty be compared with the Demotic of the twenty-second, which grew out of it, the changes of form will be found to be greater than in the case of the early Hieratic and the Semitic, though the interval which separated them is not so great by several centuries. If de Rougé's theory were al-

together baseless we might expect to find not more than two or three colourable resemblances between the Semitic letters and their Hieratic homophones. But the correspondencies of form which exist are too close, too numerous, and too systematic to be accounted for on any hypothesis of merely accidental resemblance. With hardly an exception de Rougé is able reasonably to deduce the forms of each of the Semitic letters from an Egyptian prototype, selected, not arbitrarily, but in strict accordance with the laws of transliteration which are found to exist between the two languages. More than this can hardly be demanded.

The objections which have been urged against de Rougé's theory have now been very fully examined. It would appear that there is no difficulty which can be considered fatal to his argument—no objection to which a reasonable answer may not be made.

The only real difficulty is the fact that the available evidence is not so copious as might be desired. So far as it goes it is entirely in de Rougé's favour, but it must freely be acknowledged that the epigraphic materials are neither continuous nor complete. This can be no matter for surprise, knowing as we do the chances on which the preservation of documents depend. We know, for instance, that the Hyksos, a Semitic race, ruled in Egypt for 500 years, yet they left behind them hardly a trace of their existence. We know also that at the beginning of the new empire the Phœnicians had established a great trading settlement

in the Delta, of which however not a single monument survives. It is by the merest accident that the Papyrus Prisse has been preserved—and without this frail fragment what would really be known of the early Hieratic writing?—yet the Papyrus Prisse must be the surviving representative of an extensive Hieratic literature.

The missing links in the chain of evidence may any day be supplied by the discovery of more complete materials—a single Papyrus belonging to the Hyksos period, or a Semitic inscription earlier by a century or two than the Moabite stone, would probably set at rest many doubtful points. A generation ago no approximate solution of the problem of the origin of the alphabet would have been possible, since neither the Papyrus Prisse nor the Moabite stone had been discovered. It is not unreasonable to conjecture that a generation hence the great gulf of twelve centuries which still separates these records may be still further narrowed by fresh discoveries.

In the foregoing pages I have endeavoured fairly to state de Rougé's argument, and to give full weight to every objection which can be urged against it. The reader must now form his own estimate of the force of the argument on either side. He will, I believe, arrive at the conclusion now so generally accepted, that the thesis as to the Egyptian origin of the Semitic alphabet may at all events be provisionally adopted. Not only is it on *a priori* grounds the probable

solution, not only does it agree with the ancient tradition, not only does it supply a possible and reasonable explanation of the facts, not only is it confirmed by all sorts of curious coincidences, but no objection has been urged against it to which a sufficient answer cannot be found.

In estimating the probabilities of the case a final consideration of great weight has to be taken into account. If we reject de Rouge's explanation of the origin of the alphabet there is practically no rival theory on which to fall back. There are only three other possible sources, none of which can at present be regarded in any higher light than as a mere guess. If the Semitic letters were not derived from Egypt they must have been invented by the Phœnicians, or they must have been developed either out of the Hittite hieroglyphics, or out of one of the cuneiform syllabaries.

The first alternative is the now exploded opinion of Gesenius and his school, that the Semitic alphabet arose out of an independent system of Semitic picture writing. This hypothesis will hardly be revived in face of our present knowledge of the immense slowness of the processes by which graphic systems are developed. Of such processes there are no traces. In the Semitic alphabet there are no vestiges of a prior syllabism, as in the Persian cuneiform alphabet. There are no survivals of the earlier ideograms, as in the Proto-Medic syllabary. In the Semitic lands there

are not, as in China, any ancient monuments which bear traces of earlier pictorial forms. If the Semitic alphabet originated among the Semites, there is none of the evidence which analogy would lead us to expect.

Another possible solution has found an able advocate in Dr. Deecke, who has attempted to derive the Semitic alphabet from the Assyrian cuneiform.¹ It is however the general opinion of scholars that this attempt has failed as conspicuously as that of de Rougé has succeeded. Not to speak of fatal difficulties of detail, which need not here be recapitulated, since they have been elsewhere urged,² and are still unanswered, we might reasonably expect, if the Semitic alphabet had been developed out of the Semitic cuneiform, to find transitional forms among the vast literary stores accumulated in the Assyrian libraries; and it would be strange that the convenient Semitic alphabet, if it was developed out of the Semitic cuneiform, should not also have replaced it.

A third hypothesis remains. No doubt it is within the bounds of possibility that Hittite monuments may yet be discovered and deciphered which may supply a pedigree for the Semitic alphabet. Here again we

¹ Deecke, *Der Ursprung des altsemitischen Alphabets aus der neuassyrischen Keilschrift*, in the *Z. D. M. G.* vol. xxxi. pp. 102—116 (1877).

² See the articles by Prof. Sayce and myself, and Dr. Deecke's reply, in the *Academy* for June 23rd, July 28th, and August 4th, 1877.

are encountered by the same absence of evidence and the same absence of transitional forms. If, indeed, as will probably be found to be the case, the syllabary of Cyprus and Asia Minor prove to be the syllabic development of the Hittite hieroglyphics, then the immediate prototypes of the Semitic letters ought to be found among the Cypriote syllabics, a solution which presents such obvious difficulties that no one has yet ventured to propound it.

Hence it appears that there is at present an entire lack of evidence in favour of any of the three possible alternative sources of the Semitic alphabet: the theories of Deecke and Gesenius must be rejected; while the Hittite hypothesis has not yet found an advocate.

At present therefore we have before us no rival theory whatever if we refuse to accept the possible and sufficient explanation which de Rougé has stated with so much learning and ingenuity. Till further evidence is put forward, it must therefore be held that de Rougé remains master of the field.

§ 7. THE CHRONOLOGICAL CONDITIONS.

From the nature of the case, only approximate conclusions can be formed as to the date at which the Semitic alphabet originated. The available evidence is partly external and partly internal.

The external evidence starts from the oldest

monument of Semitic epigraphy to which a definite date can be assigned. This is the Moabite stone, which affords a firm and unassailable standing ground. It proves, beyond controversy, that the Semitic alphabet was fully developed and established as early as the beginning of the 9th century, while to the practised eye of the palæographer it also indicates that alphabetic writing must have been in familiar use for a very considerable precedent period. M. Lenormant ably states the conclusions which may be drawn from the character of the Moabite writing. He says, "déjà l'écriture s'y présente avec un aspect comme fatigué et usé dans la forme de certains caractères, qui révèle plusieurs siècles d'usage antérieur de ce type graphique."¹

From the wide diffusion of the Semitic alphabet at this early period a similar inference may be drawn. The lion weights from Nineveh, which bear the names of Assyrian kings who reigned during the second half of the 8th century, an engraved scarab found beneath the foundation of the palace of Sargon at Khorsabad, and the bronze vessel dedicated to the temple of Baal-Lebanon, which bears the name of Hiram, king of the Sidonians, are epigraphically of the same age, or nearly so, as the inscription of Mesha, while there are Greek inscriptions which must be assigned to a period not less ancient. If then, in the

¹ Lenormant *L'alphabet Phénicien*, i., p. 130.

8th century, the Semitic alphabet, already exhibiting signs of long continued usage, was customarily employed in localities so far remote from one another as Moab, Nineveh, Lebanon, Thera, and Corinth, we are compelled to assign its origin to a time prior by several centuries to the year 900 B.C.

This conclusion, based on epigraphical considerations, does not lack confirmation from historic sources. By necessity such evidence must be obtained mainly from the records of the Hebrew people. Without making any assumptions as to the authorship of the Pentateuch, and avoiding disputed questions as to the date and composition of the Hebrew Scriptures, topics the discussion of which would be foreign to the design of this book, it may yet be possible to arrive at results which may be admitted without controversy by critics of all schools. It may suffice to give here a condensed summary of the evidence, since it has been exhaustively set forth by Ewald.¹

It would seem that as early as the commencement of the Hebrew monarchy alphabetic writing was known to the Hebrews, and was also a common possession of the neighbouring Semitic peoples. In proof of this proposition the following facts may be adduced.

More than a century before the date of the Moabite

¹ Ewald, *Geschichte des Volkes Israel*. The references are to the third edition of the English translation.

stone we read that Hiram, king of Tyre, wrote to Solomon, and that David "wrote a letter to Joab."¹ At this time the Syrian nations possessed State annals.² This appears from numerous quotations given by Josephus³ from the works of Dius, and Menander of Ephesus, writers who translated for Greek readers the works of Tyrian historians which had been compiled from the *tabularia* preserved in the temples of the Phœnician cities.

Edom also must have possessed similar records, for after its subjugation in the reign of David the Hebrews appear to have come into possession of Edomite annals reaching back to a remote antiquity. The long lists of the kings and dukes of Edom, who "reigned before there reigned any king over the children of Israel," are documents which bear no marks of oral tradition, but have the unmistakeable air of having been extracted from the State archives of Edom.⁴

The very ancient narrative in Genesis of the Kudurid invasion of Palestine, in which "Abram the Hebrew" is spoken of almost as an alien, just as a Canaanite historian might have described him, bears

¹ 2 Samuel xi. 14.

² See Professor Sayce, in *Nature*, for Feb. 26, 1880, p. 404; Ewald, *Hist. Israel*, i. p. 52.

³ Josephus, *Antiq.*, viii. 5, 3; viii. 13, 2; ix. 14, 2; *C. Apion.* i. 17 seq.

⁴ Ewald, *Hist. Israel*, i., p. 52. See Genesis xxxvi. and 1 Chron. i.

all the marks of having been derived from some very ancient non-Israelitish source.¹ The incorporated note in the book of Numbers,² as to the contemporaneous foundation of the cities of Hebron in Canaan and Zoan (Tanis), in Egypt, seems also to be a fragment derived from some foreign historical work. That the Canaanites, as well as the Edomites and Hebrews, possessed historical or sacred books is implied by the fact that at the time of the Hebrew conquest the city of Debir, near Hebron, bore the name of Kirjath Sepher, the "city of Scriptures."³

MM. Lenormant and de Rougé attach considerable importance to the fact narrated in the poem of Pentaour, that the Khita-sira, the king of the Hittites, was accompanied by his historiographer at the great battle of Kadesh, and that the treaty with Rameses II., by which the campaign was brought to an end, was inscribed on a tablet of silver by the scribes of the Hittite king.⁴ This fact supplies, it is true, positive evidence that the art of writing was known in Syria before the time of the Hebrew Exodus, but the recent discoveries of Hittite hieroglyphs at Carchemish disposes of the inference that these records were necessarily drawn up in the Semitic alphabet.

¹ Genesis xiv. 13; Cf. Ewald, *Hist. Israel*, i., p. 52.

² Numbers xiii. 22.

³ Joshua xv. 15. Cf. Duncker, *History of Antiquity*, i., p. 352.

⁴ See Brugsch, *History of Egypt*, ii., p. 69.

There is abundant evidence that the Hebrews shared the knowledge of writing with the neighbouring Semitic tribes. Assuming no more than what will be generally admitted, that the first text of the Pentateuch is as old as the first decade of the reign of David, it cannot be denied that it incorporates fragments which reach back to a very much earlier period.

On linguistic grounds alone a very high antiquity must be claimed for the speech of Joshua,¹ which bears all the marks of having been derived from a nearly contemporaneous written source. As Ewald expresses it, "the prose is as rough and hard as a stone."² Certain songs of praise and victory³ may, it is true, have been handed down by oral tradition for a considerable period, but as written memorials they must be regarded as very ancient, certainly pre-Davidic.⁴ Ewald also pronounces from internal evidence that Jacob's blessing⁵ cannot belong to a period later than that of the Judges. But we have documents for which an even higher antiquity may be claimed. Thus the census of the congregation,⁶

¹ Joshua xvii. 14—18.

² Ewald, *Hist. Israel*, i., p. 66, 67.

³ See Numbers xxi. 14, 17, 27; Joshua x. 14; Genesis xlviii. 20—22.

⁴ See Ewald, *Ib.*; Duncker, *Hist. of Antiquity*, i., p. 383.

⁵ Genesis xlix. Ewald, *Hist. Israel*, i., p. 69.

⁶ Numbers i., ii., iii., iv. and xxvi.

and the list of the stations in the desert, which is expressly ascribed to Moses,¹ are plainly very ancient documents, which have been incorporated into the narrative. No suspicion as to their genuineness can be entertained, and no hypothesis of transmission by oral tradition will account for their preservation.

The first text of the Pentateuch, which cannot be later than the time of David, represents the names of the tribes as engraved on the stones in the breast-plate of the High Priest, while his head-band was adorned with a plate of gold, inscribed, "Holy to Jehovah."² At the time when the Pentateuchal text was written these ornaments were evidently regarded as very ancient heirlooms, which were believed to have descended from the Aaronic period, and there are no reasonable grounds why such a claim should be disallowed. Still greater importance is to be attached to what the Hebrews certainly considered to be the oldest and most sacred memorial of their national existence. The account of the discovery, in the reign of Solomon, of the two tables of stone in the "ark of the covenant," taken in conjunction with the many scattered notices of the traditional awe with which this venerable relic of the wanderings was regarded,³ have convinced some of the most sceptical inquirers that the two tables of the law

¹ Numbers xxxiii. 2. Cf. Ewald, *Hist. Israel*, i., p. 64.

² Exodus xxv. 7; xxviii. 9—38.

³ 1 Kings viii. 9. Cf. Joshua iii.; 1 Sam. iv.—vii.; 2 Sam. vi.

must be actually assigned, as written documents, to the Mosaic age.¹

We possess therefore a catena of evidence reaching back continuously from the date of the Moabite stone to that of the stone tables of the law, which tends to prove that a knowledge of writing was the common possession of the Hebrews and other Semitic races as early as the period of the Exodus.²

On the other hand, there is no trace of the use of writing in the Patriarchal times; all the indications point to the conclusion that it was unknown, the most important compacts and covenants being ratified by other methods.³

The external evidence therefore connects in an unmistakable manner the date of the origin of the alphabet with the period of the sojourn of Israel in Egypt.

The internal evidence, which is in its way no less

¹ "The two stone tables of the law are, according to all evidences and arguments, to be ascribed to Moses, but as the art of writing certainly cannot have commenced with the hardest writing materials, nor its use been restricted to a few words on one single occasion, the unquestionable historical existence of these tables necessarily implies a diffusion of the knowledge of writing among the more cultivated portion of the people."—Ewald, *Hist. Israel*, i., p. 48.




² "To whatever Semitic people we owe the alphabet, so much is incontrovertible, that it appears in history long before the time of Moses, and we need not scruple to assume that Israel knew and used it in Egypt before Moses."—Ewald, *Hist. Israel*, i., p. 51.

³ For the evidence, see Ewald, *Hist. Israel*, i., p. 47.

definite and convincing, carries back the origin of the alphabet to precisely the same period.

Assuming that de Rougé has proved his case, certain chronological consequences are involved. We have seen that there were two distinct Hieratic scripts, differing from each other in essential particulars:—the Hieratic of the new empire, represented by numerous Papyri of the eighteenth and nineteenth dynasties, and the Hieratic of the early empire, represented by the Papyrus Prisse and two other fragments. It is an essential feature of de Rougé's hypothesis that to the earlier Hieratic alone can the Semitic alphabet be affiliated.

Thus the tails which are possessed by several of the Semitic letters, such as *daleth*, *nun*, *pe*, *qoph*, and *resh*, can only be explained as having been obtained from the characteristic tailed forms of the early Hieratic, these tails being either absent or inconspicuous in the Hieratic of the new empire.

In addition to these tailed forms there are other peculiarities which are equally decisive. A good instance is supplied by the hieroglyph of the shutter , which takes the cursive form  in the Papyrus Prisse, and affords an obvious prototype of the Semitic letter *pe*, *ṗ*. But when the new empire arose the early Hieratic form had gone out of use, and we find in the later Hieratic an entirely new cursive type , which plainly cannot have descended from the old Hieratic form, but must have been an independent

derivative from the monumental Hieroglyph. It is manifest that only the earlier Hieratic could have furnished the prototype of the Semitic letter. Other letters, as *shin*, *cheth*, *he*, *yod*, and *qoph*, would supply materials for a similar argument.¹

On such grounds de Rougé maintains that the prototypes of the Semitic letters can only be found in the cursive writing of the early Egyptian empire.

This conclusion, based solely on palæographic evidence, refers the origin of the Semitic alphabet precisely to that period of Egyptian history at which a Semitic adaptation of the Egyptian writing was not only possible but extremely probable. These historical considerations are of too great importance to be dismissed with a mere passing allusion.

The researches of recent years have brought about a complete revolution in our knowledge of Egyptian history. The "ancient Egyptians" can no longer be regarded as men of one race and of one religion, possessing a continuous culture and a continuous political existence. It is easy to assign due importance to conquests and revolutions which come within the modern historic epochs. We do not fail to comprehend how wholly different is the Egypt of the Khedive from the Egypt of the Ptolemies. We fully understand that in the time of Cyril, Alexandria was a

¹ The Hieratic forms of both epochs are given in de Rougé's *Mémoire*, and in his *Chrestomathie Égyptienne*.

Greek city, the seat of a great Christian Patriarchate. We know also that in less than three centuries the Cairo of the Khalifs had become the head-quarters of Islam, the focus of the culture, the science, and the literature, of the Arabian Semites. We realize the fact that within the space of the last two thousand years the civilization of Egypt, the meeting place of three continents, has been in turn African, European, and Asiatic; that the language spoken in its capital has been alternately Hamitic, Aryan, and Semitic; that its religion has been successively Polytheistic, Christian, and Mahomedan.

The significance of these vast revolutions is comparatively easy to appreciate, but it is by no means so easy for the historical imagination to grasp a conclusion no less certain, namely, that at the time of the Hebrew Exodus Egypt had already undergone a whole series of sweeping revolutions; that a succession of great empires, of diverse civilizations, and of hostile religions had by turns followed one another; that Khefu, and Apepi, and Rameses were representatives of races, and of modes of thought and action, as radically distinct as those represented by Esarhaddon, Cambyses, Alexander, Anthony, Athanasius, and Omar. The Egyptian revolutions which took place during the two milleniums which preceded the Persian conquest were in truth not less sweeping and subversive than those which have occurred since that event.

The explorations of M. Mariette have now revealed

to us a glimpse of the primitive Egyptian race—an unwarlike people, short in stature, regular in features, with neither the thick Nubian lips of the Ramesides, or the sharp Semitic profile of the Hyksos, but almost European in physical type. We find this primæval nation enjoying the inheritance of a peaceful civilization of untold antiquity; living under the protection of mild laws, and the sanctions of a religion of astonishing purity and beneficence. We find them in full possession of their marvellous hieroglyphic writing, and excelling all the succeeding races in their skill in many of the arts. This early empire, whose seat was at Memphis, has left us the pyramids as the imperishable monuments of its magnificence. With brief intervals of domestic disorder, and possibly of foreign invasion, this peaceful civilization had endured for more than 2000 years, when it was suddenly shattered by the intrusion of a horde of fierce conquerors from the eastward deserts. Of alien blood, of harsh and unknown speech, with customs abhorrent to the conquered race, worshipping strange deities, which were regarded by the native Egyptians as impersonifications of the powers of evil, the Hyksos chieftains established at Avaris, in the eastern Delta, the seat of an empire which lasted for five or six centuries, actually as long as the duration of the western empire of Rome.

Unlike the other Egyptian empires, the successive dynasties of Semitic kings have left behind them no vast buildings, no temples, no pyramids, no painted

tombs, no colossal statues,¹ no hieroglyphic records. For the centuries during which their dominion lasted Egyptian history is a blank, the one monument of their empire which has endured—itsself more imperishable than tablets of brass, or than pyramids of stone—is the ALPHABET, the veritable spoils of the Egyptians, which they must have held in possession when they were driven back into the deserts from which they came.

The dominion of the Hyksos was succeeded by the great “new empire,” ruled by the imperial Nubian race of the Ramesides, who, as sub-kings, had slowly built up their power at Thebes, while the Shepherd Kings were ruling in the Delta. These warlike despots blotted out the dominion of the Shepherds, just as the Shepherds had effaced the peaceful empire which had preceded them; and the conquering arms of the new empire swept rapidly from the cataracts of Nubia to the banks of the Euphrates and the Orontes, and onward to the Cilician gates.

Bearing in mind these great landmarks of early Egyptian history, we perceive that the Semitic conquest of Egypt must have made the development of a Semitic script out of the Egyptian writing not only probable, but almost inevitable. The account which has been given in the preceding chapter of the

¹ At Boolak, and elsewhere, there are a few sculptures from Tanis which are attributed to the Hyksos period.

constantly repeated developments of the cuneiform writing, as it was transmitted from nation to nation of Western Asia, affords a strong presumption that the Semitic invaders, possessing no graphic system of their own, and ruling over Egypt for several centuries, would have been compelled to adopt, and to adapt to the needs of their own language, the most available form of the Egyptian writing. Analogy shows that there is a strong antecedent probability that what was done by Babylonians, Assyrians, Medes, Elamites, Alarodians, and Persians, was also done by the Shasu. Then, when the Semitic races were at last driven out of Egypt, they would infallibly retain the convenient script which they had adopted and developed.

The argument of the preceding pages may now be restated categorically as follows:—The Semitic occupation of Egypt lasted for several centuries. The origin of the Semitic alphabet is connected with this occupation by three distinct lines of evidence. The first is external. The sojourn of Israel in Egypt is nearly synchronous with the Hyksos period. Before the Hebrews went down into Egypt the art of writing was unknown to them: when they came out of Egypt they possessed it. The inference seems clear—it must have been acquired from the kindred races who occupied the Delta. The internal evidence points to the same conclusion. The forms of the Semitic letters were not derived from the monumental hieroglyphics, but from the cursive Hieratic. The Theban Hieratic,

which was developed out of the hieroglyphics after the expulsion of the Semites, does not explain the Semitic letters. Their prototypes can however be readily discovered in the Hieratic which was in use at the time of the Semitic conquest. To these arguments may be added another of an *à priori* nature. The analogies of other graphic systems show that under the circumstances the development of a special Semitic script was an almost inevitable event.

Every available line of argument points therefore to the conclusion that the Semitic alphabet originated during the period of the domination of the Semitic races in Egypt, and that it was simply an adaptation to the purposes of Semitic speech of the ordinary cursive writing of the Egyptians.

The possible date of the origin of the alphabet is therefore brought within definite limits. Its formation must have occupied a considerable period. It cannot have arisen before the arrival of the Semitic invaders in Egypt, that is, it cannot be earlier than the 23rd or 22nd century B.C. On the other hand, it cannot have originated after the second type of the Hieratic writing came into use at the time of the eighteenth dynasty, that is, it cannot be later than the 17th century. The possible limits lie therefore between the 23rd and 17th centuries, and there seems to be no reason why we should not provisionally accept the approximate date which has been proposed by de Rougé, and place it in or about the 19th century B.C., a date which would

allow the ample period of ten centuries for the considerable developments which are exhibited when we first meet with it in the Moabite inscription.

§ 8. THE GEOGRAPHICAL PROBABILITIES.

The foregoing argument leaves but little to add concerning the locality in which the alphabet originated, or the channel by which it was transmitted to the regions where it first makes its appearance.

That it was ultimately derived from Egypt cannot be doubted, but how far it took its actual form in Phœnicia or in Syria is another question. The probability, however, seems to be that its development, as an alphabet, was effected in Egypt.

The seat of the Semitic power was in the Eastern Delta. Here, in the pastoral borderland between the Bubastic branch of the Nile and the desert, we might reasonably suppose that it originated.

The names which are borne by the Semitic letters tend to confirm this conclusion. These names, as we have seen, bore no relation to the Egyptian names, having been bestowed by the Semites, on the acrologic principle, from real or fancied resemblances between the forms of the letters and the objects from which the names were taken. From these names we may therefore derive a certain amount of information as to the mode of life and the social condition of those who gave them.

From *aleph*, the 'ox,' and *lamed*, the 'ox-goad,' we learn that the people who gave names to the letters were not strangers to agriculture, while the triangular shape of *daleth*, the 'door,' suggests the curtained screen of the tent rather than the rectangular door of the house. A wholly nomad life is, however, excluded by the names *beth*, a 'house,' and *he*, a 'window'; while *cheth*, a 'fence,' and *samekh*, a 'post,' point to the same conclusion. On the other hand, *tsade*, a 'javelin,' indicates a knowledge of the chase. The name of *gimel*, the 'camel,' is of still greater significance. The camel does not appear to have been employed by the native Egyptians, either of the early or the new empire, and it is a very remarkable circumstance that not a single representation of it has been found among the large number of animals portrayed in the Egyptian paintings. It has been supposed that the camel was held in detestation by the Egyptians, as being the peculiar possession of the Shepherd tribes. We know, however, that it was used in the transport trade between Egypt and Syria,¹ and it must have been familiar to the Semitic population of the desert borderland of Egypt. Taken in conjunction with the name of the camel, the names *mem*, 'waters,' and *nun*, 'fish,' are important, since they prove that the givers of the names were not mere pastoral desert tribes, like the Edomites or Moabites, but were dwellers in a region

¹ Genesis xxxvii. 25. Cf. xxiv. 11.

of pools and streams such as the Egyptian Delta. On the other hand, there is not a single name which would imply any knowledge of navigation, or that would suggest the commerce and manufactures of the highly civilized communities which would be found in the great cities of Phœnicia.

It will be observed that the names of the Semitic letters are without exception consistent with the suggested origin of the alphabet in the Delta, among a people in a condition intermediate between the purely pastoral and the purely agricultural stages of civilization. The city life of a great commercial and industrial nation, and the desert life of mere nomad shepherds, seem equally to be excluded by the character of the names; while they agree entirely with what we must suppose to have been the condition of the Hyksos settlers.

Assuming then, as all the available evidence indicates, that the Semitic alphabet originated in the Delta during the dominion of the Hyksos, the further question arises as to the channel by which it was conveyed from Egypt to Western Asia.

The Semitic population of Egypt was far from being homogeneous. The Hyksos conquest gave opportunity for the establishment in lower Egypt of other settlers, kindred in race and language, but different in their habits and mode of life. There is reason to believe that during the five centuries of the Hyksos dominion the Phœnicians on the one side, and

the Hebrews on the other, established themselves on the soil of Egypt, and remained there after the Hyksos conquerors had been expelled. Brugsch has shown¹ that among the foreign population of the Delta were a numerous people called the Charu or Chalu, a term used to designate the coast tribes of Syria, and more especially the Phœnicians. We learn from the Egyptian monuments that the men of Char carried on a great trade in Egypt and were much esteemed. The land of the Charu is also called on the monuments Kefa or Keft, and part of the Delta of Egypt was hence called Caphtor,² a name which according to Ebers meant the 'greater Keft,' or, as we might render it, Great Phœnicia. About the year 1700 B.C. the Charu are described as beginning at Aupa in the north of Palestine and extending as far as the city of Zar (Tanis Rameses) in Egypt, their settlements penetrating into the heart of the Tanitic nome.

The Charu, who clearly spoke a Semitic language, constituted the kernel of the fixed, industrial, seafaring, and commercial population of the north-eastern corner of Egypt. Brugsch maintains that their descendants can still be recognized in the race of sailors and fishermen who inhabit the shores of Lake

¹ Brugsch, *History of Egypt*, i., pp. 221--225.

² It was formerly supposed that Caphtor was Crete, or possibly Cyprus. (See Ewald, *Hist. Israel*, i., p. 246.) This opinion is now generally given up.

Menzaleh, and whose manners, customs, and traditions, as well as their physical type, clearly show that they are not of Egyptian race.

When the Hyksos were driven out of Egypt the Charu remained, and though regarded as a foreign people, were evidently on terms of friendly intercourse with their new rulers. Thus the first monarch of the eighteenth dynasty, Aahmes, the king who expelled the Hyksos, speaks in one of his inscriptions¹ of "stones drawn by oxen which were brought hither, and given over to the foreign people of the Fenekh (Phœnicians.)"

Hence it is plain that in lower Egypt there were, in addition to the Hebrews, two distinct populations of Semitic race—the Charu or Fenekh, and the Hyksos or Shasu, who were as different from one another as were the Sidonians and the Edomites, to whom they were respectively akin.

Both of these races, the Sidonians and the Edomites, are found at an early period in possession of the Alphabet. Did it pass from Sidon to Edom, or from Edom to Sidon, or was it from the first a common possession of both peoples?

Assuming that the alphabet was invented in lower Egypt, it is almost equally easy to suppose that the Hyksos took it with them on their expulsion, or that it was conveyed to Sidon by means of the Phœnician

¹ Brugsch, *History of Egypt*, i., p. 258.

settlement in the Delta. The first of these views finds favour with Ewald and de Rougé, the second is that advocated by Lenormant and Sayce.

In favour of the first view it has been alleged that the earliest alphabetic monument in existence is the Moabite stone. On our first discovery of the alphabet we find it, in a very perfect form and bearing signs of long continued use, in the possession of one of those semi-nomad desert tribes who were so closely allied with the Semitic Shepherd Kings. The Edomites also, a kindred and adjacent people, who were reckoned by the Egyptians among the detested "Shepherds,"¹ were at a still earlier time in possession of the alphabet, as is shown by the long period covered by their pre-Davidic annals.

It is therefore quite allowable to suppose that the channel of transmission of the Alphabet was through the Shepherd tribes of the Syrian desert, who ranged eastward as far as the Euphrates, and on the north beyond Damascus, and that through them it may have been communicated on the one hand to Phœnicia, and to Nineveh on the other.

Plausible as this view may be, there is much to be said in favour of the opinion advocated by Lenormant

¹ In a report made to Menephtah, the Pharaoh of the Exodus, son of Rameses II., on the foreign immigrants into Egypt, mention is made of the "Shasu belonging to the land of Aduma (Edom)." —Brugsch, *History of Egypt*, i., p. 216.

and Sayce, that it was by means of the Phœnician colony in the Delta that the alphabet was propagated over Western Asia. From the Phœnicians it might have passed to the Hebrews, and from them to Moab and Edom. On many grounds this seems an easier supposition than that it was imparted by mere desert nomads to the civilized inhabitants of the cities of Phœnicia and Assyria. The great difficulty of Lenormant's theory is, that it does not take into account a fact which it is difficult to controvert,—the possession of the art of writing by the Hebrews at the time of the Exodus.

But, in truth, it is not needful to restrict ourselves to either of these two hypotheses. It is reasonable to suppose that during the Hyksos period the Semitic alphabet was the common possession of all the Semitic populations of Egypt—Hyksos, Hebrews, and Phœnicians. Hence, probably, it was not by one channel alone that the knowledge of the precious inheritance was diffused through Western Asia.

Indeed the early and great divergence of the northern and southern types of the Semitic alphabet, taken in connection with the unexplained problems exhibited by the Libyan alphabet,¹ suggests the conjecture that

¹ The Libyan inscriptions, from Thugga and elsewhere, if correctly deciphered by Halévy, may possibly be found to have sprung from a Hieratic type of somewhat later date than that which gave rise to the Semitic alphabet. In many respects the Libyan agrees curiously with the south Semitic alphabets. See, however, p. 228, note 2.

the bifurcation of the two types may have begun in Egypt itself; the Syrian or northern type having been transmitted through the Phœnician colony of Caphtor, and the Arabian or southern type through the Hyksos of Tanis and Avaris.

However this may be, there can be no doubt that the commercial position of the Phœnicians, as the merchants and carriers of the ancient world, gave them special facilities for aiding in the subsequent diffusion of the alphabet. Through them alone could it have passed to the Carian coasts, and to the Isles of Greece.

M. Lenormant states with considerable force the qualifications which would have enabled the Phœnicians to become, as he claims, the inventors and transmitters of the Alphabet.

They were in geographical contact with the Egyptians, and their trading settlements in Egypt would enable them to acquire a knowledge of the Hieratic writing as used by the Egyptians for secular purposes; while the dissimilarity of customs, language, and religion, would emancipate them from the bondage of Egyptian traditions. The Phœnicians, a practical, commercial people, employing the art of writing for business purposes, in which speed, certainty, and simplicity are so important, would feel the inconveniences and ambiguity of the Egyptian homophones and ideograms. Free from the influence of the conservative traditions which trammelled the scribes and priests of

Egypt, the difference of language would greatly facilitate and stimulate the change, as is evident from the parallel cases of the Japanese and Cuneiform writing. An almost identical argument has been urged by Ewald¹ in favour of the rival claims of the Hyksos to the invention of the alphabet, and it must be admitted that the requirements of commerce do not demand the art of writing more imperatively than the official needs of government.

But to whatever nation the glory of the invention of the alphabet may be due, this at least is clear—it must be to some Semitic people that the world owes this priceless possession. As the greatest of contemporary Semites has remarked, “The Semites are unquestionably a great race, for among the few things in this world which appear to be certain,

¹ “The idea of moulding the Egyptian hieroglyphic writing to a simple fixed phonetic system would most naturally arise when a nation of non-Egyptian language wished to adapt it to its own wants. Whereas a most imperfect mode of writing may go on essentially unchanged and unimproved among one people and for one language for thousands of years by mere force of custom, it may yet receive great simplification and improvement so soon as it is transferred to a perfectly foreign language, for which it was not calculated, to which it is nevertheless to be applied, because then reflection becomes necessary as to what is really essential, and a new spirit is breathed into the old materials. Just as the Chinese writing has led among the Japanese to syllabaries . . . so the Egyptian must have received from the Hyksos that momentous simplification and new adaptation which passed over to the other so styled Semitic nations.”—Ewald, *Hist. Israel*, ii., p. 7.

nothing is more sure than that they invented our Alphabet.”¹

The importance of the revolution effected by the inventors of the alphabet lay not in the mere choice and simplification of the phonetic symbols, but rather in the courage which enabled them absolutely to discard all the non-alphabetic elements of the Egyptian writing. The cursive Hieratic, or even the still more cursive Demotic, is as far from being an alphabetic system as the monumental Hieroglyphic. As early as the second dynasty the Egyptians had solved the hardest problem of all, the conception of a pure consonant, which involves the essential principles of alphabetic writing, but down to the very last—down to the time of the Ptolemies and even of the Cæsars—they were unable to get free from the enslaving trammels of their traditions—they did not dare to take down the scaffolding which had enabled them to erect the edifice.

It was reserved for the genius of an alien race finally to reject every vestige of homophones and polyphones, of ideograms and syllabics, and boldly to rely on one single sign for the notation of each consonantal sound.

This the Semites did, and hence the Semitic Alphabet was the first true alphabet. It was a true alphabet, but it was far from being a perfect alphabet.

¹ Lord Beaconsfield, *Endymion*, vol. ii, chap. iv.

Only after the lapse of many centuries, and by means of clumsy and troublesome expedients, did the Semitic peoples succeed in devising a notation to express the vowels. This, the final stage in the development of the alphabet, had been effected already, and after a better method, by various Indo-European races into whose possession the Semitic alphabet had passed. The ancient Aryan alphabets, whether Greek, Sanskrit, or Persian, are distinguished by the possession of distinct letters to denote the vowels; and hence, though the Semites may claim the glory of the invention of the Alphabet, to the Aryans belongs the distinction of having brought it to perfection.

CHAPTER III.

THE PRIMITIVE LETTERS.

§ 1. *Characteristics of the Semitic Alphabets.* § 2. *The names of the Letters.* § 3. *Their Phonetic powers.* § 4. *The Alphabetic Order.*

§ 1. THE CHARACTERISTICS OF THE SEMITIC ALPHABETS.

The twenty-two phonetic symbols whose origin has now been investigated are the fruitful germs from which all existing alphabetic forms have sprung. It remains to describe the characteristics of this archetypal alphabet, whose features have been transmitted in various degrees to its descendants.

The Semitic and the Aryan Alphabets present fundamental points of contrast. Owing to the peculiarities which distinguish the Semitic idioms from other forms of speech, there exists a family resemblance, singularly close, between the Semitic alphabets of the northern stock, whether Phœnician, Moabite, Israelite, Punic, Aramean, Hebrew, Syriac, or Arabic. All these alphabets, dissimilar as are the forms assumed by the individual letters, must be regarded from the scientific point of view merely as successive developments of

the same primitive alphabet. This persistency of type is very remarkable. The most essential features of Semitic writing are exhibited in the monumental forms of the Moabite inscription, and are retained in the cursive Arabic, which at the present day forms the ordinary medium of written intercourse throughout Western Asia. These common characteristics of the Semitic alphabets consist in the direction of the writing, the absence of true vowels, the unique phonology, the number, the names, and the order of the letters.¹

The Semitic writing, following the example of its prototype, the Hieratic of the Papyrus Prisse, has persistently retained the ancient direction from right to left, whereas in every non-Semitic script, without exception, the direction of the writing has been changed.

The second peculiarity of the Semitic alphabets is still more important. It consists in the absence of true vowels. The non-Semitic scripts, Greek, Zend, Armenian, Georgian, Indian, and Mongolian, have evolved, out of the breaths and semi-consonants of the Semitic alphabet, a set of characters to express the

¹ It should be noted, however, that the Ethiopic or South Semitic sub-family of alphabets has a distinct character and history of its own. It differs more or less from the North Semitic alphabets as to the names, the order, the number, and the value of the letters, as well as in the direction of the writing, the denotation of the vowels, and the mode of alphabetic evolution.

vowels. In none of the north Semitic alphabets has this been done. The notation by which in Hebrew, Syriac, and Arabic, the vowels are now indicated by means of diacritical points, is essentially non-alphabetic in its nature, and is only of recent introduction, in no case making its appearance before the 4th century of our era. The absence of vowels would by itself suffice to place the Semitic alphabets in a class by themselves.

The phonology of the Semitic alphabets is also persistent and unique. They have no symbols for certain classes of sounds, such as the velar gutturals, which are found in other languages, while they possess a notation for the faucal breaths, and the linguals or gutturodentals, which are characteristic of Semitic speech.

The Semitic alphabets have also practically adhered to the twenty-two primitive characters, no letters have fallen into disuse, nor has the original number been increased. The Phœnician, the Punic, the Israelite, the Samaritan, and the Syriac alphabets have twenty-two letters, neither more nor less. The Hebrew and Arabic alphabets are now able, it is true, to distinguish twenty-nine consonantal sounds, but the number of characters really remains unaltered, the distinctions being effected by means of diacritical points. We find no single instance of that process of differentiation of which the Greek, Slavonic, Indian, Zend and Georgian alphabets offer numerous examples, and by means of which the number of true letters has been largely augmented.

In all these particulars the Semitic alphabets agree with one another, and differ from all other alphabets. The original twenty-two letters have been handed down for eight and twenty centuries, not merely as individual phonetic signs, but as an alphabet, preserving the primitive number, values, names and order.

The forms of the characters, however, have undergone extensive modifications, so much so that in the more modern Semitic scripts it is very difficult to recognize the ancient outlines. From a scientific point of view these changes of external form are of small importance; they are merely the results of the persistent tendency to reduce the characters to forms continually more and more cursive.

When we first make acquaintance with the Phœnician letters they are admirably clear and distinct, though even on the Moabite stone it is possible to detect the tendency towards cursive forms. From this time onward the ancient letters become continually more and more degraded and abraded, they constantly tend towards universal assimilation, till at last, in modern Arabic, the extreme limits of this process of deformation is reached; the primitive monumental forms pass into almost identical curvatures, so that the atrophied fragments of letters can only be identified with their ancient prototypes by means of minute historical investigations.

For example, the twelve well marked Moabite

characters $\text{C } \Psi \Delta \text{G } \times \text{Z } \text{J } \text{P } \text{7 } \text{Y } \text{q } \text{=}$ have been gradually degraded into the twelve Arabic letters $\text{ل ر و د د د د د د ل}$. These forms are so undistinguishable that it has been found necessary to invent a whole apparatus of diacritical points to enable the reader to recognize and identify them, and they are now written in the following troublesome fashion:— $\text{ل ز ر و ف ق ن ي ت ب د ك ل}$. Thus the action of the “law of least effort” has had the curious result of increasing instead of diminishing the labour of the scribe.

It is hardly a paradox to affirm that the Arabic alphabet has lost its letters. The individual characters have so nearly disappeared as distinguishable entities, that many of them can only be recognized by artificial methods of denotation. In fact, it is the word rather than the letter which forms the graphic unit. The letter can scarcely be said to have retained any separate existence; it is lost in the word, changing its Protean forms according to its position. The variant symbols for the same letter are sometimes actually more diverse in their forms than are the symbols for wholly different sounds. For instance, ب ن ي ت , which are the medial forms of the four letters *b*, *n*, *y*, *t*, have become absolutely identical in form, and can only be distinguished from each other by the artificial modern addition of the points, whereas the four very distinct characters س ك ه د are merely four ways in which the weak aspirate must be written according to its position,

while ζ ϵ \simeq \succ are the four forms of the stronger aspiration.

Hence it is necessary to know Arabic as a language before it can be read as a script. The Arabic scholar comes to recognize the words rather than the letters of the writing which lies before him.¹ Thus in this last degradation of alphabetic writing a practical result has been attained which does not differ very materially from the pre-alphabetic writing of the Chinese. Nor is it only in Arabic that this assimilation in the forms of the letters has taken place. We note the same tendency in Syriac and Hebrew. Thus in Syriac the forms ܘ ܝ ܚ represent letters so different in their powers as *g*, *l*, and *'a*; while ܘܢ ܘܢܢ are all variant forms of the letter *n*. In Hebrew again the similar characters ד ר ך ן ו ז represent *d*, *r*, *k*, *n*, *v*, *z*; ח ה ת stand for *ch*, *h* and *t*; ם ס for *m* and *s*; ב כ ג נ for *b*, *k*, *n*, *g*; while מ ם are both symbols for *m*, and כ and ך for *k*. Thus in all these scripts there may actually be less external distinction between wholly different letters than between variant forms of the same character.

Altogether different in principle is what has occurred in transmissions of the same ancient graphic forms among Aryan nations. The importance of the letter,

¹ See the admirable essays of M. Ph. Berger, *L'Écriture et les Inscriptions Sémitiques*, pp. 17, 23, Paris, 1880. (Two articles reprinted from *L'Encyclopédie des Sciences Religieuses*.)

as the graphic unit, has not diminished, but increased. Instead of becoming assimilated into undistinguishable curves, the individual characters remain as distinct as ever, and retain in many instances all the characteristic features of the primitive outline. Thus in our own letters **O Y H Q D A** it is easy to recognize all the important features of their Moabite prototypes **o ʔ H ϕ Δ ʒ**. It is much the same with other letters: the amount of variation which the forms have undergone during so many centuries of transmission is wonderfully small.

So far as alteration has been effected in the forms of the letters of Aryan alphabets it has mainly been with the object of making similar forms more distinct. Thus the primitive letters **ʒ A ʒ 7**, all of which tend naturally towards the graphic type represented by **P**, instead of helplessly lapsing into the type, so as to require to be distinguished, as in Arabic, by diacritical points, have been admirably differentiated by changes thoroughly effective though minute, so that they appear in our own alphabet in the readily distinguishable forms **B D R P**. To prevent confusion with the last of these letters, which has usurped the common type **P**, one of them, **B**, has acquired an additional loop; another, **D**, has lost the prolongation of the vertical stroke; and the third, **R**, has developed a tail. The four letters are now perfectly distinct, readily recognized, and easily written. We have the minimum of change with the maximum of convenience.

The process is exactly the opposite of that which is exhibited in Hebrew, Syriac, Arabic, and other Semitic scripts.

The difference of principle is equally striking when we consider the methods by which additional phonetic signs have been obtained. In Semitic alphabets this is effected by the troublesome machinery of diacritical points. There is no instance of the process of differentiation by which in the Greek alphabet θ and ϕ were both evolved from θ , η and ϵ from \mathbf{H} , or by which our own characters c and g , u and v , i and j , have been created. Thus we see that the history of the Semitic and Aryan alphabets has been influenced by tendencies diametrically opposite. In the one case speed has been obtained at the cost of great cursive deformation, while in the other extreme legibility has been obtained by means of continual differentiation. In the one the convenience of the writer has mainly been consulted, in the other the convenience of the reader.

But in any alphabet the mere forms of the letters are only superficial features. In all essential points, our own alphabet, which has so tenaciously retained the outlines of the ancient letters, has in reality undergone a far greater transformation than the Arabic alphabet, in which scarcely a single letter retains any notable resemblance to the primitive shape. In spite of the almost incredible deformation of the individual characters, the Arabic script has remained

true to all the really essential characteristics of the primitive Semitic writing. The atrophied fragments of the ancient letters still preserve their ancient names, their peculiar powers, their primitive number, and the numerical values which still testify to the ancient order. The whole spirit of the Arabic script is still in accordance with the essential principle of Semitic writing, which is verbal rather than literal, giving the words only in skeleton or outline. For this, of course, there is a cause. It is due to the fundamental structure of Semitic speech.

From the very first the Semitic writing has consisted of a mere external framework of consonantal sounds; our own, on the other hand, has become an instrument for the expression of the host of delicately graduated vowel sounds which play so important a part in Aryan languages. If a simile may be allowed, the difference between Semitic and Aryan writing is very much that between the mere bony framework of the skull, and the living human face, with its infinite power of expressing the most varied emotions, stern frowns or dimpling smiles.

§ 2. THE NAMES OF THE LETTERS.

The significations usually attributed to the names of the Semitic letters¹ have already been given (p. 75).

¹ The names are given according to the usual conventional spelling, which, though not free from objections, may be regarded as

In the present section the various opinions held by Semitic scholars¹ on the subject will be briefly stated, with special reference to their bearing on de Rougé's theory of the origin of the alphabet. Certain preliminary considerations, however, have to be taken into account.

We observe, in the first place, that all the twenty-two names are acrologic; that is, the name of each letter begins with that letter. Most of the names are Semitic nouns, as to the import of which there is no question. In a few cases the meaning is obscure or

a convenient compromise between the probable primitive sounds and the scientific transliteration of the modern Hebrew names. Thus we may conveniently, if incorrectly, write *vau* instead of either *vav* or *waw*, *tsade* rather than *sadi* or *çadhy*, and may prefer the familiar name *cheth* to either *çet*, *çêθ*, or *het*. It may here be noted that in some instances the Greek forms of the names may probably give a closer approximation to the primitive pronunciation than the modern Hebrew. Thus the names *beta*, *delta* and *pi* may teach us that *beth*, *daleth* and *phe* are comparatively recent forms of the unaspirated ancient names.

¹ A very complete discussion of the meaning of the alphabetic names will be found in an original and suggestive tract entitled *Unseres Alphabets Ursprung*, by F. Böttcher (Dresden, 1860.) See also Gesenius, *Scripturæ Linguaeque Phœnicæ Monumenta*; Hitzig, *Erfindung des Alphabets*; Lagarde, *Symmicta*, i., pp. 114, 115; Halévy, *Mélanges d'Épigraphie et d'Archéologie Sémitiques*; and the observations of Lenormant in his article on the alphabet in Daremberg and Saglio's *Dictionnaire*, and in the first volume of his great work on the alphabet. Some curious early speculations on the alphabetic names will be found in Sharpe, *Origin of Language*, pp. 60–66.

dubious, but there can be little doubt that all the names were originally significant Semitic words. It may be assumed that among the possible acrologic designations for each letter the selection would be made¹ on account of some real or fancied resemblance between the primitive form of the letter and the object whose name it bears, as in the case of the nursery picture-alphabets which are found to aid children in remembering the forms of the letters.² It would be reasonable to expect as much, or as little, real resemblance in the one case as in the other.

With regard to the Semitic letters, any want of pictorial appropriateness can be readily explained. It is probable (see p. 149) that the names of the letters are coeval with the alphabet itself, and therefore older by some ten centuries than the oldest forms of the letters which we possess. During these ten centuries considerable changes would almost certainly have been effected. A much shorter period has repeatedly sufficed to bring about extensive alphabetic deformation. That such changes affected the characters of the primitive alphabet is plainly indicated by the considerable divergence of the Moabite letters from their

¹ M. Joseph Halévy is alone in maintaining that there is no such relation between the alphabetic forms and the names, which he thinks were simply mnemonic terms.—Halévy, *Mélanges Sémitiques*, p. 169.



² As in the familiar instances:—O was an Orange, S was a Swan, B was a Butterfly, etc.

Hieratic prototypes. The primitive Semitic letters were doubtless intermediate in form between these two types. The alphabetic names, considered as pictorial acrologues, may therefore in some cases receive an easier explanation from the Hieratic characters than from the Semitic letters as we have them.

Bearing in mind these preliminary considerations, the names of the letters may now be discussed seriatim.





Aleph is a name which offers no difficulty. It is the ordinary Semitic term for an 'ox.' We have naturalized it in the word *alpha-bet*, and it is also familiar to us in the name of the *eleph-ant*, a word which proves, by the way, that the knowledge of the great "ox-like" beast of Africa must have come to Europe through a Semitic channel. The Moabite letter \aleph bears no inapt resemblance to the front view of the head of the ox, while the Hieratic prototype suggests the characteristic curvature of the horns, which has disappeared in the Semitic character.


Beth, which means 'house,' is a common component of Syrian local names, such as Bethlehem, Bethel, and Bethesda. It used to be thought that the Phœnician letter represented a tent supported by its pole. A comparison of the Hieratic and Corinthian forms (see p. 103) suggests the supposition that the character represented the plan of a two-chambered Eastern house \beth , the men's apartment on the one side, and the women's on the other.


Gimel is a word of which the English 'camel' is both the translation and the transliteration. The objection has been urged that the form of the Semitic letter presents no appreciable resemblance to the animal. Gesenius was driven to suggest that the character \wedge was intended to represent the hump of the camel: Böttcher, believing that the camel etymology must be altogether abandoned, resorts to the Talmudic word *gimla*, which he argues might mean a 'yoke.' This suggestion has been adopted by Lenormant, but has been shown by Halévy to be untenable on philological grounds. The whole difficulty however disappears if we go to the Hieratic prototype, in which it is easy to detect a representation of the head, neck, body, tail, and saddle of a camel, in the characteristic recumbent posture. Placing side by side the prototype from the Papyrus Prisse  and a sketch of a recumbent camel,  the difficulty which has perplexed so many eminent scholars vanishes at once, while a curious incidental confirmation of de Rougé's theory is supplied.


Daleth means 'a door,' not the aperture itself, which is *pethach*, but the 'leaf of a door,' or the moveable covering of the aperture. The triangular form of the character suggests the curtain hung before the opening of a tent rather than the wooden quadrangular door of a house.


He is a word of less certain meaning. It is usually referred to a Semitic root meaning 'behold,' 'look,'

and is supposed to have denoted a 'window.' The Moabite letter , however, does not lend much support to this explanation. The normal closed form of the Hieratic prototype, which is retained in the Carian letter , and in the ancient Corinthian *epsilon* , may suggest that the primitive form of the Semitic letter was , which would sufficiently explain the usual translation of the name.


Vau denotes a 'nail' or 'peg'; rather a hook driven into a wall for hanging things, than a tent-peg. The word is used in the Bible to designate the 'hooks' for the curtains of the tabernacle (Exodus xxvi. 32). The form of the primitive letter  supports this explanation.


Zayin has been supposed to mean a 'sickle,' but is more probably to be connected with the Syriac *zaino*, a word which corresponds to the Greek *panoplia*, and denotes 'weapons,' offensive and defensive, or 'arms and armour.' The picture of a sword and shield is perhaps easier to recognize in the Hieratic letter  than in the Semitic derivative ז .

Cheth means a 'fence' or 'palisade,' an explanation which accords with the form of the Moabite letter . Ewald, however, takes it to mean a 'knapsack.'



Teth has been referred to a Semitic root meaning 'curvature,' and the character is supposed to represent a 'coiled snake,' an explanation which would correspond better with the Hieratic prototype  than with the Semitic letter, of which the oldest form



supports the rival meaning 'basket.' Halévy considers that the name denotes 'mud' or 'clay,' while Böttcher explains the letter as a picture of the 'fist,' arguing that the Egyptian word *tot* means 'hand,' and that *teth* is placed in juxtaposition with the two hand names *yod* and *kaph*.



Yod plainly means the 'hand.' The shape of the Semitic letter does not lend much support to this explanation, but the Hieratic character bears a sufficient resemblance to the uplifted hand  with the thumb held apart.



Kaph is usually held to mean the 'palm' of the hand, or more probably, as Böttcher suggests, the 'bent hand.' The form of the Hieratic character in the Papyrus Prisse seems to be decidedly in favour of this explanation, as will be seen by  placing the two figures side by side.


Lamed means an 'ox-goad,' or possibly a 'spit.' Lagarde makes it a 'cudgel.'


Mem means the 'waters.' From the Greek alphabet of Melos we obtain an ancient form of the character , which closely resembles the conventional representation of 'water' , which is found in the Egyptian hieroglyphics.

Nun is a word which only occurs in Hebrew in the composition of proper names, but there is no doubt that it meant a 'fish.' In this case again the Hieratic form  affords a better explanation of the name than the Semitic letter  (see p. 107).

Samekh is a name of which the explanation is less obvious. The Syriac stem *s'mach* means 'to support,' and the Phœnician letter is usually supposed to be a picture of a 'prop' or 'support' of some kind, an explanation which seems more probable than any of the other meanings, such as 'roof,' 'rail,' or 'baluster,' which have also been suggested. It has not been noticed, however, that the Hieratic figure  suggests the picture of a post driven into the ground more readily than the Moabite letter .


'*Ayin* offers no difficulty. As Lenormant has suggested, we may take this character as an ideographic picture of the 'eye' (see p. 116). On the bronze vessels from Cyprus as well as in the Siloam inscription we have an elongated form  which is probably more archaic than the Moabite letter .


Pe means the 'mouth.' As has been already observed (p. 102), the Hieratic prototype  supplies an explanation of this name which the Semitic form fails to give.

Tsade is a name of which more than one explanation has been given. It is usually taken to mean a huntsman's dart, the Semitic form  being supposed to represent the 'javelin' with its cord attached (*amentum*). The word might mean a 'hook,' either a reaping hook or a fishing hook. 'Beard' and 'nose' have also been suggested, but on grounds which seem philologically inadequate.

Qoph is another name respecting which there are

wide differences of opinion. The old explanation, which has again been revived by Halévy, is that it denotes an 'ape,' the character Φ being taken to represent an ape with its tail hanging down. It may also be referred to a Talmudic root which would signify an 'aperture' of some kind, as the 'eye of a needle,' or as Lagarde and Ewald suppose, it may be the picture of an 'ear.' Lenormant adopts the more usual explanation that the word means a 'knot.' The great diversity of these explanations may perhaps lend support to the supposition that *kaph* and *qoph* were originally identical, both the names and forms having been obtained by differentiation from a single primitive source.

Resh clearly means the 'head,' and the Hieratic form  sufficiently suggests the oval of the head, supported by the neck.

Shin is sufficiently explained from the resemblance of the Semitic letter to the 'teeth.' In the Hieratic character  we may possibly recognize an outline of the lower teeth, chin, and beard.

Tau, the last of the letters, is the 'sign' or 'cross' used for marking the ownership of beasts (see Ezekiel ix. 4). The early form of the letter is \dagger or χ , which would be the easiest and most natural mark to use for such a purpose.

It will be observed that out of the twenty-two letters the names of seventeen are Semitic words, as to the meaning of which there is practically no doubt.

Of five names only is the explanation obscure or doubtful. The rest are plainly pictorial acrologues. In several cases the names offer curious confirmations of de Rouge's hypothesis. There are no less than six names, *gimel*, *he*, *yod*, *nun*, *pe*, and *samekh*, of which no adequate explanation is afforded by the Semitic forms, while they are readily interpreted by the aid of the Hieratic prototypes.

§ 3. THE PHONETIC POWERS OF THE LETTERS.

The vast and thorny field of Semitic phonology has, as yet, been little cultivated; while much of the work that has been done is of only doubtful value. Without professing to deal with a subject of such difficulty, it may be possible to state the opinions which are commonly held as to the general nature of the sounds represented by the letters of the Semitic alphabet.¹

¹ The best account of the modern Arabic consonants will be found in Spitta's Grammar of Egyptian Vulgar Arabic. See also the treatise of Lepsius, *Ueber die Aussprache und die Umschrift der arabischen Laute*, in the Berlin Transactions for 1861. For Phœnician see Schröder, *Die Phönizische Sprache*. On the relation of the modern to the ancient sounds of the Semitic letters consult Lagarde, *Semitica*, part 2; also Philippi and Stade in the *Morgenländische Forschungen*, and some remarks by Sayce, *Science of Language*, ii., p. 324. For Aramaic we have Nöldeke's *Syrische Grammatik*, and for Hebrew Olshausen's Grammar. The *Standard Alphabet* of Lepsius must be used with caution. For much of the information in this note I am indebted to Professor Robertson Smith. To the kindness of Mr. Ellis, the first of English phonologists, the next few pages owe nearly all the value they may possess.

TRANSLITERATIONS OF THE SEMITIC LETTERS.

	Usual Notations.	Standard Alphabet.	Missionary Alphabet.	Glossic.	Palæotype.	Gesenius.	Ewald.	A. V.	Vulgate.	LXX	Arabic.
Aleph	א a, e, 'a	·	·	l	l	·	·	e, a	a, e, (o)	α, ε (η, ο)	ا
Beth	ב b	...	...	...	...	...	...	...	...	β	ب
Gimel	ג g	...	...	...	...	...	...	...	...	γ	ג
Daleth	ד d	...	...	...	...	...	...	...	...	δ	ד
He	ה h	h	'(h)	h	H	h	h	h, a	a, (o,)	α, (o,)	ה
Vau	ו v, w, u	u	w	v	v	v	v	o, u, v	o, u	ου, ω, o, v	ו
Zayin	ז z	...	...	...	...	s	z	z, (zz)	z, (sd)	ζ (σδ)	ז
Cheth	ח ch, kh	χ	'h	kh	kh	ch	ch	h, (ch)	ch(e,h,a)	χ(ε,α)	ח
Teth	ט t, t'	t	t, 't	't	t	t'	t'	t, tt	t	τ	ט
Yod	י y, i, j	i	y	y	J	j	j	j, (e, i)	j, i, e	ι, η, ει	י
Kaph	כ k, kh (c, ch)	...	...	...	...	...	...	c, ch, (cc)	ch, c	κ, χ	כ
Lamed	ל l	...	...	...	...	...	...	...	...	λ	ל
Mem	מ m	...	...	...	...	...	...	...	...	μ	מ
Nun	נ n	...	...	...	...	...	...	...	...	ν	נ
Samekh	ס s	s	f	s	s	s	s	s	s	σ	ס
'Ayin	ע 'a	;	'h	·	ε	a	gh	a, g, e, ah (i, o, u)	g, h, a e, ee, o	γ, α, ο υ, η, ι ε, ε, εε	ע
Pe	פ p, ph	...	...	...	...	...	...	...	...	π, φ	פ
Tsade	צ ts, s, ç	s	z	's	s	z	ß	^z (zz, ss, t)	s, (t, ss)	σ, (τ)	צ
Qoph	ק q, q'	q	q	'k	k	k	q	k (c, kk)	c (ch, k)	κ	ק
Resh	ר r	...	...	...	...	...	...	...	...	ρ	ר
Shin	ש sh, š, s	š	s ('y)	sh	sh	sch	sch	sh (s, ss)	s (ss, t)	σ (σσ, τ)	ש
Tau	ת t, th	...	...	...	...	...	...	...	...	τ, θ	ת

The annexed Table exhibits in parallel columns the chief systems by which the Semitic letters are transliterated. The Hebrew letters are given first, with the equivalents in Roman letters which are commonly used in English books. These are followed by the notations which have been proposed by the authors of the principal scientific alphabets, such as the 'Standard Alphabet' of Lepsius, the 'Missionary Alphabet' of Max Müller, the 'Glossic' and 'Palæotype' of Mr. A. J. Ellis and Prince L. L. Bonaparte, together with the transcriptions adopted by Gesenius, Ewald, and other scholars. The transliterations employed in the Authorized Version of the Old Testament, as well as those used in the Vulgate and the Septuagint versions, are also added, as they are valuable from the evidence which they afford as to the ancient pronunciation of the letters. The less usual transcriptions are placed in brackets. The last column contains the modern Arabic letters which are believed to correspond most nearly to the primitive sounds of the ancient characters.

As a matter of typographical convenience it is usual to represent the letters of the ancient Semitic alphabet by means of the modern square Hebrew characters.¹ Such an expedient must be regarded as a mere relic of pre-scientific epigraphy. It is almost as barbarous as would be the transcription of a Greek

¹ The French Academy must be congratulated on having at last, at the instance of M. Renan, broken through this unscholarlike

author in Roman letters. It must not, however, be assumed that the sounds denoted by the square Hebrew letters were in every case the same as the sounds of the ancient letters for which they are made to stand. There is no reason to suppose that Semitic speech has been unaffected by the processes of phonetic decay which have taken place in other languages. The sounds, as well as the forms of the ancient letters, have doubtless undergone considerable variation.

Referring to the Table on page 176, it will be seen that about half of the Semitic letters can be represented with tolerable accuracy by letters of our English alphabet. These are

Semitic	ב ג ד ה ז כ ל מ נ ס פ ר ת
English	b g d h z k l m n s p r t

The remaining letters do not correspond so exactly to any letters in our own alphabet, and therefore require

practice. Two admirable founts of Semitic type, one representing the alphabet of the 9th century B.C., and the other that of the 4th, have been cut with extreme care for the purpose of printing the *Corpus Inscriptionum Semiticarum*. A valuable article by M. Philippe Berger on Semitic typography, with patterns of the various dies which have been engraved, will be found in the *Journal Asiatique* for January, 1880. A Hebrew Bible, printed in the 'Phœnician' characters in which it must have been written, is much to be desired. Not to speak of other advantages, it would be as superior to the square Hebrew in legibility and distinctness as a modern book to a book printed in black letter.

to be represented by a notation more or less artificial.¹

In the Semitic languages there are two whole classes of guttural sounds which are foreign to European speech. These are, first, the so-called linguals or gutturo-dentals; and secondly, the guttural breaths or faucal sounds.

Modern Arabic possesses four linguals *ض ص ظ ط*, which have been developed out of the two linguals of the primitive Semitic alphabet, *ט teth* and *צ tsade*. These two letters, for which almost every writer has proposed a transcription of his own, are, the one a gutturalized *t*, and the other a gutturalized *s*.²

¹ In Hebrew, six of the letters, in addition to their ancient values, acquired at an early period an alternative softer aspirated sound. These differentiated values are distinguished by diacritical marks, the harder primitive sound being indicated by an internal point (*Dagesh lene*), and the aspirated later sound being denoted exceptionally by a line (*Raphe*), or more usually by the absence of the *Dagesh*. We have thus in modern Hebrew the following notation:—
 ב ג ד כ פ ת, represented by *b g d k p t*; and *בֿ גֿ דֿ כֿ פֿ תֿ* or *בְּ גְ דְּ כְּ פְּ תְּ* by *bh gh dh kh ph th*. The letter *shin* *ש* was also split up into two sounds, which were distinguished by diacritical marks. The first sound, which approached our *s*, is written *שׁ*, while the second, which agreed with the German *sch*, was expressed by *שׂ*. There is reason to believe that the primitive value fluctuated, in different dialects, between these two sounds.

² They are pronounced with the forepart of the tongue, the breadth of which approaches the whole anterior space of the hard palate as far as the teeth, the tip of the tongue being slightly turned downwards, and the throat being at the same time narrowed at the guttural point as if a guttural was about to be pronounced. Hence the 'linguals' acquire a thick guttural sound technically called

The 'faucal breaths' as well as the linguals, are characteristic of the Semitic languages. They are 'aleph, he, cheth, 'ayin. Of these faucal sounds *aleph*, which corresponds to the *spiritus lenis* of the Greeks, was the lightest. It was pronounced below the guttural point, at the very top of the larynx, and is barely audible even before a vowel. It is not a semi-vowel, nor even an aspiration, but a slightly explosive consonant, approaching the sound which may be heard in English after the words *no!* or *bah!* uttered abruptly, or between two vowels which are pronounced separately, as in *a'orta* or *go 'over*.

'*Ayin* is the most difficult of the faucals. It had two sounds, a harder and a smoother sound, varying between a *g* rolled in the throat and an almost evanescent breathing, a little harder than *aleph*, and pronounced by means of a slightly stronger explosion at the same point of the throat. Mr. Ellis considers that this is nearly the initial sound heard in the English words *hume* and *huge*. As it is not a vowel, but a consonant preceding the vowel, it is represented in the Standard Alphabet by doubling the *spiritus lenis* ;, in Glossic by ! (a turned semicolon), and in Palæotype by ε (a turned 3), from the similarity to the Arabic letter ع, which represents the sound in living lan-

'emphatic.' The 'emphatic' sibilant *tsade* is usually defined as a fricative lingual, and the 'emphatic' dental *teth* as an explosive lingual. Mr. Ellis defines *tsade* as a "hard continuous alveolar," and *teth* as a "hard explosive gutturo-palatal."

guages. Bickell uses 'a, a notation scientifically incorrect, but perhaps more convenient than any other that has been suggested.

Cheth, defined as a 'fricative faucal,' was a strongly marked continuous guttural sound produced at the back of the palate. The sound does not exist in English, French, or Italian, but comes near to the *ch* in the German *lachen*, or the Scotch *loch* (Spanish *x* and *j*.)

He was originally a fainter sound of the same class, a continuous guttural. It nearly approached our *h* in *cohort*, and even came to be used to denote a final vowel. It was probably the surd sound corresponding to *aleph* as a sonant.

The letter *q'oph*, which is transliterated by *q'* or *q*, must not be confounded with the velar guttural *qu* (in quick), which is a sound foreign to Semitic languages. It is defined by Mr. Ellis as a 'hard explosive ultra guttural,' and may be described as a guttural having an affinity with *k*, but formed further back, between the posterior soft portion of the palate and the back of the tongue. The difference between *kaph* and *q'oph* is of the same nature as that between the gutturals in the words *calf* and *cow*.

The Semitic alphabet is characterised not only by symbols for these peculiar sounds, unknown in Aryan languages, but by the still more important fact of the absence of any true signs for vowels.

It seems probable that in the old Semitic there were

only three distinct vowel sounds, *a* (in *father*) the Italian *i* (English *e*) and *u*. The way in which these vowel sounds could be expressed demands a few words of explanation.

The letters *yod* and *vau* are semi-consonants, or rather consonantal vowels, and may usually be transliterated by *y* and *v*. But *y* passes readily into *i* and *v* into *u*. Hence, in the later stages of the Semitic alphabet, *yod* and *vau* come to be used with increasing frequency to denote the cognate vowel sounds *i* and *u*. The vowel *a* was regularly omitted, except at the end of a word, when it was denoted either by *he* or *aleph*.

Looking at these facts, it is perhaps not too much to assert that we may trace in the Semitic alphabet a faint survival of the Egyptian syllabism out of which it grew. Lepsius considers that each of the primitive Semitic consonants really contained *a* as an inherent vowel, which could, however, be replaced or eclipsed by the sounds of *i* or *u*, expressed by *yod* or *vau*. This view is supported by the fact that at the beginning of a syllable these letters have the semi-consonantal sounds of *y* and *v*, acquiring a vocalic power only when preceded by a consonant.

Hence the Semitic alphabet seems to occupy a position intermediate between the purely syllabic and the purely alphabetic stage. It is something more than a syllabary, but something less than a perfect alphabet. That this should have been originally the case can be readily explained by its Egyptian

derivation, but that it should never have advanced beyond this stage is doubtless due to the nature of the Semitic languages, which differ in their structure from all other known idioms. The ultimate roots of Semitic words are tri-consonantal, and must originally have been tri-syllabic in pronunciation. From these tri-literal roots words were formed by means of pronominal roots either prefixed or suffixed. Hence arises the characteristic feature of the Semitic languages, the interior vowel changes within the stem. For instance, we have the root *k-t-b* with the meaning "write." As a tri-syllable, with the vowel *a*, we get *kataba*, "he has written," and with a change of vowel we have *kutaba*, "it has been written," *kātabu*, "writing," and *katūbu*, "written."

It is obvious that a language whose osseous skeleton, so to speak, is built up solely out of consonants, is suited to a form of writing which fixes only the consonants. Thus the Semites, owing to the nature of their language, were able, in their writing, to depict the words by an outline sketch which the intelligence of the reader could sufficiently fill in. It is equally plain that in an Aryan language, in which the vowels do not play that subsidiary part which they do in Semitic speech, such a mere framework of consonantal sounds would not suffice to make the writing fairly intelligible without a full representation of vowel sounds. In English, for example, the three consonants *g-r-n*, instead of being constant to one

radical meaning, as in a Semitic language, belong to words so wholly unconnected as green, grin, grown, groin, grain, and groan. It is manifest that in such a language as our own it would be impossible, without a full representation of the vowel sounds, to make written words fairly intelligible to the reader; and hence, in those Aryan or Turanian graphic systems which have arisen out of the Semitic alphabet, an appropriate vowel notation has necessarily been evolved.¹

The vowel sounds being thus indefinite and variable in Semitic languages, instead of being fixed and radical as in our own, the result has been, that even in the latest Semitic alphabets the breaths and semi-consonants of the primitive Semitic alphabet have retained their original character, instead of having become transformed into true vowels or true consonants, as in the alphabets of non-Semitic languages.

The inconveniences of not possessing a notation for the vowels must however have been strongly felt, and hence we find, that as the Semitic writing became more developed, a system of vowel notation was gradually introduced. An early step was, as we have seen, the introduction of signs to denote the long vowels, which were of chief importance for the sense, but it was not till after many centuries that any com-

¹ See chap. v., § 5, *infra*; also Friedrich Müller's admirable tract *Ueber die Schrift der malayischen Völker*, pp. 5, 6; and Sayce, *Science of Language*, i., 116; ii., 166.

plete scheme of vowel notation came into existence. An account of the elaborate system of vowel points, as developed in Syriac, Arabic, and mediæval Hebrew, belongs rather to Semitic grammar than to the history of the Alphabet.

§ 4. THE ALPHABETIC ORDER.

The order in which the Hebrew letters are customarily arranged is essentially the same as that which prevails in our own alphabet. This fact establishes the great antiquity of the arrangement, which must date from a period prior to the transmission of the Phœnician alphabet to the Greeks. This conclusion is confirmed by other considerations.

There are four methods by which the arrangement of the letters in ancient alphabets can usually be ascertained.

1. By means of actual alphabets or *abecedaria* which by some fortunate chance have been preserved.
2. From the values attached to the letters when used as numerals.
3. By means of acrostic compositions.
4. From evidence afforded by alphabetic transmissions.

The oldest *abecedarium* in existence is a child's alphabet scratched on a little ink-bottle or lecythus of black ware, which was found on the site of Cære, one of the oldest of the Greek settlements in central Italy.

Though it is a Greek alphabet, yet the forms of the letters differ so little from the ancient Phœnician type, that it may be asserted, on palæographic grounds, that the date can hardly be so recent as the end of the 6th century B.C. This, and some similar *abecedaria*, will be discussed in the chapter on the Greek alphabets. It need only here be said that the Cære alphabet establishes the accepted order of all the Semitic letters except *qoph*, which is omitted.

The Hebrew letters are used as numerals according to the order of their occurrence in the alphabet. In the Samaritan alphabet, and also on the coins of the Asmonean princes, the letters are found to possess the same numerical values as in the Hebrew alphabet. Now the square Hebrew is an alphabet of the Aramean class, while the Asmonean and Samaritan letters belong to the older Israelite or Phœnician type. Since the separate development of the Aramean alphabet dates from about the 7th century B.C., we may conclude that the present arrangement of the square Hebrew letters is not more recent than that date, while the transmission of the same numerical values to the Greeks implies an antiquity very considerably greater.

The arrangement of the verses of certain alphabetic or acrostic compositions, such as Psalms 119, 111, and 145, together with the first four chapters of the Lamentations, and Proverbs xxxi. 10—31, is in accordance with the present arrangement of the Hebrew

alphabet. These compositions, therefore, carry back the existing order of the Semitic alphabet to a date prior to the Captivity.

Of still earlier date are Psalms 37; 9 and 10; 25 and 34; one or more of which may possibly even be Davidic. In these more ancient Psalms the arrangement, though only imperfectly acrostic, suffices to prove that, at the time of their composition, the order of the letters was essentially the same as that with which we are familiar, with possible variations affecting the places of certain letters.¹

By all these independent modes of proof it is established that the familiar order of the letters of the Semitic alphabet is of great antiquity, as old, we may believe, as the 9th or 10th century B.C., though how much older the evidence does not enable us to determine. On the other hand, the Egyptian alphabetic liturgies discovered by M. Mariette (see p. 86), prove that the Semites did not derive from Egypt the order of the alphabet.

The arrangement must therefore have originated among the Semites themselves. It can hardly have been wholly accidental, but the determining causes are not so easy to detect. The question has been

¹ The anomalies in the earlier acrostic Psalms may possibly indicate that, at the time of their composition, the place of certain letters was not absolutely fixed. Thus Psalms 25 and 34 contain no *vau* verse, while a final labial, *phe*, comes at the end after *tau*. This agrees with the earliest Ionian alphabets, in which *vau* is wanting

a fertile subject of speculation,¹ but it cannot be said that any very positive results have been hitherto attained.

In such matters the most fruitful method of research is to endeavour to explain the unknown by the analogy of the known. It will be well, therefore, to begin by examining the principles which have guided the arrangement of other alphabets.

The usual methods of alphabetic arrangement are not more than four. The classification may either be (1) Phonologic, (2) Morphologic, (3) Ideologic, (4) Chronologic :—that is, the letters may be arranged

from the 6th place, while its derivative, *upsilon*, comes after *tau*. (Professor Lagarde has, however, suggested that the supernumerary verses may indicate acrostically the name of the Psalmist. Lagarde, *Symmicta*, p. 107; *Academy*, January 1st, 1877; Robertson-Smith, *Old Testament in the Jewish Church*, p. 416.) It is to be noted that the irregularities in the early acrostic Psalms affect those letters (*vau*, *qoph*, *resh*, *'ayin*, and the three liquids,) whose places appear to be dubious on other grounds; namely, the evidence of the Ethiopic and Greek alphabets, and the indications, presently to be discussed, that certain Semitic letters are only of secondary origin (see p. 195).

¹ Lepsius, in his *Sprachvergleichende Abhandlungen*, has an essay on the order of the letters in various alphabets, *Ueber die Anordnung und Verwandtschaft des Semitischen . . . Alphabets*. He sets forth the speculations of Plutarch (*Sympos.* ix. 2, 3), Eusebius (*Præpar. Ev.* x. 5; xi. 6), and Jerome, as well as the opinions of Ewald, Hoffmann and Seyfarth. Cf. Donaldson, *New Cratylus*, p. 149; Kopp, *Bilder und Schriften*, ii. p. 91; and Professor Key's treatise on the alphabet in the Penny Cyclopædia. I have discussed some of the general principles of alphabetic arrangement in *Greeks and Goths*, pp. 99—107.

either according to their sounds, their forms, their names, or their dates.

The scientific principle of arrangement is the Phonologic, of which the most perfect example is furnished by the Devanagari or Sanskrit alphabet, which exhibits an almost ideal scientific classification. The thirty-three consonants are arranged according to the organs of speech with which they are pronounced, in seven classes, as gutturals, palatals, cerebrals, dentals, labials, semivowels, and sibilants; the letters contained in each of the seven classes being also ordered on scientific principles. This method is adopted in modern scientific alphabets, such as those of Bell, Lepsius, Bonaparte, Max Müller, Ellis, and Sweet.

The Morphologic method of classification is not unusual. It is very convenient for the learner; letters of similar forms being brought into juxtaposition, it becomes easy to compare them, and to remember minute distinctions in their outlines. The Chinese 'keys' are classified on this principle, which has also been extensively employed in the arrangement of the Arabic, Ethiopic, and Runic alphabets.

The Chronologic method, by which the letters fall into place according to the dates of their invention or adoption, has also affected the final arrangement of numerous alphabets, among which the Greek, the Coptic, the Georgian, and the Russian may be enumerated. Thus in the Greek alphabet the new characters υ ϕ χ ψ ω follow at the end, after the

primitive letters, and the same plan has been adopted in the Georgian and Russian alphabets. The positions of the Latin letters *g x y z* are also chronologic. In our own alphabet the new letters are placed next after those from which they have been differentiated; thus *j* comes after *i*, while *v* and *w* follow after *u*.

The Ideological method, by which the characters are classed according to the meaning of their names, has been used by Egyptologists for the arrangement of the hieroglyphic signs.

With regard to the Semitic alphabet opinions are divided. The hypothesis of a primitive Ideologic arrangement has been advocated by Kopp, Böttcher, and Ewald, while a Phonologic scheme has been elaborately expounded by Lepsius, and espoused by Donaldson and Key. The prevalent opinion, however, seems to be that the order in which the letters stand is merely accidental.

The Ideologic hypothesis has no doubt much to commend it. When we find placed side by side such names as *daleth* and *he*, door and window; *kaph* and *yod*, hand and palm; *mem* and *nun*, water and fish; *'ayin* and *pe*, eye and mouth; *resh* and *shin*, head and tooth, it is difficult, as Ewald urges, to believe that such collocations, occurring so repeatedly, can be due wholly to chance.

But this hypothesis, plausible though it seems, is inadequate to explain the whole of the facts. There is however no reason why it should not be admitted

as a partial explanation. Supposing that there were at first one or two such accidental collocations in an alphabet primarily arranged on some other plan, it is easy to understand that subsequent dislocations might have been brought about by analogy, in the attempt further to extend the supposed method of arrangement.

The Phonologic hypothesis equally fails to afford a complete solution of the problem. Like the Ideologic method, it succeeds in some cases but fails in others. Hence it appears that there is no single hypothesis by which the existing order can be explained.

But the analogy of other alphabets shows that this result is just what might have been anticipated. In almost every known alphabet more than one principle of arrangement has been at work. A primitive arrangement, according to some one system, has usually been modified by subsequent partial rearrangements on different principles. This then is to be expected in the case of the Semitic alphabet.

The antecedent probability would be that the phonologic arrangement, of which Lepsius has pointed out such copious surviving traces, was the plan originally adopted. We may also expect to find that the chronologic principle has, as usual, affected the positions of a few letters near the end of the alphabet, while other dislocations may have been brought about by the operation of morphologic or ideologic causes.

It will be needful, therefore, to begin by analyzing

the existing arrangement with the object of detecting traces of such later rearrangements.

Taking the Semitic letters in their final order, we find that they fall into three groups:—

I.	II.	III.
א ב ג ד ה ו ז	ח ט י כ ל מ נ ס	ע פ ק ר ש ת
'a b g d h v z	χ † y k l m n s	'a p † q r † t
1 2 3 4 5 6 7	8 9 10 11 12 13 14 15	16 17 18 19 20 21 22

Here we notice the peculiar positions of the sibilants, *z* being the 7th letter, *š* the 21st, and *s* the 15th. It is only necessary to assume a single transposition; to suppose for instance that *k* belonged originally to the third group, and we should have *z* for the 7th letter, *s* for the 14th, and *š* for the 21st. That is, we should have the three sibilants or sabbatical letters occupying the three sabbatical places as the 7th, 14th, and 21st letters. Remembering the importance attached among all Semitic races to the sacred planetary number seven, it seems probable that it was not by mere accident that the sibilants came to occupy these positions. Therefore by excluding them for the present from consideration, the ground will be cleared for an examination of the principle on which the remaining letters were arranged. Excluding the sibilants, the other letters group themselves in four divisions:—
'a b g d h v χ † y [k] l m n 'a p q [r] t.
Here it is difficult to avoid noticing a definite phonological principle of arrangement, into which all the letters fall except those which are enclosed in brackets.

The first division contains three soft mutes, *b g d*; the second contains three continuants, *v χ t*; the third three liquids, *l m n*; and the fourth three hard mutes, *p q t*.

Not less noticeable is the order in which the three soft mutes in the first division are arranged. It is *b g d*, first a labial, next a palatal, then a dental. It is the same with the continuants *v χ t* in the second division; we have first the labial, then the palatal, and the dental last. In the fourth division the same principle of arrangement holds; we have *p q t*, a labial, a palatal, and a dental.

We also notice the remarkable arrangement of the four breaths. Each of the four divisions is headed by that breath which agrees most nearly with the characteristics of the division in which it stands; thus the softest breath heads the soft mutes, while the hardest breath heads the hard mutes.

It is most improbable that this arrangement, which in its essential features accords so curiously with a phonologic classification of the letters, can be due to mere accident. The mathematical chances are overwhelmingly in favour of its being a survival from some ancient phonologic arrangement.

We may assume then that the key to the primitive arrangement lies before us.

Exchanging the analytical method of investigation which has hitherto been pursued for the synthetic, we may attempt to group the letters on what appears

to have been the original plan, putting the sibilants into a class by themselves, and bracketing any letters which will not fall into the arrangement. Using the ordinary convenient, though not altogether unobjectionable nomenclature, we should have the twenty-two letters phonologically arranged according to the following scheme:—

	Breaths.	Labials.	Palatals.	Dentals.	Sibilants.
Soft	' <i>a</i>	<i>b</i>	<i>g</i>	<i>d</i>	<i>z</i>
Continuous	<i>h</i>	<i>v</i>	χ	<i>t</i>	<i>s</i>
Liquid	<i>y</i>	<i>m</i>	<i>l</i> (<i>r</i>)	<i>n</i>	<i>s</i>
Hard	' <i>a</i>	<i>p</i>	<i>q</i> (<i>k</i>)	<i>t</i>	<i>š</i>

If the sibilants are not taken into account it will be seen that this scheme is almost identical with the actual arrangement. It has only been necessary to suppose that in the primitive Semitic alphabet, as in the Egyptian alphabet from which it was derived, the sounds *l* (*r*) and *k* (*q*) had not been differentiated at the time when the letters were first arranged as an alphabet.¹

The analogy of many other alphabets makes it pro-

¹ This conjecture, which has already been advanced by Lepsius (*Anordnung*, pp. 9—13) and Donaldson (*New Cratylus*, p. 148), may be supported on independent grounds. The difficulty of deriving *l* from the hieroglyph of the 'lioness,' as proposed by de Rougé, has already suggested the probability that the Semitic letters **q** (*r*) and

bable that the primitive order, on whatever principle it might be based, would undergo subsequent modification in accordance with some other method. So soon as the homophones *l* (*r*) and *k* (*q*) were differentiated, the symmetry of the primary phonetic scheme would be obscured, and the theory would be ultimately forgotten. A new arrangement being required, we may suppose that the letters would be rearranged in classes of sevens, the sibilants being made to occupy the sacred or sabbatical places. The lacunæ in the third class would naturally be supplied by the new letters and the superfluous lingual. We should then have the following arrangement:—

	1	2	3	4	5	6	7
Class I.	'a	b	g	d	h	v	z
Class II.	χ	t	y	m	l	n	s
Class III.	'a	p	š	q	k	r	š' t

Two final transpositions would be brought about by causes which have largely affected the arrangement of other alphabets. The letters *yod* and *kaph* would be brought into juxtaposition on ideologic or morphologic grounds, either on account of the analogy of the forms \aleph ψ , or of the names, 'hand' and 'palm.' In like manner *mem* and *nun*, μ ν , 'water' and 'fish,' would be placed side by side by reason of the

b (*l*) are only differentiated forms of the Hieratic σ (*r*, *l*). See p. 109 supra. With regard to *kaph* and *qoph*, the similarity of the names, and of de Rouge's suggested prototypes, are reasons for doubting the independence of letters so nearly homophonous.

resemblance of form, sound, or meaning. These two slight transpositions having been effected, we have the alphabet in its familiar final order.

The foregoing explanation is offered only as an hypothesis. The question to be determined is whether some such supposition, supported as it is by analogies supplied by so many other alphabets, is not on the whole more probable than the only alternative conjecture, that all the curious collocations of the letters of the Semitic alphabet are to be regarded not as vestiges of the ancient order, but as due absolutely to mere accident.

CHAPTER IV.

THE PHŒNICIAN ALPHABET.

§ 1. *The two types of the Phœnician Alphabet.* § 2. *The Inscriptions of the First Epoch.* § 3. *The Inscriptions of the Second Epoch.* § 4. *The Punic Alphabet.* § 5. *The Alphabet of Israel.*

§ 1. THE TWO TYPES OF THE PHŒNICIAN ALPHABET.

THE early history of the Semitic alphabet has to be constructed by the aid of inscriptions. The oldest monument to which a positive date can be assigned belongs to the 9th century B.C., but from this time onward we possess a continuous series of records, by means of which the development and degradation of the alphabetic forms can be traced with tolerable certainty.

At a still earlier period the Greek alphabet branched off from the Phœnician stem. Hence, from the forms of the primitive Greek letters, inferences may be drawn as to the older forms of the Semitic characters. To some very ancient, but unknown period, we must also assign the origin of the primitive Arabian or Ishmaelite alphabet, which became the parent of the Ethiopic and Indian alphabets.

Reserving for future consideration the history of the European, the African, and the Indian alphabets, whose development pursued an independent course, we have to trace in the first place the history of the alphabets used by nations belonging to the north Semitic stock.

These alphabets again may be divided into two distinct stems. The literary alphabets, those which, like the Hebrew, the Syriac, and the Arabic, enshrine an extant literature, belong to the Aramean class. They are descended from the local alphabet of the highlands of northern Syria, which began to be developed about the 7th century B.C., and after the downfall of Phœnician power and trade which took place during the three following centuries, rapidly displaced the primitive alphabet of Phœnicia as the general medium of commercial intercourse throughout Western Asia. The Aramean alphabets are so distinct from the rest, that they also may be conveniently considered by themselves.

There remains only the Phœnician alphabet, properly so called—that is the alphabet which was employed in the cities and colonies of Phœnicia, and also by contiguous nations, such as Israel and Moab. Turning to the Genealogical Table on page 81, it will be seen that the Phœnician alphabet has left only one representative in the line of direct descent. This is the Samaritan, the sacred script of the few families who still keep alive the old life of Israel on the site of

Shechem, and still worship, as of old, on Mount Gerizim. With this exception the venerable Phœnician alphabet has become extinct. It is not a literary but a monumental alphabet, known to us almost entirely from lapidary records. It is by means of these inscriptions, of which several hundreds have come down to us, that the history of the Phœnician alphabet must be constructed.¹

Phœnician inscriptions divide themselves into two classes, which are distinguished by easily recognized variations in the forms of certain letters. To the labours of Dr. Levy of Breslau and of the Comte de Vogüé we owe the establishment of this cardinal fact, and of the conclusions which follow from it. A clear understanding of the distinction between the two types, and of the relations which subsist between them, being imperatively necessary for the student of Semitic epigraphy, it may be convenient to treat this problem, which lies on the threshold of the subject, as a representative instance, and instead of merely giving,

¹ Not reckoning the later Punic inscriptions, of which he catalogues 117, Schröder, writing in 1869, enumerates from Phœnicia 5, from Cyprus 40, from Athens 6, from Malta 5, from Sardinia 10, from Sicily 4, from Egypt 14, from Carthage 119, from Gaul 1; in all 208. The rapid progress of discovery may be inferred from the fact that Gesenius in 1837 was only able to give 33 from Cyprus, 3 from Athens, 4 from Malta, 1 from Sardinia, 2 from Sicily, 10 from Carthage, and 1 from Gaul; while the first fasciculus of the *Corpus Inscriptionum Semiticarum*, published in 1881, contains as many as 9 from Phœnicia, and 87 from Cyprus.

as in other cases, a statement of ascertained results, to take the opportunity of setting forth in some detail the arguments and the methods of investigation by means of which the conclusions now generally accepted have been obtained. It is most instructive to learn how a set of inscriptions, which even to great scholars like Kopp and Gesenius were a mere chaos, have been gradually reduced into an ordered chronological sequence.

In the early Phœnician inscriptions we find, as has been said, two well marked alphabetic types. As representatives of these two types, we are fortunately able to take two monuments of Semitic palæography which are of almost unrivalled interest and importance.

For the first type, which may be provisionally designated as the MOABITE alphabet, we have the great inscription of Mesha, king of Moab. To the second type, which commonly goes by the convenient name of the SIDONIAN alphabet, belongs the record engraved on the sarcophagus of Eshmunazar, king of the Sidonians.¹

The distinction between the two types extends to at least fifteen out of the twenty-two letters of the alphabet. Ten of these letters, which exhibit the most definite characteristic differences, may conveniently be used as tests by which to dis-

¹ Facsimiles of portions of these two standard inscriptions will be found on pp. 208, 221. The two alphabets are given in columns x. and v. of the Table on p. 227.

	Moabite.	Sidonian.
Mem		
Shin		
Gimel		
Zayin		
Yod		
Lamed		
Qoph		
Samekh		
Tau		
Kaph		

criminate between the two classes of Phœnician inscriptions.

It will be seen that the differences are to some extent systematic. In the letters *mem* and *shin* the Moabite trace is a zigzag, while in the Sidonian we have a lateral line intersected by a nearly vertical cross stroke. In the Sidonian type the three letters *gimel*, *zayin*, and *yod*, are prone instead of erect. The remaining letters exhibit more cursive forms in the Sidonian alphabet.

The difference between the two types must either be chronological, one of the types having been evolved out of the other, or it may conceivably be geographical, the Moabite type prevailing among the inland tribes of Syria, while the Sidonian was employed in the cities of Phœnicia.

The geographical hypothesis is not without plausibility. All the inscriptions from the cities of Phœnicia, as well as the much larger number which come from Carthage, belong without exception to the Sidonian type, while to the Moabite type, which is used in the inscription of Mesha the 'sheepmaster', and in some

early inscriptions from Nineveh, belongs the alphabet used by the Jews down to the time of the Captivity, which actually survives in the modern Samaritan alphabet. It is plain that both types are of great antiquity, and that both continued in use side by side in different regions for several centuries. It might seem to be a reasonable supposition that the distinction between the two alphabets originated in Egypt, the Moabite alphabet having been transmitted by the Hyksos shepherds to the inland tribes, while the Sidonian alphabet may have been conveyed by sea to Sidon from the Phœnician trading colony of Caphtor in the Delta.

The fatal objection to this hypothesis is that the Greek alphabet, which could only have been obtained from Phœnician trading posts in the Ægean, belongs decisively to the Moabite type. This alphabet is also used in a Phœnician inscription from Sardinia, and in another from Malta. Hence there is no escape from the conclusion that the Phœnicians must at some period have employed an alphabet of the Moabite type, so that the non-existence of any inscription from Phœnicia written in this alphabet must be a matter of mere accident.
























The distinction between the two types must therefore be chronological, one of them having been evolved out of the other. There is no difficulty in deciding to which the priority belongs. The inscriptions in the Sidonian alphabet to which definite dates

can fairly be assigned, are, all of them, subsequent to the destruction of the Tyrian hegemony by Nebuchadnezzar in the 6th century B.C., whereas the Moabite inscription belongs to the 9th century, and the Greek alphabet affords evidence that at the still earlier period at which it was acquired the Sidonian alphabet was not employed by the Phœnicians. A comparison of the test letters of the Moabite and Sidonian alphabets leads to the same conclusion (see p. 201). The Sidonian forms of *goph*, *yod*, *samekh*, and *zayin*, for instance, are evidently merely modifications of the lapidary Moabite forms due to centuries of cursive use.

A still more decisive argument is derived from the fact that it is possible to point to dated inscriptions which exhibit certain letters in forms intermediate between the two types. The examples of this transitional alphabet are obtained, strange to say, from regions so remote as Nubia and Nineveh. From Nubia we have inscriptions scrawled on the knees of the colossal statues of Rameses II. at Abu Simbel, by the Greek, Carian and Phœnician mercenaries of Psammetichus, towards the end of the 7th century B.C. From Nineveh come the well known bronze lion-weights, engraved with bilingual records in Phœnician and Cuneiform, on which may be read the names of Assyrian monarchs, such as Tiglath Pileser and Sennacherib, who reigned in the 8th and 7th centuries B.C. To the 7th century also belong Phœnician docketts and signatures attached to certain cuneiform contract

tablets, stored in the Record Office of the Assyrian kings, which bear eponymic dates. These inscriptions are written in a transition alphabet. They prove that at the time when they were written the characteristic features of the Sidonian alphabet were only partially developed, and they exhibit the stages through which the older forms passed into those which succeeded them.

This evidence is so curious and so conclusive, and it supplies moreover such a useful lesson to the

	First Epoch.	Transition.		Second Epoch.
	MOAB.	NUBIA & NINEVEH.		SIDON.
	9th century	8th and 7th centuries.		5th century
Mem				
Shin				
Gimel				
Zayin				
Yod				
Lamed				
Qoph				
Samekh				
Tau				
Kaph				

student who is endeavouring to master the elementary principles of palæographic induction, that it may be worth while to give in parallel columns the forms of the test letters which exhibit these three successive stages in the development of the Phœnician alphabet. The first column contains the Moabite letters of the 9th century; the second shows the transitional forms of the 8th and 7th centuries, as obtained from Nubia and Nineveh; while in the third

column will be found the final forms of the Sidonian alphabet, which are certainly not earlier than the Phœnician conquests of Nebuchadnezzar in the 6th century, or later than those of Alexander in the 4th. The successive forms assumed by the letters *tau*, *yod*, and *shin* will be found specially instructive.

The forms of these ten test letters constitute a rough standard by means of which approximate dates may be assigned to the earlier Phœnician inscriptions.

To the oldest Phœnician type the provisional name of the Moabite has been hitherto applied, but it is plain that we may now substitute the more comprehensive appellation of the TYRIAN alphabet, since this must have been the alphabet which prevailed in Phœnicia during the period of the commercial and colonial ascendancy of Tyre. For the second type the accepted appellation of the SIDONIAN alphabet need not be disturbed, while the term PHœNICIAN may be used generically to include both types.

The fact that the Israelites and Samaritans, as well as the Greeks, continued for many centuries after the evolution of the Sidonian forms to use alphabets which exhibit test features of the earlier type, must be explained on the theory of arrested developments, arising from special causes.

The relative priority of the two types of the Phœnician alphabet having thus been determined, it remains to give an account of the epigraphic materials from which a continuous history of the Phœnician alphabet has to be constructed.

§ 2. THE INSCRIPTIONS OF THE FIRST EPOCH.

The monuments hitherto discovered which belong to the first or Tyrian epoch of the Phœnician alphabet are extremely few. Of these, the great inscription of Mesha, king of Moab, ranks first, if not absolutely in order of time, at all events in its importance. It is almost unique in its historical interest; its philological value is great; while from the palæographical point of view its significance can hardly be overrated, owing to its great antiquity, to its definite date, and to the certainty with which, by reason of the hardness of the material on which it is engraved, the forms of the letters can be determined. The considerable length of the inscription supplies examples of all but one of the letters of the ancient alphabet, while the repeated occurrence of most of the letters renders it easy to eliminate mere variant or accidental forms, and thus to determine the normal alphabet of this early period.

The history of the discovery of this inscription is so well known that it need not be repeated at any length. In the summer of 1868, Mr. Klein, of the Church Missionary Society, in the course of an expedition to the east of the Dead Sea, arrived at the site of Dibon, the ancient capital of the land of Moab. Close to his encampment the Arabs of his escort showed him a block of black basalt, 41 inches in height, and 21 in width, with an inscription running in 34 horizontal lines. Mr. Klein copied a few letters, but does not seem to

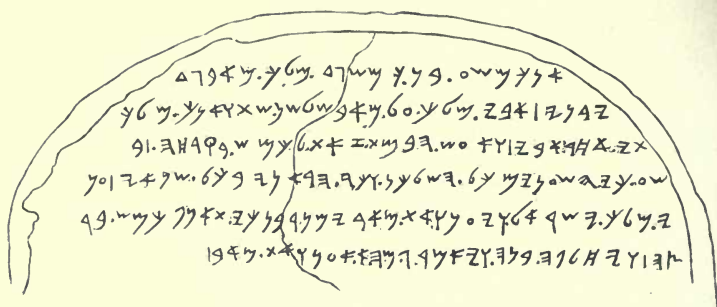
have appreciated the significance of his discovery, and it was only after his return to Jerusalem that its real importance was suspected.

Owing to the unwise competition of the French and German consulates to secure the treasure, and a consequent attempt of the Turkish governor of Nablus to get it into his own possession, this precious monument, which had defied the corrosion and the accidents of 2700 years, was broken up by the Arabs, and the pieces distributed among the several families. Nearly forty of these fragments, containing altogether about two-thirds of the whole inscription, have been recovered, so that the damage has not proved so irreparable as was feared at first. The collected fragments, together with a somewhat imperfect squeeze taken before the stone was broken up, and an early eye-copy of a portion of the inscription, are now exhibited side by side in one of the ground-floor rooms at the Louvre.

The general purport of the inscription can thus be ascertained with very tolerable certainty, while for mere palæographic purposes the larger fragments supply almost all the evidence that can be desired.

The subjoined facsimile of the first few lines of the inscription is on a scale of about one-fifth of the original. It will be seen that the words are divided by dots, and the sentences by vertical strokes.

A transliteration into square Hebrew characters, and a version founded on the translations of Haug, Derenbourg, Nöldeke, Schlottmann, and Ginsburg are appended.

THE MOABITE STONE.¹

אנך משע . בן . כמושגד . מלך . מאב [ה]ד
 יבני | אבי . מלך . על . מאב . שלשן . שת ואנך . מלך
 תי . אחר . אבי | ואעש . הבמת . זאת . לכמוש . בקרחה . | ב[. . . .]
 שע . כי . השעני מכל . השלכן . וכי . הראני בכל . שנאי | עמ
 [ר]י . מלך . ישראל . ויענו . את . מאב ימו . רבן כי . תאנף כמש . בר
 צה | ויחלפה . בנה . ויאמר . גם . הא . אענו את . מאב |

TRANSLATION.

1. I am Mesha, son of Kamoshgad, king of Moab, the D-
2. -ibonite | My father reigned over Moab thirty years, and I reign-
3. -ed after my father | And I erected this altar to Kamosh (Chemosh)
on the plain [. . . .]
4. [Sa]lvation because he saved me from all dangers, and
because he let me see my desire on all my enemies Om-
5. -ri, king of Israel, oppressed Moab many days, for Kamosh was
angry with his lan-
6. d | And his son succeeded him, and he also said, I will oppress
Moab |

¹ For the benefit of readers who may not be familiar with the square Hebrew characters, and as an illustration of what has been said in the preceding chapter, § 3, on the consonantal nature of Semitic writing, the first sentences of this inscription may be trans-

The date of this inscription can be ascertained with tolerable exactness.¹ Mesha begins by an account of the subjection of Moab to Israel, which lasted for forty years. It began in the reign of Omri (929-918), continued during the reign of his son Ahab (918-897), and must have come to an end during the reign of his grandson Jehoram (896-884), soon after the campaign of Jehoram and Jehoshaphat, narrated in 2 Kings iii., which was undertaken to put down the rebellion of Mesha. This war must have taken place at the beginning of Jehoram's reign. In the book of Kings we read how he devastated the land of Moab, destroyed the cities, filled up the wells, and laid waste the fields. Mesha threw himself into the fortress of Kir Harosheth, south of the Arnon, and in his despair sacrificed his eldest son upon the wall. "And there was great indignation against Israel; and they departed from him, and returned to their own land." Mesha then carries on the narrative, and tells us how he

literated into Roman letters as follows, the omitted vowels being denoted by italics:—

ANOKi MeshA . BEN . KAMOSHGAD . MELEK . MO'AB [He] D-
 -IBONI | 'ABI . MALAK . 'AL . MO'AB SHLishIN . SHAT V'ANOKi . MALAK-
 TI . 'ACHAR . 'ABI |

It will be seen that even at this early period the weak consonants were employed to denote the cognate vowel sounds. The alphabet of this inscription is given in col. x. of the table on p. 227. For details, see Nöldeke, *Die Inschrift des Königs Mesa von Moab* (Kiel, 1870); Ginsburg, *The Moabite Stone* (1870).

¹ The conventional Chronology, and not that of the Assyrian Canon, is here employed for reasons of obvious convenience.

recovered from Israel the border fortresses of Ataroth, Nebo, and Jahaz, how he destroyed the inhabitants, and devoted to Kamosh (Chemosh) the vessels of Jehovah. The second part of the inscription gives an account of the public works undertaken on the termination of the war; the rebuilding of the cities which had been destroyed, the construction of a road over the Arnon, the building of the royal palace, and of the walls, gates, and towers of the citadel. The third part of the inscription, which is less legible, contains the record of a subsequent war against the Edomites.

It is plain that the inscription must be referred to the beginning of the 9th century, and the year 890 B.C. has been generally accepted by scholars as an approximate date, since the events which it relates seem to have taken place during the six or seven years which followed the death of Ahab in 897.

Although the Moabite stone, from its historical importance and its very definite date, must rank first among Semitic inscriptions, its claim to be considered as the most ancient of alphabetic records is more than doubtful. This honour belongs, in all probability, to the newly discovered inscriptions on certain fragments of the sacred vessels from the Temple of Baal Lebanon.

In 1876 M. Clermont-Ganneau was so fortunate as to obtain from M. Laniti, a merchant of Limassol in Cyprus, some battered fragments of bronze plates inscribed with Phœnician characters. Laniti had purchased them from a dealer in old iron who had bought

them from a peasant, by whom they had been found, in 1872, about a foot below the surface of the soil near the summit of a mountain distant some twenty miles from Limassol. The peasant had broken the metal in order to ascertain whether it was gold, and had given the pieces to his children as playthings, and some of them had thus been lost.

Eight inscribed fragments were recovered, and are now among the choicest treasures of the Cabinet des Antiques in the Bibliothèque Nationale at Paris. A most ingenious restoration has been effected by the skill and patience of MM. Renan and Clermont-Ganneau, and it appears that six of the fragments must have formed consecutive portions of an inscription running round the exterior convex rim of a thin hemispherical bowl or patera, about a foot in diameter. The two other fragments evidently belonged to separate inscriptions. It was at once seen, from the form of the letters, that the writing was considerably older than any known Phœnician inscription, and only comparable in antiquity with the Moabite stone itself. The interest and importance of the discovery were greatly enhanced when the writing came to be deciphered. The longest inscription states that "this vessel of good bronze was offered by a citizen of Carthage, servant of Hiram, king of the Sidonians, to Baal Lebanon, his Lord." Portions of this record are repeated in the shorter inscriptions. One of them contains the words "citizen of Carthage," and the other

“to Baal Lebanon, his Lord.” Such familiar and historic names as Hiram, Carthage, Lebanon, and Sidon, naturally excited a keen curiosity. It was manifest that these laminæ of bronze must have formed portions of the sacrificial vessels belonging to a temple on Lebanon, which had no doubt been pillaged during some war between Cyprus and Phœnicia, the spoils being deposited in one of the mountain sanctuaries of Cyprus.

Hill-worship was a habitude of the Syrian nations, and the temple of Baal Lebanon must have been itself one of the “High Places” dedicated to the mountain Deity. We have a record in the Book of Kings of the worship of Baal on Mount Carmel, and the name of Baal Hermon is strictly analogous to that of Baal Lebanon.

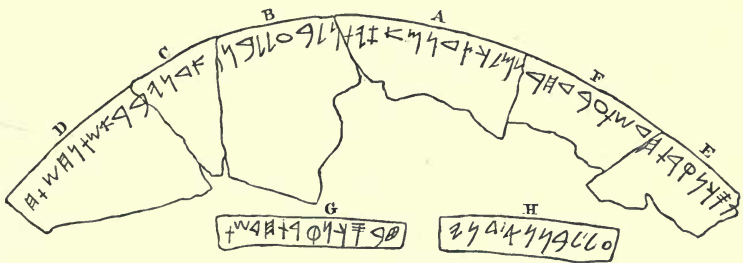
It is not necessary to suppose that the town of *QARTACHADASHAT*, or Carthage, was the celebrated Tyrian colony in Africa, which can hardly have been founded at the remote period at which these inscriptions were written,¹ but Carthage, or ‘Newtown,’ cannot have been an uncommon name in Phœnicia, and may have been applied to one of the suburbs of Tyre or Sidon, in contradistinction to Palæ-Tyrus or Palæ-Sidon.

Renan seems to be of opinion that it is by no means

¹ Carthage was probably founded about the beginning of the 8th century, whereas the palæography of these inscriptions place them at least as early as the beginning of the 9th.

improbable that the "Hiram, king of the Sidonians," mentioned in the inscription may be identified with the Hiram, king of Tyre, who was a contemporary of David and Solomon. This conclusion must depend on the palæographical evidence, which therefore demands a careful examination.

The subjoined facsimiles of the inscriptions on the eight fragments, as now pieced together by MM. Clermont-Ganneau and Renan, are on a scale of about one-third of the size of the original.



THE BAAL LEBANON INSCRIPTIONS.

The fragments marked E F A B C D evidently fit together, and form portions of a continuous inscription, which may be transliterated and translated as follows:—

..... V SOKEN QARTACHADASHAT, 'ABED CHIR[A] MELEK
 TSIDONIM, 'AZ YTEN LE BA'AL LEBANO[N] 'ADONAI, BR'ASHT
 NECHUSHAT ch...

"..... v, a citizen of Newtown, servant of Hiram, king of the Sidonians, gave this to Baal Lebanon his Lord, of good brass."

The fragments G and H read :—

... .TOB SOKEN QARTACHADASHAT

“... tob, a citizen of Newtown.”

... .‘AL LEBANON ’ADONAI

“[To Ba]al Lebanon his Lord.”¹

With regard to the date of these inscriptions, it is obvious that no absolute reliance can be placed on the mention of Hiram, king of the Sidonians, since more than one Phœnician king may have borne that name. Palæographical considerations must therefore be brought to bear.

The writing on the fragment marked H, which is here reproduced on the same scale as the original,



¹ Judging from the workmanship and material, the fragments marked G and H may have formed portions of the same vessel. The bronze of the other six fragments, E F A B C D, is thinner and of different composition. On the other hand, the writing on G is of the same palæographic age as the longer inscription, and different from that on H, which closely resembles the writing on the Moabite stone. Hence there must have been at least two vessels, bearing contemporaneous dedications from the ‘citizen of Qartachadashat,’ while H may either have been a separate dedication on the same vessel as G, or may have belonged to a third vessel. It is supposed that *soken* denotes a local functionary of some kind; ‘senator’ or ‘official’ might probably be the best translation. The word *nechushat* is familiar to us from 2 Kings xviii. 4, where we read that Hezekiah brake in pieces the brazen serpent, and called it *Nehushtan*, translated in the margin ‘a piece of brass.’

is evidently of different date from that of the other inscriptions, and, judging from the forms of *nun* and *lamed*, must be of nearly the same age as the Moabite stone. On the other fragments the writing is less cursive in character, and therefore presumably older. The relative age of the Moabite and Baal Lebanon inscriptions must however be determined mainly by a comparison with the primitive Greek letters. According to this test the priority must be adjudged to the Baal Lebanon forms.

	Greek.	Baal Lebanon.	Mesha.
Cheth	⊞	⊞	⊞
Tau	⊞ †	†	×
Daleth	◁	◁	◁
Zayin	‡ ‡	‡	‡

Thus in the case of *cheth* the Baal Lebanon form agrees with the Greek in having three horizontal bars instead of only two; following in this the Hieratic prototype (see p. 114). With regard to

tau, the older form seems to have been a Latin cross, with the bars of unequal length, the longer being vertical. The Baal Lebanon *zayin* is extremely primitive. It occurs in a very ancient Locrian inscription, and is found in some of the oldest Etruscan tombs, while it approximates more nearly than the later forms to the Hieratic prototype. The remarkable oval shape of *'ayin* ◊ is probably more ancient than the usual circular form, and may be regarded as a survival of the primitive ideographic picture of an "eye" (see p. 116). No certain conclusions can be

drawn from *lamed*, owing to the early transformations which this letter underwent. The Baal Lebanon *mem* and *nun* are decidedly less cursive than on the Moabite stone, and are almost identical with the earliest Greek forms.¹

Hence on palæographical grounds it is manifest that the first seven fragments from the Temple of Baal Lebanon are decisively older than the Moabite stone. As far as a judgment can be formed on such a matter, it may be admitted that the priority may be as much as a hundred years, which would enable us to identify the Hiram of the inscription with the Hiram who was the contemporary of Solomon. We should thus obtain the beginning of the 10th century or the end of the 11th as the date to be assigned to the most ancient extant monument of the Semitic alphabet.

The attribution of the Baal Lebanon inscription has been necessarily determined mainly from considerations of a palæographic nature, the force of which can be fully appreciated only by experts; but we fortunately

¹ The most complete account of the Baal Lebanon inscriptions will be found in the *Corpus Inscriptionum Semiticarum*, pp. 22-26, and plate iv. See also Renan, in the *Journal des Savants* for August, 1877; and Clermont-Ganneau, in the *Athenæum* for April 17th, 1880. The facsimile on page 213 is reduced from the phototype in the *Corpus I. S.*, which leaves nothing to be desired in the way of accuracy. The alphabet given in col. i. of the Table on p. 227 is not so correct, having been taken from the eye-copy in the *Journal des Savants*, which was the only facsimile available at the time when the Table was engraved.

possess, in addition to the Moabite stone, a few scanty records in the primitive Phœnician alphabet to which fixed dates can be assigned on historic grounds which do not admit of being impugned. Among these early monuments the Assyrian lion weights, to which reference has already been made, must be placed first, insomuch as the earliest of them are nearly coeval with the Moabite stone itself.

In his first expedition Layard discovered at Nimroud fifteen bronze lions, varying in weight from nearly forty pounds Troy down to a few ounces, which apparently formed the metrical standards of Assyria. Most of them bear bilingual legends in Cuneiform and Phœnician characters, which unfortunately are in several cases so corroded as to be almost or quite illegible. The Cuneiform inscription usually gives the name of an Assyrian king, while the Phœnician legend records the weight. The lions are of different dates, but the Cuneiform and Phœnician inscriptions on each lion are undoubtedly contemporaneous. The Cuneiform legends, so far as they have been deciphered,¹ give us the names of four kings who reigned between 745 and 681 B.C., namely, Tiglath Pileser II., Shalmaneser IV., Sargon II., and Sennacherib. The lion weights therefore furnish a chronological series of monuments of the Phœnician alphabet extending over

¹ The earlier attributions to Assur-izir-pal and Shalmaneser II., 885 to 825, are now believed to be erroneous. See Madden, *Coins of the Jews*, p. 5, note.

nearly a century. Apart from their palæographic value, these records are of great interest, as showing that the Phœnician alphabet must have been in common use at Nineveh for commercial purposes, side by side with the Cuneiform, as early as the middle of the 8th century B.C.

To exhibit the practical identity of the Assyrian with Phœnician forms, one of the earliest of these inscriptions is here reproduced on the same scale as the original. The inscription is that on the eleventh lion, which weighs a little over twenty ounces, and therefore represents a single maneh. This accords with the legend, which reads *MANEH MELAK*, "a maneh of the king." The name of the king is not very legible, but is read by Prof. Sayce as Shalmaneser (727 to 722).



There is another record in the old Phœnician alphabet to which, owing to a curious accident, we are able to affix a date. It is an inscribed scarab, now in the Louvre, which was found in the sand beneath the foundations of one of the great human-headed bulls which formed the portals of the Assyrian palace at Khorsabad. This palace was built by Sargon, the conqueror of Samaria, and father of Sennacherib. Sargon reigned from 722 to 705 B.C. Hence this scarab, which may have belonged to one of the

¹ See the paper by Mr. Norris in the *J. R. A. S.*, vol. xvi. (1856), p. 215 seq. The plate in Layard's *Nineveh and Babylon*, p. 601, is less satisfactory.

captives from Samaria employed in the construction of the palace, must be at least of the 8th century, and possibly of still older date. It bears simply the name of the owner : OBED BA'AL, "the servant of Baal."

The monuments which have been enumerated are the only inscriptions of the first epoch to which dates can be assigned on external evidence. It is by comparison with these dated monuments that the few remaining inscriptions in the Tyrian alphabet can be classified. These consist chiefly of scarabs and cylinders, seals and gems, from Babylon and Nineveh, with a few from the cemeteries of Phœnicia.¹ There are also two or three longer inscriptions. The oldest, which was found at Nora,² in Sardinia, must be more ancient than the foundation of Carthage, and there are two from Malta of somewhat later date.³

Such are the scanty records as yet known which belong to the first or Tyrian epoch of the Phœnician alphabet. They extend over about three centuries, from the beginning of the 10th to the beginning of the 7th B.C. Almost all of them have been discovered in comparatively recent times, and it may be expected that others will be found when the Tyropœon is excavated, or when the cemeteries of Phœnicia and the

¹ They are figured and discussed by Levy, *Phönizische Studien*, Heft ii.

² Gesenius, *Monumenta*, plate 13; Schröder, *Phönizische Sprache*, p. 250; Levy, *Phönizische Studien*, Heft iii.; Halévy, *Mélanges*, p. 87.

³ Gesenius, plate 8.

lands east of the Jordan have been more thoroughly explored. The vast ruins of Rabboth Ammon, for example, might well yield a rich harvest to some future traveller.

§ 3. THE INSCRIPTIONS OF THE SECOND EPOCH.

The inscriptions written in the second or Sidonian type of the Phœnician alphabet are naturally more numerous than those which can be assigned to the first epoch; in fact, far the greater number of extant Phœnician monuments are in this character, so that a selection only need here be made of those which possess special historic or palæographic interest.

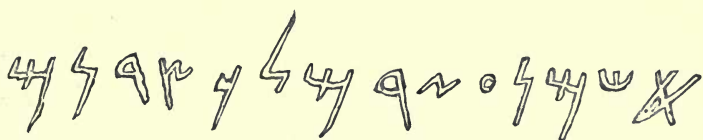
One of the earliest and lengthiest is the dedication of a bronze altar and a golden shrine by Yehaumelek, king of Gebal (Byblos), which was found in 1869. This inscription may probably be assigned to the 6th century, but unfortunately the letters have become so indistinct, owing to the corrosion of the limestone slab on which they are engraved, that the value for palæographic purposes is much diminished.¹

It is very different with the great inscription on the magnificent sarcophagus of Eshmunazar, king of Sidon, which is now one of the glories of the Louvre. Owing to the hardness of the material, the depth and precision of the cutting, and the almost unexampled protection

¹ See the description and facsimile by Euting in the *Z. D. M. G.*, vol. xxx., pp. 132-137; and the excellent photolithograph in the *Corpus Inscriptionum Semiticarum*, plate 1.

from accident and weather, this inscription is in better preservation than almost any other that can be named.

The alphabet in which it is written is given in col. v. of the Table on p. 227.¹ As a specimen of the writing, a few words are here given in facsimile on a scale of about one-third of the original. The designation of the deceased is thus written :—



which may be transliterated and translated :—

'ASHMUNAZAR MELEK TSIDONIM

“Eshmunazar, King of the Sidonians.”

The sarcophagus was found in 1855 in a tomb excavated in the flat range of limestone rock which formed the vast necropolis of ancient Sidon. It is cut out of a solid block of bluish-black basalt, and beautifully polished; displaying in colossal relief, after the manner of the mummy coffins of Egypt, the mask and shape of the deceased person. The inscription is in twenty-two lines, and its interpretation has tasked the skill of more than forty of the most eminent Semitic scholars of the day.²

¹ This inscription is of special palæographic importance, having been chosen to supply the typical forms of the classical Phœnician alphabet used in the *Corpus Inscriptionum Semiticarum*. See Berger, in the *Journal Asiatique* for January, 1880.

² The literature connected with this inscription is overwhelming.

Eshmunazar speaks in the first person. He calls himself king of the Sidonians, son of Tabnit, king of the Sidonians, grandson of Eshmunazar, king of the Sidonians. He states that, together with his mother, the priestess of Ashtaroth, he had erected temples to Baal Sidon, Ashtaroth, and Eshmun. He beseeches the favour of the gods, and prays that Dora, Joppa, and the fertile corn-lands in the plain of Sharon, may ever remain annexed to Sidon. He declares that he now rests in the tomb which he has made, and imprecates curses on those who shall open the coffin or deface the inscription. Very touching is his plaintive cry, which reminds us of a similar utterance in the Book of Ecclesiastes, "I am cut off before my time, few have been my days, and I am lying in this coffin and in this tomb, in the place which I have built. Oh then remember this! may no royal race, may no man open my funeral couch, and may they not seek after treasures, for no one has hidden treasures here, nor move the coffin out of my funeral couch, nor molest me in this funeral bed by putting in it another tomb."

Apart from the pathetic human interest of this record, it is of special palæographic importance as the cardinal monument of Phœnician epigraphy. Hence

A bare list of the Memoirs that have been devoted to it would fill five pages of this book. The best account is in the *Corpus Inscriptionum Semiticarum*, pp. 9-20. There is a translation by Oppert in *Records of the Past*, vol. ix.

the evidence, archæologic, historic, and palæographic, bearing on its date must be examined with some care.

The material of which the sarcophagus is made, as well as the style of execution, shows that it was brought from Egypt. From the character of the art and the peculiar shape of the sarcophagus, M. Mariette, whose opinion on such a point few persons will venture to call in question, has pronounced that it cannot be more ancient than the twenty-sixth dynasty, a consideration which would bring it down to the 6th century B.C. The mention of Dora, Joppa, and Sharon, as forming part of the kingdom of Eshmunazar, points also to a time subsequent to the overthrow of the Jewish monarchy at the beginning of the 6th century. Then, since Eshmunazar states that he was king of the Sidonians, and that he reigned at Sidon, the inscription must be earlier than the conquest of Phœnicia by Alexander, after which event there was no king of the Sidonians; and, on the other hand, it must be later than the conquest of Tyre by Nebuchadnezzar, when the Tyrian supremacy over Sidon came finally to an end. The possible dates lie therefore between 580 and 330 B.C. But as the inscription was not written till the end of Eshmunazar's reign, and since both his father and his grandfather preceded him on the Sidonian throne, at least three generations must be allowed subsequent to the Babylonian conquest of Phœnicia; which would bring the inscription into the 5th century B.C. Lastly, a comparison of the Esh-

munazar alphabet with certain dated inscriptions from Cyprus, presently to be noticed, shows that Eshmunazar's reign may be placed with great probability in the latter part of the 5th century, or at the beginning of the 4th.

Of the remaining Phœnician inscriptions a briefer notice may suffice. We have a fragment of an inscription of Bodostratus, a Sidonian king, who must have reigned soon after Eshmunazar; and there is a long inscription, palæographically important, found by Renan at Um el-Auamid, a few miles south of Tyre, dated, according to the most probable computation, in the year 132 B.C. Cyprus has yielded a series of records of Phœnician dynasts, several of which bear definite dates. The most notable are the inscriptions of Melekiathon and Pumiathon, father and son, who reigned at Citium and Idalion during the greater part of the 4th century. Pumiathon, as we learn from Athenæus (iv. 63), was on the throne during the siege of Tyre by Alexander, and died before 312 B.C. His reign must have been long, as we have an inscription dated from his thirty-seventh year, and a coin from his forty-sixth. In addition to eight inscriptions of Pumiathon, we have four of Melekiathon. One of these, a bilingual in Phœnician and Greek, now in the British Museum, is of special interest, as it gave the key by means of which the Cypriote syllabary was first deciphered. It is dated from the 4th year of Melekiathon, which would be about 375 B.C. The alphabet used in the

Phœnician version is almost identical with that of the Eshmunazar inscription, which must therefore be of nearly contemporary date. The last of the Cypriote inscriptions is dated from the thirty-first year of Ptolemy [Philadelphus], 254 B.C.

The 7th century inscriptions from Abu Simbel, one of which contains the name of Psammetichus, have been already noticed, and at Abydos there are numerous records left by Phœnician visitors at various dates. From the cemeteries of Athens we have five bilingual epitaphs which are proved by the character of the alphabet employed in the Greek versions to range from the 4th to the 1st century B.C. There are also several inscriptions from Malta, one of which, a bilingual in Phœnician and Greek, demands notice in any history of the Alphabet, as it gave the clue by which, in 1758, the Abbé Barthélemy, the father of Semitic epigraphy, succeeded in recovering the old Phœnician alphabet.

The chronological development and degeneration of the Sidonian alphabet is well illustrated by the legends on Phœnician coins, which extend in an almost unbroken series over some seven centuries, and serve as a standard by which the approximate dates of a large number of inscriptions can be determined.¹

¹ They have been classified and tabulated by the Duc de Luynes. See his Memoir in Prinsep's Essays, ii., p. 166, and plates xi. *a* and xi. *b*. The Phœnician coins may be arranged as follows:—

522-465 B.C. Coins of Aradus.

Such are the materials from which we have to construct the history of the alphabet of Phœnicia. Beginning in the reign of Solomon with the Baal Lebanon dedications, the long succession of monuments continues century after century, and ends at last with a coin struck at Tyre, during the reign of Antoninus Pius, in the year 153 of the Christian era.

§ 4. THE PUNIC ALPHABET.

The Punic was developed out of the Sidonian alphabet, from which at first it can hardly be distinguished. In its later stages it underwent extreme deformation, and ultimately became one of the most hopelessly illegible of scripts.

The Punic inscriptions, although numerous, are of comparatively little interest, being for the most part mere mortuary records, or votive dedications, of extreme brevity. The only inscriptions of importance are two very curious sacrificial tariffs, one of which was

465-424 B.C. Coins of Tyre, and of Azbaal and Baalmelek, kings of Citium.

405-360 B.C. Coins of Gebal.

360-339 B.C. Coins of Artaxerxes Ochus, mostly struck at Tyre or Gebal for the payment of the Persian fleet in the expedition against Egypt.

312-145 B.C. Coins of the Seleucidæ, struck at Joppa, Acre, and Aradus.

145 B.C.-153 A.D. Coins struck at Tyre, Sidon, and Marathus, during the Roman period.

THE PHOENICIAN ALPHABETS.

	PHOENICIAN.						PUNIC.			ISRAELITE.				SAMARITAN.								
	TYRE	NINEVEH.		ABU SIMBEL.	SIDON.		MARSEILLE.	CARTHAGE.	SPAIN.	MOAB.	JUDEA.	MACCABEES.		NABLES.	MODERN.							
		Sec. x. B.C.	Sec. viii.	Sec. vii.	Sec. vii.	Sec. v.						Sec. iv.	Sec. iii.			Sec. ii.	Sec. i. A.D.	Sec. ix. B.C.	Sec. vii.	Sec. ii. B.C.	Sec. i. B.C.	Sec. vi.
Aleph	𐤀	𐤁	𐤂	𐤃	𐤄	𐤅	𐤆	𐤇	𐤈	𐤉	𐤊	𐤋	𐤌	𐤍	𐤎	1						
Beth	𐤏	𐤐	𐤑	𐤒	𐤓	𐤔	𐤕	𐤖	𐤗	𐤘	𐤙	𐤚	𐤛	𐤜	𐤝	2						
Gimel			𐤞	𐤟	𐤠	𐤡	𐤢	𐤣	𐤤	𐤥	𐤦	𐤧	𐤨	𐤩	𐤪	3						
Daleth	𐤫	𐤬	𐤭	𐤮	𐤯	𐤰	𐤱	𐤲	𐤳	𐤴	𐤵	𐤶	𐤷	𐤸	𐤹	4						
He	𐤺	𐤻	𐤼	𐤽	𐤾	𐤿	𐥀	𐥁	𐥂	𐥃	𐥄	𐥅	𐥆	𐥇	𐥈	5						
Vau		𐥉			𐥊	𐥋	𐥌	𐥍	𐥎	𐥏	𐥐	𐥑	𐥒	𐥓	𐥔	6						
Zayin	𐥕	𐥖	𐥗	𐥘	𐥙	𐥚	𐥛	𐥜	𐥝	𐥞	𐥟	𐥠	𐥡	𐥢	𐥣	7						
Cheth	𐥤	𐥥	𐥦	𐥧	𐥨	𐥩	𐥪	𐥫	𐥬	𐥭	𐥮	𐥯	𐥰	𐥱	𐥲	8						
Teth	𐥳		𐥴		𐥵	𐥶	𐥷	𐥸	𐥹	𐥺		𐥻	𐥼	𐥽	𐥾	9						
Yod	𐥿	𐦀	𐦁	𐦂	𐦃	𐦄	𐦅	𐦆	𐦇	𐦈	𐦉	𐦊	𐦋	𐦌	𐦍	10						
Kaph	𐦎	𐦏	𐦐	𐦑	𐦒	𐦓	𐦔	𐦕	𐦖	𐦗	𐦘	𐦙	𐦚	𐦛	𐦜	11						
Lamed	𐦝	𐦞	𐦟	𐦠	𐦡	𐦢	𐦣	𐦤	𐦥	𐦦	𐦧	𐦨	𐦩	𐦪	𐦫	12						
Mem	𐦬	𐦭	𐦮	𐦯	𐦰	𐦱	𐦲	𐦳	𐦴	𐦵	𐦶	𐦷	𐦸	𐦹	𐦺	13						
Nun	𐦻	𐦼	𐦽	𐦾	𐦿	𐧀	𐧁	𐧂	𐧃	𐧄	𐧅	𐧆	𐧇	𐧈	𐧉	14						
Samekh	𐧊	𐧋	𐧌	𐧍	𐧎	𐧏	𐧐	𐧑	𐧒	𐧓	𐧔	𐧕	𐧖	𐧗	𐧘	15						
'Ayin	𐧙	𐧚	𐧛	𐧜	𐧝	𐧞	𐧟	𐧠	𐧡	𐧢	𐧣	𐧤	𐧥	𐧦	𐧧	16						
Pe		𐧨	𐧩	𐧪	𐧫	𐧬	𐧭	𐧮	𐧯	𐧰	𐧱	𐧲	𐧳	𐧴	𐧵	17						
Tsade	𐧶	𐧷	𐧸		𐧹	𐧺	𐧻	𐧼	𐧽	𐧾	𐧿	𐨀	𐨁	𐨂	𐨃	18						
Q'oph	𐨄	𐨅	𐨆		𐨇	𐨈	𐨉	𐨊	𐨋	𐨌	𐨍	𐨎	𐨏	𐨐	𐨑	19						
Resh	𐨒	𐨓	𐨔	𐨕	𐨖	𐨗	𐨘	𐨙	𐨚	𐨛	𐨜	𐨝	𐨞	𐨟	𐨠	20						
Shin	𐨡	𐨢	𐨣	𐨤	𐨥	𐨦	𐨧	𐨨	𐨩	𐨪	𐨫	𐨬	𐨭	𐨮	𐨯	21						
Tau	𐨰	𐨱	𐨲	𐨳	𐨴	𐨵	𐨶	𐨷	𐨸	𐨹	𐨺	𐨻	𐨼	𐨽	𐨾	22						

found at Carthage and the other at Marseilles. These tablets were evidently affixed to the walls of temples, and show how even the religious observances of this nation of traders were conducted on the strictest and most methodical principles of commerce. These tariffs were intended to regulate the dues of the sacrificing priests, and to determine the prices at which they were bound to supply the required victims to the worshippers. The prices afford curious evidence as to relative values, and as to the purchasing power of money. At Marseilles ten shekels were to be paid for a bull, and for a fowl three-quarters of a shekel and two sus. Assuming the shekel to contain 224 grains of silver, these prices would be equivalent to twenty-seven shillings for a bull, and about half-a-crown for a fowl; fowls therefore being as costly as they are now, while cattle were relatively much cheaper. The Carthaginian inscription assigns the skin of the victim as a fee to the priests, whereas at Marseilles it belongs to the worshipper. The date of these inscriptions seems to be the 3rd century B.C. Since none of the Punic inscriptions contains a date, the chronological arrangement of the successive alphabetic types has to be determined mainly from the evidence of coins. Of these we have a series ranging from the 5th century B.C. down to the 1st. The earliest dateable coins are from Sicily, the varying fortunes of the Sicilian wars making possible certain chronological inferences. Thus we have a coin of Segesta which must have been

struck soon after the year 410, when this city was taken by Hannibal. Then there is a coin of Motya, which must be prior to its destruction by Dionysius in 396. The coins of Palermo again must be earlier than 254 B.C., when the city was taken by the Romans. The coins of sundry Numidian princes carry on the chronological arrangement for another two centuries with tolerable certainty.¹

About the middle of the 1st century B.C. the classic type of the Carthaginian alphabet disappears, and gives place to a cursive and degenerate style which is exhibited on the coins of the cities of northern Africa and Spain. This lasted till the third century A.D., when we lose all continuous trace of the wide-spread Punic alphabet, which at one time seemed almost as if it were about to become the mother alphabet of Europe. It has been conjectured that an obscure alphabet used by some of the nomad tribes² of the Sahara may be descended from the ancient Numidian script. With this doubtful exception the last surviving vestige of the commercial enterprise of Tyre, and of

¹ The chief dates are :—

225–204 B.C. Coins of Syphax.

148–60 B.C. Coins of the kings who succeeded Massinissa.

60–46 B.C. Coins of Juba.

50–33 B.C. Coins of Bochas.

² These are the Tuarick, who range from Fezzan to Timbuktu. Their alphabet, called the Tamashek or Tifanag, is given by Faulmann, *Buch der Schrift*, p. 39. See also Chavanne, *Die Sahara*, and Hanoteau's Tamashek Grammar.

the vast colonial empire of Carthage, which so profoundly influenced the civilization of the ancient world, is the almost undecipherable legend on a provincial coin struck in one of the remotest corners of Europe. This legend, which is given below, reads מלכא. The degraded alphabet of these Spanish and Mauretanian coins will be found in column ix. of the Table on p. 227.



ⲰⲚⲰⲰ

LEGEND ON A COIN OF MALAGA.

§ 5. THE ALPHABET OF ISRAEL.

Till quite recently there was no department of Semitic epigraphy of which so little was actually known as of the ancient alphabet of Israel. Not a single inscription had been discovered, the conclusions of scholars being drawn mainly from a few engraved seals and gems of uncertain attribution. It was held that the ancient alphabet of Israel could not have differed materially from the contemporaneous alphabets of Moab, Phœnicia, and Nineveh, but this belief was a matter of inference rather than of evidence.

Ever since the time of Gesenius the opinion has prevailed that prior to the Captivity the Hebrews used an alphabet of the Phœnician type, which was replaced, after the return from exile, by an alphabet which is called in the Babylonian Talmud the "Assyrian" character. By this must be meant the Aramean alphabet, which prevailed throughout the

valley of the Euphrates, and ultimately became the parent of the modern square Hebrew, which from its employment in our Hebrew Bibles is the best known of all Semitic scripts. By a most ingenious argument, Gesenius showed that the earlier books of the Old Testament could not have been composed in the script in which we now possess them. He maintained that many obvious corruptions in the sacred text could only have arisen from the mistakes of copyists, who confounded certain letters which in the old Phœnician are very much alike, but are wholly dissimilar in the square Hebrew alphabet. For example, in the list of David's mighty men, given in 2 Sam. xxiii. 29, we find the name of Heleb, son of Baanah, a Netophathite, whereas in the parallel passage in 1 Chron. xi. 30, the name appears as Heled. It is plain that one of these readings must be corrupt. In square Hebrew the letters ב (*b*) and ד (*d*) cannot be mistaken for each other, whereas the old Phœnician forms,  and , are often almost undistinguishable. Hence it appears that the original record must have been written in the Phœnician alphabet.

Convincing though such an argument might be, the actual epigraphic evidence bearing on the nature of the old Hebrew script was scanty in the extreme. Scattered over the Museums of Europe were about a score of engraved gems,¹ bearing names presumably

¹ The most interesting of these seals is one that is said to have been found in Ireland. The alphabet employed shows that it

Jewish, such as Obadiah or Remaliah, and these, on palæographical grounds, were attributed by Levy and de Vogüé, the chief authorities on the subject, to the period between the 8th and 5th centuries B.C. But it is manifest that a structure built on such attenuated foundations must be of doubtful stability.

Now, however, all this uncertainty has disappeared, and a happy chance has placed the whole science of Hebrew epigraphy on a firm and unassailable basis. The Siloam inscription, recently discovered at Jerusalem, is a monument of the early Hebrew alphabet whose authenticity is unimpeachable, and which stands unrivalled in antiquity and interest among Semitic records save by the Moabite stone itself, and by the vessels of Baal Lebanon.

The Siloam inscription was discovered in June, 1880, by a mere accident.¹ There is a very ancient tunnel, about a third of a mile in length, by which water is brought from the Virgin's Pool in the Kedron Valley to the Pool of Siloam in the Tyropœon. The tunnel pierces the ridge of Ophel, a spur of the

cannot be later than the 8th century B.C., and we may conjecture that the seal is a relic of an early adventure of Phœnician mariners. The legend reads, "Belonging to Abdalah, son of Shebat, the slave of Mitita, son of Tsadoq." A facsimile will be found in *J. R. A. S.*, new series, vol. i. p. 228. A fragment of an inscription, found at Siloam, addressed to "Baal of the Temple," is very curious and significant.

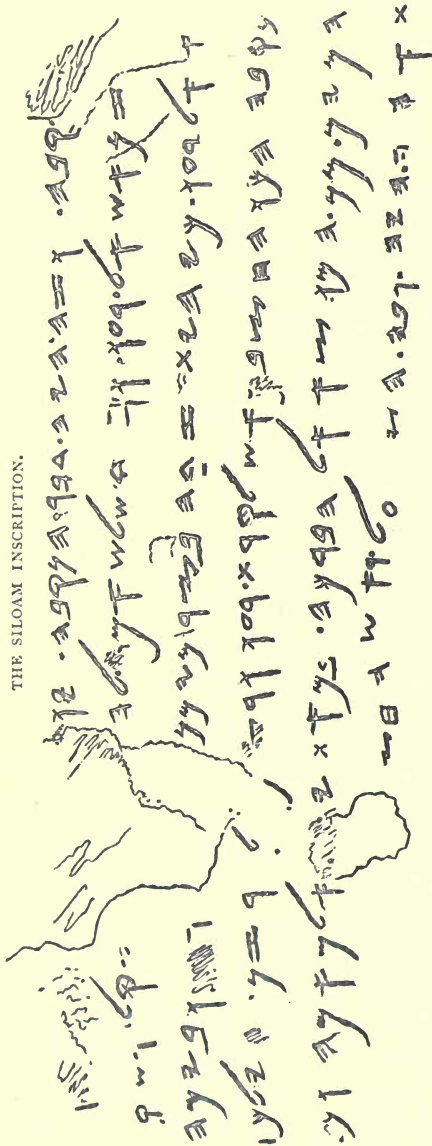
¹The history of the discovery, and the fullest account of the inscription, will be found in the *Quarterly Statements* of the Palestine Exploration Fund for 1881.

Temple hill which divides the two valleys. In time of siege, when the surrounding district was in the possession of an enemy, this underground passage would convey a constant and copious supply of water from an exposed and inaccessible spring outside the walls to the safe and convenient Pool of Siloam, which, though beyond the modern wall, was inside the ancient rampart, which seems to have been built by Manasseh¹ to protect the lower pool of Gihon and the exposed entrance to the Tyropœon valley.

The inscription is engraved on a recessed tablet, cut in the wall of the tunnel a few yards from its lower end. The letters are rather more than half an inch in height, and deeply incised, but were so filled up with a deposit of lime as to be difficult to read in the uncertain light. Hence the earlier copies, made by persons unacquainted with Semitic palæography, were quite untranslatable. But Prof. Sayce, who happened to be in Jerusalem in February, 1881, succeeded in making an imperfect eye-copy, which was enough to show that the record was in pure Biblical Hebrew, and written in Phœnician characters, closely resembling those found on the Moabite stone and on the ancient seals. It was recognized at once that a Hebrew inscription of a date prior to the Captivity had at last been discovered, and that the uncertainties as to the nature of the alphabet of Israel would now be set at

¹ See 2 Chron. xxxiii. 14; Nehemiah iii. 15.

THE SILOAM INSCRIPTION.



- 1 [הו] . ה[נ]קב[ה] . זוה . היה . דבר . הנקבה . [בע]ת[ו]ר החצבם העלו[ם]
- 2 [הנר]זן אש אל . רעו . ו[נ]בע[ד] . שלש אמ[ת]ה[ם] . לה[פ] מוא[ם] . קל . [א]ש ק
- 3 [ר]א אל רעו . כי הית . זדה בצר . מימן [קמו] הכו בימה
- 4 נקבה הכו החצב[ם] . אש לקרת . רעו [נרזן] א[ל] [נרזן] . [נ]לכו
- 5 המים . מן . המוצא אל הברכה . במאת[נ] אלף אמה [נ]
- 6 ת [א]מ[ת]ה[ם] . היה . נבה . הצ[ר]ר[ם] על . ראש [החצב זד]

rest. Funds were at once forthcoming, the water in the tunnel was lowered, and the application of hydrochloric acid removed the stalactite encrustation by which the letters had hitherto been obscured, and at the same time preserved from the chances of accidental injury. A squeeze, a tracing, and a gypsum cast were then taken by the officers of the Palestine Exploration Fund. From these materials the inscription is here reproduced on a scale of about one-third of the actual size. A restoration, and a translation as proposed by Prof. Sayce, are added.





TRANSLATION.

1. [Behold the] excavation! Now this is the history of the tunnel.
While the excavators [were lifting up]
2. the pick each to his neighbour, and while there were yet three cubits [to be broken through.] . . . the voice of one call-
3. -ed to his neighbour, for there was [an excess?] in the rock on the right. They rose up . . . they struck on the west of the
4. excavation, the excavators struck each to meet his neighbour pick to pick, and there flowed
5. the waters from their outlet to the Pool for the distance of 1000 cubits, and [three-fourths?]
6. of a cubit was the height of the rock at the head of the excavation here.

An examination of the tunnel throws light on the meaning of the record. The work of excavation must have been begun simultaneously from either end by two gangs of workmen. Near the middle of the tunnel are two *culs de sac*, showing that from want of

engineering skill the excavations overlapped, and the inscription is evidently intended to place on record the way in which the difficulty was remedied.

As to the date of the inscription, it is manifest that it must have been written towards the close of the Jewish monarchy. The forms of the letters show it to be later than the Moabite stone, but earlier than the inscription from Gebal. Hence it is generally agreed that it cannot be earlier than the 8th century or later than the 6th.

But these limits of date may to some extent be further narrowed. It has been shown (p. 201) that the chief palæographic test which distinguishes the two great epochs of the Phœnician alphabet consists in the change in the forms of the two letters *mem* and *shin*. During the first epoch both letters have the zigzag form  and . In the second epoch they have a horizontal bar and a cross stroke,  and . The transition took place in the 7th century, when there was a short period during which the letter *mem* exhibits the new form, while *shin* remains unchanged. It is precisely to this transitional period that the Siloam inscription must be referred.

We have to go to Nineveh for the dated monuments which yield these tests. On the two lion weights which bear the name of Sennacherib (705-681 B.C.) both of the test letters retain the primitive zigzag form. On certain contract tablets, executed during the reigns of Esarhaddon and Assurbanipal, bearing

dates ranging from 680 to 640 B.C., we find that *mem* has acquired the barred form, while *shin* is still zigzag.

The earliest examples of the barred form of *shin* are found on three tablets dated from the eponymies of Silim-assur and Sin-sar-uzur (650-640 B.C.). Hence the test forms found in the Siloam inscription prevailed at Nineveh from 680 to 640, a period which corresponds very closely with the reign of Manasseh (697-642). This then, so far as the palæographic evidence goes, is the period to which the Siloam inscription probably belongs.

This date is supported by historical considerations. Manasseh was taken captive by Esarhaddon (681-668), and after his return to Jerusalem he extended the southern and western defences of the city, and seems to have built the outer rampart, of which traces have recently been discovered, running along the ridge of Ophel, and enclosing the Pool of Siloam within the walls.¹ The apprehension of another Assyrian siege might suggest the advantage of a tunnel bringing the water of a copious spring into the city from the unprotected valley of the Kedron. Hence, if we suppose that the tunnel was made by Manasseh in connection with the extension of the walls, the agreement

¹ See Duncker, *Hist. of Antiquity*, iii. pp. 155, 208; and the passages already cited, 2 Chron. xxxiii. 11-14; Nehemiah iii. 15. The Mishna also states that the Pool of Siloam was within the walls. A full account of the various pools and conduits is given by Whitty, *Water Supply for Jerusalem*.

with the palæographical date supplied by the Nineveh inscriptions would be precise.

A second hypothesis, that the tunnel is to be identified with the conduit constructed by Hezekiah¹ at the end of the 8th century is not absolutely excluded by the palæographic tests, while in its favour strong and obvious historical arguments may be urged.

The objection to both these theories lies in the allusion in Isaiah viii. 6 to "the waters of Shiloah which go softly." This passage seems to imply that the tunnel was in existence in the reign of Ahaz, about 740 B.C., which would be sixty years too soon according to the palæographic tests from Nineveh, which indicate a date later than 680 B.C. No doubt the course of alphabetic development may not have been absolutely synchronous at Jerusalem and at Nineveh, but this consideration only increases the difficulty, since the alphabet of Israel, owing probably to the greater influence of religious ideas, was more conservative of the older forms than the commercial alphabet used at Nineveh.

The passage in Isaiah cannot however be considered decisive. The fact that the inscription states that the waters flowed into "the pool" shows that before the tunnel was constructed a spring already existed at Siloam, so that the work may have been undertaken to increase the flow, and obviate the complaint of

¹ See 2 Kings, xx. 20 ; 2 Chron. xxxii. 30 ; Ecclesiasticus xlvi. 17.

insufficient supply which was made in the time of Ahaz.¹

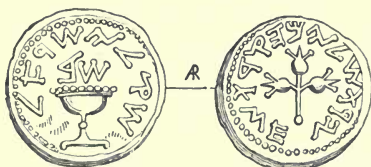
In any case the possible limits of date are not so very far apart, and we may conclude with some confidence that the inscription could not have been written before the middle of the 8th century, nor after the middle of the 7th.

From the Siloam inscription, taken in conjunction with the inscribed seals which bear Jewish names, we obtain the alphabet used by Israel prior to the Captivity (column xi. p. 227). In several respects it differs from other contemporary alphabets. The most distinctive features are exhibited by the letters *aleph*, *beth*, *vau*, *zayin*, *'ayin*, and *tsade*, whose peculiar forms were transmitted to their Samaritan derivatives (see p. 243). The alphabet of Israel was unusually conservative of the primitive forms. Thus the letters *he*, *lamed*, and *tau*, are almost the same in the Siloam inscription as on the Moabite stone, which is older by a century and a half; while the Siloam *cheth* with three bars, and the angular *'ayin*, are actually of a more archaic type than the Moabite forms, and take us back three centuries to the Baal Lebanon inscription.

On the return from exile the Jews are commonly supposed to have brought with them the Aramean alphabet used at Babylon, out of which the square

¹ The word Shiloah means "conduit" or "tunnel." Hence it is not by any means certain that in this passage it refers to what is known as the "Pool of Siloam."

Hebrew was ultimately evolved. Jewish tradition assigns the change to Ezra; but the old character must have continued in use for some fifty years later, inasmuch as the Samaritans, who did not possess the Pentateuch till the temple on Gerizim was built in 409 B.C. by Manasseh the priest, obtained it in the old character. It is doubtful whether the Hebrew scriptures were transcribed in the Aramean character before the 3rd century B.C. The older alphabet certainly continued to be employed for coins. We find it



SHEKEL OF THE "YEAR 2."¹

on the oldest Jewish shekels, attributed by de Saulcy to Ezra, but now generally assigned to Simon Maccabeus.² It was also used on the coins which bear the names of John Hyrcanus and the other Asmonean

¹ The letters ש ב, over the jewelled cup, stand for *Shenath B*, "year 2," which has been shown by Dr. Merzbacher to mean the second official year of Simon's government, corresponding to 140 B.C. The legend round the cup reads שקל ישראל, "Shekel of Israel." On the reverse we read ירושלים הקדושה *Jerushalaim ha-kedushah*, "Jerusalem the Holy." The central device probably represents Aaron's rod. Madden, *Coins of the Jews*, p. 68.

² De Saulcy referred the coinage of the oldest of the silver shekels, which are dated in the years from 1 to 5, to the special permission to coin money which seems to have been granted to Ezra by Artaxerxes

princes,¹ (135 to 37 B.C.) in whose time there can be no doubt that the Aramean alphabet was in ordinary use in Judæa. The revival of the spirit of Jewish nationality sufficiently accounts for the retention of the ancient alphabet of Israel on the coinage of the Maccabean patriots. To a similar cause must be attributed the pseudo-archaic characters employed in the imitations of the old national coinage which were struck at the periods of the two great Jewish revolts—that, namely, which was suppressed by Titus, and that which was headed by Simon Bar-Cochab in the reign of Hadrian. But these very coins, some of which were struck over Roman *denarii*, supply internal evidence



COINS OF SIMON BAR-COCHAB² (132-135 A.D.).

that they were fabricated by moneyers who were only

Longimanus in 458 B.C. See Ezra vii. 18. Lenormant and Madden, who at first accepted de Saulcy's opinion, have recently pronounced in favour of the later date, which has been ably advocated by M. Six and Dr. Merzbacher. The question is discussed in Madden's *Coins of the Jews*, p. 44, note.























¹ The alphabet of these coins is given in columns xii. and xiii. of the Table on p. 227.

² The first of these coins bears the legend שמעון, "Simon," round a cluster of grapes. By turning the coin partly round, the back of the head of Trajan can be plainly seen. On the reverse are two trumpets, with the legend לחרות ירושלם, "the deliverance

imperfectly acquainted with the alphabet which they employed. Letters are malformed, or are actually turned the wrong way, and single letters are occasionally replaced by their Aramean equivalents.

But the most interesting survival of the ancient Hebrew script is that which has continued in use down to our own days among the little Samaritan community at Nablus, where a few families remain who have preserved many primitive Israelitish customs, who still celebrate the Passover with the ancient rites, and read the Pentateuch in the old character in which it was composed. For secular purposes the Samaritans employ the Arabic alphabet, which is ordinarily used in Syria. But the ancient sacred roll, enclosed in a silver case, from which every Sabbath-day the SCRIPTURES are read in their synagogue, is written in an alphabet which they call *Hebri* or *Hebreni*, and which they assert to be the ancient form of the Hebrew alphabet. There can be no doubt that this claim is essentially well founded. The ancient copies of the Pentateuch which the Samaritans possess date from the 11th to the 16th centuries A.D. But there is an inscription at Nablus, written in the reign of Justinian,

of Jerusalem." Below the trumpets is an arm holding a branch, which is part of the device on the reverse of the Roman coin. The second coin is superstruck on a coin of Titus, whose name can be read on the reverse TITVS CAES VESP. The Hebrew legends are the same as on the Trajan coin, but by mistake of the moneyer the two final letters of Simon's name have been transposed.—Madden, *Coins of the Jews*, pp. 235, 238.

	Siloam.	Samaritan.
Aleph		Ⲁ
Beth		Ⲃ
Gimel		Ⲅ
Daleth		Ⲇ
He		Ⲉ
Vau		Ⲋ
Zayin		Ⲍ
Cheth		Ⲏ
Teth		Ⲑ
Yod		Ⲓ
Kaph		Ⲕ
Lamed		Ⲗ
Mem		Ⲙ
Nun		Ⲛ
Samekh		Ⲝ
'Ayin		Ⲟ
Pe		Ⲡ
Tsade		Ⲣ
Qoph		Ⲥ
Resh		ⲧ
Shin		ⲩ
Tau		ⲫ

which contains an abridged version of the Decalogue, and exhibits an alphabet practically identical with that of the oldest of the manuscripts. The two alphabets are shown side by side in columns xiv. and xv. of the Table on p. 227. Tracing back the alphabet of the Nablus inscription, we find it differs very little from that used on the shekels of the time of the Maccabees, and this again is not essentially different from the alphabet of the Siloam inscription, which may be considered as the actual alphabet in which the writings of the Jewish Prophets were composed. Placing side by side the Siloam letters and the corresponding types used for printing the Samaritan Bible, it will be seen how small are the actual changes which have been effected during so many centuries.¹

¹ It will be observed that most of these changes can be accounted for by the necessity of preventing confusion between letters of similar outline. Thus

The Samaritan alphabet is perhaps the most remarkable illustration which can be found of the enormous period during which, under certain circumstances, an ancient alphabet may survive almost unchanged. Curiously enough, among all alphabets in actual use, the two which have adhered most closely to the primitive forms are the capital letters used in our own printed books and the alphabet of the Samaritans. Similar effects have however been produced by opposite causes. In the case of the Samaritan alphabet the conservation of the ancient forms may be attributed to the isolation of a small religious community, while the world-wide diffusion of the Roman alphabet is the chief cause that has kept it so true to the original type.

The Table on p. 227 exhibits the principal types of the Phœnician alphabet as obtained from the inscriptions which have been now described.

The cardinal monuments may be provisionally arranged in chronological sequence as follows:—

10th cent. B.C.	Baal Lebanon bowl.
9th	„ Moabite Stone.
8th	„ Lion weights; Khorsabad seal; Nora inscription.
7th	„ Inscriptions of Siloam, Abu Simbel, and Malta.
6th	„ Gebal inscription; coins of Aradus.
5th	„ Eshmunazar inscription.
4th	„ Inscriptions of Melekiathon and Pumiathon.
3rd	„ Inscriptions of Athens, Marseilles, and Carthage.
2nd	„ Inscription of Um el-Auamid; Asmonean coins.

the diacritical mark on the letter *daleth* 𐤃 serves effectually to differentiate it from *resh* 𐤃 and *beth* 𐤁, while *tsade* 𐤄 is similarly distinguished from *yod* 𐤅.

CHAPTER V.

THE ARAMEAN ALPHABETS.

§ 1. *Aram.* § 2. *Nineveh and the Satrapies.* § 3. *Egypt.*
§ 4. *Palmyra.* § 5. *Hebrew.* § 6. *Syriac.* § 7. *Mongolian.* § 8. *Arabic.*

§ I. ARAM.

In the preceding chapter we have seen how the venerable Phœnician, the mother of all alphabets, gradually died out with the decline of the Phœnician empire and commerce. In Europe the inheritance fell to the Greek alphabet, the elder daughter of the Phœnician. Elsewhere the Phœnician was succeeded by the Aramean, which after serving for several centuries as the commercial alphabet of Asia, became the parent of the great literary Semitic alphabets—Syriac, Arabic, and Hebrew.

This well-marked branch of the Semitic alphabet, which arose in the 7th century B.C., bears the accepted and convenient designation of ARAMEAN, on account of its original development in Aram, the 'high-land' which lay to the north-east of Canaan, the 'low-land.' In its primitive acceptation Aram comprised

the hilly region of Mesopotamia between the upper waters of the Euphrates and the Tigris, as well as the table-lands of northern Syria.

The causes of the prevalence and wide diffusion of the local alphabet of Aram were partly political and partly commercial. The exchange of the products of Egypt and Babylonia, the two great centres of primitive civilization, was from very early times in the hands of the Phœnicians, the chief merchants and manufacturers of the ancient world. The caravan route by which this trade was conducted led from Sidon to Damascus, and thence by Emesa to Hamath. Crossing the Euphrates to Haran, it turned southwards to Babylon, or across by Nisibis to Nineveh. Hence for a great part of its length it passed through the Aramean highlands. The political decadence of the Phœnician cities which was consequent on the conquests of the later Assyrian kings, followed by the capture of Tyre by Nebuchadnezzar, dealt an irreparable blow to the commercial supremacy of the Phœnicians, and at the same time threw the lucrative trade between the Mediterranean coastlands and the valley of the Euphrates into the hands of the Arameans. Hence their language and their alphabet became the general medium of commercial intercourse throughout the Semitic regions of Western Asia.¹

Other causes contributed to make the Aramean the

¹ The gradual extension, the ultimate decline, and final super-

official as well as the commercial alphabet of these regions. In the court, the army, and the administration of the later Ninevite kings, officials of Syrian extraction must have been nearly as numerous as those of pure Assyrian nationality, and the Aramean must have been the ordinary language and script which they employed.¹ The Assyrian monarchs are represented on their sculptures as accompanied by two scribes, one of whom apparently records transactions in the cuneiform writing, while the other uses the Semitic alphabet.

The Aramean alphabet found its way also into Babylonia, but at a somewhat later date. On bricks of Nebuchadnezzar and Neriglissar (560 B.C.) we have inscriptions in the Sidonian type of the Phœnician alphabet,² and it was not before the Achæmenian period that the Aramean language and script came into use in Babylonia.³ But that Aramaic was recognized as one of the official languages of the later Babylonian kingdom appears from the fact that the decree given to Ezra for rebuilding the Temple at Jerusalem was written in this language.⁴

cession of the Aramean language and influence are well shown in the maps given by Hommel, *Die Semiten und Ihre Bedeutung für die Kulturgeschichte*.

¹ See 2 Kings xviii. 26.

² Rawlinson, in *R. A. S. Journal*, vol. i., No. 8, pp. 228, 229.

³ *Ibid.*, p. 238.

⁴ Ezra vii. 12-28.

The Aramean type of the Semitic alphabet being thus widely used, side by side with the cuneiform, throughout the Assyrian and Babylonian empires, it naturally stepped into the vacant inheritance when the cuneiform writing died out. On the rearrangement of the map of the ancient world, which was the consequence of the conquests of Alexander, it took firm hold of those portions of the empire of the Seleucidæ which were not preoccupied by its great rival, the Greek alphabet. Inscriptions from localities so far apart as India and Egypt, coins from Cappadocia, Armenia, Persia, Arabia, and Bactria, attest its wide diffusion.

Having held sway for some seven or eight centuries, it ultimately broke up into a number of national alphabets, for which, owing chiefly to religious causes, a separate existence became possible. The later alphabets, the Parsi, the Hebrew, the Syriac, the Mongolian, and the Arabic, were at first local varieties of the Aramean. Owing to accidental circumstances they became the sacred scripts of the five great faiths of Asia, Zoroastrianism, Judaism, Christianity, Northern Buddhism, and Islam. Hence the descendants of the Aramean alphabet occupy a space on the map second only to that filled by the Latin alphabet itself. The Mongol alphabet is used at Peking and at Astrakhan, the Parsi at Bombay, the Syriac in the Lebanon, on the Caspian, and in Malabar, while the local alphabet of Mecca is dominant from Sumatra to Morocco, from

Bochara to Zanzibar, and in the varieties known as Arabic, Turkish, Karmathian, Persian, Afghan, Baluchi, Hindustani, Malay, and Maghrebi has been adapted to languages of more various type than any other alphabet that can be named. As the alphabet of the Vulgate is now the alphabet of Europe and America, so the alphabet of the Koran has become the chief alphabet of Africa and Asia.

The importance of the Aramean alphabet is mainly historical, inasmuch as it became the parent of the three great literary alphabets of the East—Syriac, Hebrew, and Arabic. Itself everywhere extinct, it has left monuments extremely few in number, and these singularly destitute of interest. But its position with respect to the history of the alphabet is altogether different. Without its aid it would be impossible to trace with any certainty the affiliation of the more recent Semitic alphabets to the parent alphabet of Phœnicia. To us it presents itself as the great Alphabet of Transition, supplying the intermediate forms which explain how the cursive letters of existing Semitic scripts arose out of the monumental Phœnician characters to which they bear such slight external resemblance.

It will not be needful, however, to go at any great length into the obscure history of the Aramean characters, since a study of the Table on the following page will explain, better than any description, the successive stages of the deformation and degradation of the primitive letters.

AFFILIATION OF THE ARAMEAN ALPHABETS.

	PHœNICIAN.		ARAMEAN.								
			EARLY.		MIDDLE.		LATE.				
	NINE-VEH.	SIDON.	NINE-VEH.	SATRAPES.	EGYPT.		JERUSALEM.	PALMYRA.			
					Monu-ments.	Papy-rus.		Uncial.		Cur-sive.	
	Sec. ix. & viii. B.C.	Sec. vi. & v. B.C.	Sec. vii. B.C.	Sec. v. & iv. B.C.	Sec. iv. & iii. B.C.	Sec. ii. B.C.	Sec. i. B.C.	Sec. i. A.D.	Sec. iii. A.D.	Sec. iii. A.D.	
Aleph	א	Ⲁ	Ⲁ	ⲀⲀ	ⲀⲀ	ⲀⲀ	Ⲁ	Ⲁ	Ⲁ	Ⲁ	1
Beth	ב	Ⲃ	Ⲃ	ⲂⲂ	Ⲃ	Ⲃ	ⲂⲂ	Ⲃ	Ⲃ	Ⲃ	2
Gimel	ג	Ⲅ	Ⲅ	ⲄⲄ		Ⲅ	Ⲅ	Ⲅ	Ⲅ	Ⲅ	3
Daleth	ד	Ⲇ	Ⲇ	ⲆⲆ	Ⲇ	Ⲇ	ⲆⲆ	Ⲇ	Ⲇ	Ⲇ	4
He	ה	Ⲉ	Ⲉ	ⲈⲈ	Ⲉ	Ⲉ	ⲈⲈ	Ⲉ	Ⲉ	Ⲉ	5
Vau	ו	Ⲋ	Ⲋ	ⲊⲊ	Ⲋ	Ⲋ	Ⲋ	Ⲋ	Ⲋ	Ⲋ	6
Zayin	ז	Ⲍ	Ⲍ	Ⲍ	Ⲍ	Ⲍ	Ⲍ	Ⲍ	Ⲍ	Ⲍ	7
Cheth	ח	Ⲏ	Ⲏ	Ⲏ	Ⲏ	Ⲏ	Ⲏ	Ⲏ	Ⲏ	Ⲏ	8
Teth	ט	Ⲑ				Ⲑ	Ⲑ	Ⲑ	Ⲑ	Ⲑ	9
Yod	י	Ⲓ	Ⲓ	Ⲓ	Ⲓ	Ⲓ	Ⲓ	Ⲓ	Ⲓ	Ⲓ	10
Kaph	כ	Ⲕ	Ⲕ	ⲔⲔ	Ⲕ	Ⲕ	Ⲕ	Ⲕ	Ⲕ	Ⲕ	11
Lamed	ל	Ⲗ	Ⲗ	Ⲗ	Ⲗ	Ⲗ	Ⲗ	Ⲗ	Ⲗ	Ⲗ	12
Mem	מ	Ⲙ	Ⲙ	Ⲙ	Ⲙ	Ⲙ	Ⲙ	Ⲙ	Ⲙ	Ⲙ	13
Nun	נ	Ⲛ	Ⲛ	Ⲛ	Ⲛ	Ⲛ	Ⲛ	Ⲛ	Ⲛ	Ⲛ	14
Samekh	ס	Ⲝ	Ⲝ	Ⲝ	Ⲝ	Ⲝ	Ⲝ	Ⲝ	Ⲝ	Ⲝ	15
'Ayin	ע	Ⲟ	Ⲟ	Ⲟ	Ⲟ	Ⲟ	Ⲟ	Ⲟ	Ⲟ	Ⲟ	16
Pe	פ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	17
Tsade	צ	Ⲣ	Ⲣ		Ⲣ	Ⲣ	Ⲣ	Ⲣ	Ⲣ	Ⲣ	18
Q'oph	ק	Ⲥ	Ⲥ	Ⲥ	Ⲥ	Ⲥ	Ⲥ	Ⲥ	Ⲥ	Ⲥ	19
Resh	ר	Ⲧ	Ⲧ	Ⲧ	Ⲧ	Ⲧ	Ⲧ	Ⲧ	Ⲧ	Ⲧ	20
Shin	ש	Ⲩ	Ⲩ		Ⲩ	Ⲩ	Ⲩ	Ⲩ	Ⲩ	Ⲩ	21
Tau	ת	Ⲫ	Ⲫ	Ⲫ	Ⲫ	Ⲫ	Ⲫ	Ⲫ	Ⲫ	Ⲫ	22

The tests by which the Aramean alphabet is distinguished from the Phœnician are not difficult to define. The most characteristic feature is the systematic opening of the loops of the closed letters. If the forms of *beth*, *daleth*, *teth*, *'ayin*, *qoph*, and *resh*, in columns i. and ii. of the Table, be compared with the derived Aramean letters in the succeeding columns, the reader will observe the progressive opening of the closed loops, which pass through the forms of concave curves till they finally become nearly horizontal lines. The same tendency to extreme cursiveness which destroyed the looped forms is also exhibited by other letters, as *he*, *vau*, *zayin*, *cheth*, and *tau*, which are apt to lose the distinctive bars which render so legible those alphabets by which they have been retained. The ultimate result of these processes of deformation may be seen by comparing a few letters of alphabets,

	Looped Forms.	Barred Forms.
Roman	B D O Q R	Z F E H T
Samaritan	𐤁 𐤃 𐤅 𐤇 𐤈	𐤉 𐤊 𐤋 𐤌 𐤍
Hebrew	ב ד ע ק ר	ז ח ט פ ת
Syriac	ܒ ܕ ܘ ܩ ܪ	ܙ ܠ ܡ ܢ ܚ
Arabic	ب د ع ق ر	ز و ه ح ت
Zend	𐬀 𐬁 𐬂 𐬃	𐬄 𐬅 𐬆 𐬇

such as the Roman or the Samaritan, which were

unaffected by these influences, with the corresponding letters in alphabets of Aramean origin.

If it had so chanced that the ancient syllabary of Asia Minor had been superseded by the Semitic alphabet at a somewhat later date than was actually the case, the Ionian Greeks must have obtained their letters from their Aramean neighbours in Cilicia, and not from Phœnician traders. But in this case the distinctive loops and bars, which render the alphabets of Europe so legible when compared with the alphabets of Asia, would have been already irrecoverably lost, and the resulting ambiguity might easily have rendered our books as difficult to read as Arabic or Zend, and thus have quadrupled the existing troubles of schoolmasters and children.

§ 2. NINEVEH AND THE SATRAPIES.

The earliest monuments which exhibit the distinctive peculiarities of the Aramean script come from those great storehouses of epigraphic materials, the buried palaces of Nineveh. On the site of what must have been once the Public Registry Office of the Assyrian kings were found an immense number of clay or terra cotta tablets inscribed with cuneiform records of legal transactions of all sorts, such as exchanges of property, leases of land, loans of money, or sales of slaves. On the outer edge of these tablets a docket is occasionally inscribed in alphabetic characters, containing a brief

reference to the contents, evidently for the purpose of enabling the keeper of the records to find any particular document in the archives where they were piled up. The docket either describes briefly the nature of the deed, or merely gives the names of the contracting parties. In addition to these alphabetic dockets, there are other tablets on which some of the witnesses have signed their names in Phœnician or Aramean characters, in some cases the names having apparently been inscribed on the soft clay with the thumb nail instead of with a style.

These contract tablets, with the possible exception of the records of the Egibi banking house at Babylon, are the most curious revelations which remain to us of the social life and the commercial transactions of these primitive times. One tablet, for instance, is the record of the loan of ten shekels of silver at usurious interest; another is the lease of an estate, consisting of lands, houses, gardens and orchards, for six years, at the annual rent of one maneh (nearly twenty-four ounces) of silver, equal to a little more than £6 of our own currency. Then we have warrant notes for the delivery of corn; the sale of a house for half a maneh of silver, and of three houses in Nineveh for thirty shekels. The greater number of the tablets, however, relate to the sale or exchange of slaves. There is a deed of exchange by which a male slave is bartered for a girl; in another case a male slave is sold, together with his mother; and in a third instance a slave and his family,

seven persons in all, are sold for three manehs of silver, the name of the slave, Hoshea, indicating in all probability that the family were among the captives who had been brought from the land of Israel.¹

Two of these dockets, selected because they are in a better state of preservation than the rest, are here reproduced on the actual scale. The first is dated in the eponymy of Sin-sarra-uzur (moon-god defend the king), and the second in that of Assur-lid-ani (Assur, bear me). Both tablets therefore are later than the year 647 B.C., when our fragments of the eponymic lists come to an end, and may probably be assigned to the closing years of the reign of Assur-bani-pal. On the first tablet² the cuneiform inscription on the face is a contract for the sale of a female slave called Arbail Sarat, 'Arbel of the queen,' for one and a half manehs of silver. On the edge is an alphabetic docket :

DANAT 'ARBEL SARa

"Sale of Arbel Sara."

¹ The first account of these tablets, with engravings and tentative translations, was given in a memorable paper by Sir H. Rawlinson, in vol. i. of the *Journal of the Royal Asiatic Society*, new series, 1864, pp. 187—246. The best facsimiles, two of which are here repeated, will be found in the *Cuneiform Inscriptions of Western Asia*, vol. iii., plate 46. The alphabet of the tablets is given in column iii. of the Table on p. 250.

² See *C. I. W. A.*, vol. iii., plate 46, No. 1; *J. R. A. S.*, vol. i., new series, plate 1, No. 1.

The second tablet¹ is a deed of sale of a house by Paqana-Arbail to Sir-Asha for half a maneh of silver. The Phœnician docket on the edge is in two lines :

PAQAN 'ARB'AL

SIR 'ASHA.

These two tablets, of which the first can hardly be anterior to the second by more than twenty years, exhibit in actual progress the development of the test peculiarities of the Aramean alphabet. On the first tablet the loops of *daleth* and *beth* are open, while the loop of *resh* is closed. On the second all the loops are open, of *resh* as well as of *beth* and *q'oph*. These docketts likewise suffice to prove that the evolution of the Aramean alphabet took place at the same time as the development of the Sidonian style of the Phœnician alphabet out of the Tyrian type. This is shown by the fact that the letters *shin* and *lamed* still preserve the older forms, while the *samekh* is distinctively Sidonian, and the *tau* transitional (see p. 201).

The contract tablets being legal documents, bear definite dates, and thus supply valuable evidence as to the precise period at which the peculiarities of

¹ See *C. I. W. A.*, vol. iii., plate 46, No. 9; *J. R. A. S.*, vol. i., plate 3, No. 14.

the Aramean alphabet originated. In all the tablets executed in the second half of the 7th century the alphabet is Aramean. In the first half of this century, during the reigns of Sennacherib and Esarhaddon, both styles are found. Thus there are three tablets executed in the years 680, 683, and 687 respectively, in which the alphabet is Aramean, while on the Sennacherib lion weights, and on one of the Esarhaddon tablets, it is Phœnician.

Towards the close of the 7th century the copious stores of the Nineveh Record Office fail us, and during the next two centuries the development of the Aramean alphabet is attested only by a few sporadic monuments.

Among these it has been usual to reckon one of the most interesting and beautiful of early coins. This is a large silver Daric, which presents on the reverse a galley, and on the obverse a Persian king seated in his chariot, with the legend MZDI in Aramean letters, which seems to be the Persian word *mizda*, 'pay' or 'reward.'¹

¹ See p. 52 *supra*. The coin seems to have been struck for distribution among the troops led by some Persian king in person on an expedition to the West, in which naval and military forces operated in conjunction. The character of the alphabet indicates the beginning of the 5th century, so that the coin might commemorate the passage of the Bosphorus by Darius on his Scythian expedition, or the invasion of Greece by Xerxes. From the style of execution, however, and more particularly from the absence of an incuse square or circle on the reverse, numismatists are inclined to consider that the coin cannot be much earlier than the 4th century,

Still more noteworthy is a bronze lion weight of Assyrian style, but of provincial execution, which was dug up in 1860, on the site of Abydos in the Troad, by a peasant working in his field.¹ The weight being nearly 57 lbs., it evidently represented a Persian or Euboic talent. From the character of the alphabet it may be assigned to the beginning of the 5th century.



LION WEIGHT FROM ABYDOS.

The inscription reads :—

אספרן לקבל סתריא זי כספא

“ Verified in presence of the supervisors of the silver.”

Towards the close of the Achæmænian period we

in which case it may have been struck in Egypt at the time of the expedition of Artaxerxes Ochus. See Head, *Coinage of Lydia and Persia*, p. 43, and plate 3, no. 5; Six, in *Numismatic Chronicle*, new series, vol. xvii.; Gesenius, *Monumenta*, plate 36, G; Lenormant, *Alphabet Phénicien*, vol. i., p. 208, plate ix., column 6.

¹ The engraving is taken from de Vogüé, *Mélanges*, p. 181.

come upon another store of epigraphic materials, which carry on the history of the Aramean alphabet during the 4th century. For this period we have to rely chiefly on the legends of the coins which were struck by the Persian satraps and the hereditary dynasts who ruled over the provinces of Asia Minor¹ at the time when, during the reigns of Artaxerxes Ochus and his successors, the Persian empire was torn by a continual series of revolts. Asia Minor was the borderland of three languages and of three alphabets. In the provinces of Cilicia and Cappadocia, where the population was mainly Semitic, the alphabet and language of the coins is Aramean. The legends on the coins of Pharnabazes (c. 410 B.C.) are Greek at Cyzicus, and Aramean at Tarsus. Those of Datames (c. 370 B.C.) are Greek at Sinope, and Aramean in Cilicia. Those of the satraps of Lycia and Cappadocia are either Lycian or Aramean. The coins struck at Tarsus are exclusively Aramean. They usually bear the designation of the ruling satrap, together with the effigy and name of Baal-Tars, the local Semitic deity.

The alphabet of these coins is given in column iv. of the Table on p. 250. It does not differ materially from the alphabet of the Nineveh contract tablets.

¹ The earliest recognition and investigation of the obscure coinage of these princes is due to the labours of the Duc de Luynes, whose researches have been supplemented and completed by Blau, Levy, and Waddington.

The heads of the looped letters are more open, and the outlines of *zayin* and *yod* are simplified.

§ 3. EGYPT.

The Aramean coinage of the Satrapies comes to an end with the conquests of Alexander in 334 B.C.; so that for the next three centuries we are mainly dependent on documents of Egyptian origin. With the exception of an inscription from the Punjab, hereafter to be noticed, and a few Bactrian coins, Egypt supplies the materials for the history of the Aramean alphabet during the important period of transition between the 4th and the 1st centuries B.C.

Two of the Egyptian records are contemporaneous with the coins of the Satrapies. The earliest is the Stele of Sakkarah, which is dated in the 4th year of the reign of Xerxes (482 B.C.) It is a bilingual, written in hieroglyphics and Aramean, but the writing is so indistinct as to diminish the palæographical value.¹ In addition to this stele, there is a document relating to certain libations, which was discovered by M. Mariette in the ruins of the Serapeum at Memphis. It may be assigned to the end of the 5th or the beginning of the 4th century B.C., the alphabet being of the same type as that of the coins of the Satrapies.

¹ A facsimile will be found in the *Oriental Series* of the Palæographical Society, plate 64. Cf. *Zeitschr. f. ägypt. Spr.*, xv., p. 127.

The rest of the Egyptian monuments are of later date, belonging to the 3rd and 2nd centuries. The greater number are MSS. written on papyrus, and hence the Aramean of Egypt is frequently designated as the Aramean of the Papyri. Some, however, are mortuary inscriptions, engraved on stone in imitation of the cursive character used in the Papyri. The external appearance of this alphabet, which is given in columns v. and vi. of the Table on p. 250, has obviously been greatly modified by the nature of the writing material employed; but it becomes evident, on a closer examination, that the peculiarities of this script are superficial rather than essential. If attention be directed, not to the mere external aspect, but to the actual outline of the individual letters, it will be found that the Egyptian monuments supply the true link which connects the alphabet of the Satrapies with the alphabet of the Herodian inscriptions from Jerusalem and the earlier monuments of Palmyra.

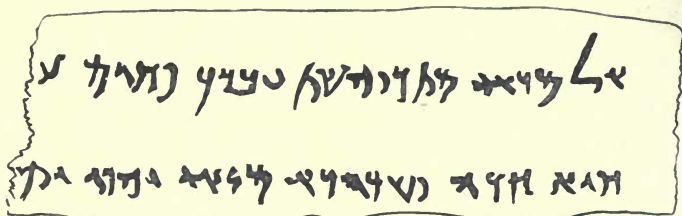
The cardinal example of the Aramean of Egypt is the well known 'Carpentras inscription,' so called from a small town near Avignon, where it is preserved in a local museum. This monument is the funeral stele of Ta-bäi, a priestess of Osiris. The probable date is the beginning of the 3rd century B.C.¹ There are two

¹ The best engraving is published in the *Oriental Series* of the Palæographical Society, plate 64. It is also given by Gesenius, together with facsimiles of the more important Papyri, *Monumenta*, plates 28-33. One of the best of Lenormant's plates is devoted to a

similar steles in existence, one in the Vatican, the other formerly in the possession of the poet Samuel Rogers.

The papyri are more numerous. One is at Turin, one is in the Louvre, two are at Rome, two at Cairo, and two, which formerly belonged to the Duc de Blacas and bear his name, are now in the British Museum. Of these MSS. the most recent, which may be assigned to the end of the 2nd or the beginning of the 1st century B.C., are of a secular nature. The Paris papyrus is the wine and cellar account rendered by the steward of some important personage, while the fragment in the Vatican is a stray leaf which has chanced to escape destruction, belonging to the archives of some department of the Egyptian government. The contents of the other papyri are of a religious character, consisting of fragments of prayers and pious legends, which seem, mostly, to have been the production of Jews resident in Egypt, and may belong to the end of the 3rd century or the beginning of the second. The fact that the alphabet of the papyri is employed on the grave-stones of servants of the Egyptian temples shows that it was in general use among the Aramaic-speaking portion of the Egyptian people, and was not confined, as has been asserted, to residents of Jewish nationality. As a specimen of this script, a facsimile may be given of the Turin fragment.

comparative table of the alphabets of these Papyri. *Alphabet Phénicien*, vol. i. plate xi.

THE TURIN PAPYRUS.¹

אל מראי מתרוהשת עבדך פחים ש . . .
 חיא חדה ושרירא מראי יהוי י [ק] . . .

The value of this series of Egyptian documents lies mainly in the evidence which they afford as to the changes which took place in the Aramean alphabet during the period covered by the duration of the Empire of the Ptolemies. Looking at columns v. and vi. in the Table on p. 250, it will be seen that the tails of certain letters, such as *kaph*, *lamed*, *mem*, *pe*, and *tsade*, which are straight on the coins of the Satrapies, begin to curve towards the left, in the direction of the writing. This tendency is of considerable importance for the subsequent history of the Semitic alphabets; it explains, for instance, how the Hebrew letters **צ פ ס ל כ** have come to be so wholly unlike the Phœnician forms

¹ M. Clermont-Ganneau (*Rev. Arch.*, August 1878 and Jan. 1879) translates:—

À Monseigneur Mitrawahishta ton serviteur Pakhîm

Vivant, joyeux (en santé) et fort Monseigneur qu'il soit

M. Lenormant, following Gesenius, makes the ninth letter **ד**, and translates:—

Deus, domine mi ! ex conculcatione servum tuum Peckim e[ri]pe]

Vita unica et verax dominus meus Jehovah

from which they were derived. Some other letters, notably *aleph*, *yod*, *samekh*, and *'ayin*, exhibit the commencement of the changes which resulted in the almost entire transformation of their primitive forms in the alphabets of which the Aramean was the parent. This will be seen by comparing the Phœnician letters in column i. of the Table with the early Hebrew characters in column vii. In the Egyptian Aramean we may also discover the origin of the duplicate forms of various letters which characterize the later Semitic alphabets. In the earlier monumental scripts the letters are separate, but in some of the Egyptian papyri certain letters are united by ligatures, and at the same time a separation is introduced between the words.¹ Hence arose the differences between the initial and final forms of several letters. In the Blacas papyrus, and in the papyrus of the Louvre, a distinction has already established itself between the final and the initial forms of the letters *kaph*, *lamed*, and *nun*.

§ 4. PALMYRA.

The second stage of the Aramean alphabet is succeeded in chronological and morphological sequence by a third type, which lasted from the 1st century B.C. to the 3rd century A.D. While most of the monuments of the second type have been found in Egypt, those of

¹ In the facsimile of the Turin fragment it will be noticed that the words are separated, and that the ligature *aleph-yod* occurs twice.

the third type have been obtained mainly from Palmyra. This may be attributed to three causes. The geographical isolation of Palmyra tended to conserve longer than elsewhere the early type of the Syrian alphabet; while during the brief splendour of Zenobia's rule many great public buildings, with inscriptions, were erected; and then the subsequent desolation of the city and the dryness of the climate saved these records from the destruction which a populous site or a humid atmosphere are certain ultimately to entail. There is no reason to suppose that the alphabet of these inscriptions was confined to Palmyra; but the established designation of the 'Palmyrene Alphabet' need not be discarded, if it be clearly understood that it is used to denote the alphabet of Central Syria at the commencement of the Christian era. A comparison of columns vii. and viii. in the Table on p. 250 will show that the early Hebrew character used at Jerusalem during the Herodian period did not differ appreciably from the contemporary alphabet of Palmyra.

The Palmyrene inscriptions are very numerous, more than a hundred still remain at Tadmor,¹ and there are several in the Museums of Oxford, Paris, Rome and London. Four inscriptions in this character have been found in Algeria, where a body of

¹ These have been carefully copied, and published either in the great work of Messrs. Dawkins and Wood, or more recently by M. Waddington and the Duc de Luynes.

Palmyrene archers seems to have been stationed. Another of great interest¹ has recently been discovered in the Roman cemetery at South Shields, close to the termination of the Roman Wall. It is a bilingual epitaph, in Latin and Palmyrene, to the memory of Regina, of the British tribe of the Catuvellauni, "the freedwoman and wife of Barates, a Palmyrene." Barates probably belonged to the Syrian cohort of Hamath, which was stationed at Carvoran (Magnæ) on the Wall. The inscription is assigned to the beginning of the 3rd century A.D.


The Palmyrene inscriptions extend over some three centuries. The earliest dated monuments belong to the years 9 B.C., 48 A.D., and 139 A.D. The greater number, however, were written in the reigns of Odenatus and Zenobia, 266 to 273 A.D., just before the fall of Palmyra. Besides the usual monumental or uncial alphabet, there is a cursive form which is used in inscriptions of a less public character. One of these cursive inscriptions, now at Rome, bears a date corresponding to 235 A.D. This cursive alphabet, together with the earlier and later forms of the monumental character, will be found in columns viii., ix., and x. of the Table on p. 250.

It will be seen that the Palmyrene character is the lineal descendant of the Aramean of Egypt; the Herodian or early Hebrew alphabet given in column

¹ See the facsimile, and the account by Prof. W. Wright, in the *Trans. Soc. Biblical Archaeology*, vol. vi., p. 436.

vii. forming a natural transition between the two. The calligraphic flourishes and ornaments, and the rounded loops and curves of the later Palmyrene, show that it was essentially a literary rather than a monumental script. It is evident that the characters used in MSS. of an ornate description were imitated on stone, a very unsuitable material for such a purpose. The broken lines of *vau*, *qoph*, and *resh*, and the needless sweeps in *aleph*, *cheth*, and *kaph*, are features unsuitable for an epigraphic alphabet, but are easily explained as the vagaries of fashion in a character chiefly employed for costly codices.

These calligraphic flourishes disappear in the cursive Palmyrene, but the tendencies to essential changes in the forms of the letters are intensified, as is always the case in cursive, as compared with monumental scripts. But for this very reason the cursive Palmyrene possesses a greater historical importance, as it explains the origin of many peculiarities in the Syriac, the Arabic, the Pehlevi, and other cognate alphabets.

Thus the tendency to unite letters by ligatures, and hence to originate distinct medial and final forms, which began in the Aramean of Egypt, received further development in the cursive Palmyrene. The practice of curving the tails of certain letters towards the left received also a further extension. In the case of *tau*, for instance, the cursive Palmyrene form explains how in the Arabic  the whole of the horizontal bar of

the primitive letter † has disappeared, so that nothing is left but the curved tail of the vertical stroke. The same causes have entirely transformed *lamed*. The Palmyrene explains the way in which the cross bar of the primitive letter \angle has been transferred in its Syriac descendant \sphericalangle to the opposite side of the vertical stroke. Quite as curious is the transformation of *ayin*. Originally a closed circle, in the early Aramean it opens out at the top, in the middle Aramean it becomes angular, and finally develops a tail, which also gradually develops, till in the Syriac \sphericalangle the upper straight stroke is the sole survival of the primitive circle; while in the Arabic ϵ the tail of the Palmyrene letter is curved to the right and becomes the most conspicuous feature in the character. The tails of *mem* and *samekh* are turned to the left, so as to give rise to the looped forms \beth and \daleth which these letters assume in square Hebrew. The Arabic and Syriac forms of *gimel*, *cheth*, *qoph*, and *nun* may also easily be traced to peculiarities which first make their appearance in the Palmyrene.

Hitherto we have been able to consider the Aramean as the undivided alphabet which prevailed for several centuries throughout Western Asia. With the overthrow of the Seleucidan empire, followed by the desolation of Palmyra, it parted into five great national types, to which religious causes gave a singular vitality. We have now to follow the history of these five great branches. They are, (1) the

Hebrew or Jewish, (2) the Syriac or Christian, (3) the Mongolian or Buddhist, (4) the Arabic or Mohamedan, (5) the Pehlevi or Zoroastrian.

§ 5. HEBREW.

We have already seen that the modern Hebrew alphabet differs fundamentally from the character in which the Jewish Scriptures were originally written. After the return from exile, the ancient alphabet of Israel, although retained upon the Maccabean coins, and probably also for copies of the Scriptures, was, for other purposes, gradually abandoned in favour of the more cursive Aramean alphabet, which was the ordinary mercantile script of the contiguous regions, Mesopotamia, Cilicia, Syria, Egypt, and other provinces of the Persian empire. From the Babylonian Talmud we learn that in the 5th century A.D. the Jews preserved a tradition of this change of alphabet, which was attributed to Ezra. The statement in the Talmud can however only be regarded as an approximation to the actual facts. No doubt many of the returning exiles continued to employ the alphabet with which they had become familiar in Babylon, while the scribes, and those who had been left in the land, retained for a time the ancient alphabet. Thus both scripts were probably employed concurrently for a considerable period. The Egyptian papyri sufficiently prove that from the beginning of the 2nd century

B.C., if not earlier, the Aramean alphabet was that which was ordinarily used by Jews resident in Egypt; and there is no reason to suppose that at this period the alphabet of Palestine differed in any respect from the Aramean alphabet used in the neighbouring lands. It must therefore be assumed that the Aramean of the papyri represents most closely the character into which the Hebrew Scriptures were transliterated when the ancient alphabet of Israel began to fall into disuse.

The development of the modern square Hebrew as a distinct script seems to have commenced in the 1st century B.C. On the dissolution of the Seleucidan empire the Western Aramean broke up into national scripts. It was at this time, under the rule of the Idumean princes, that the Hebrew alphabet, as the Aramean of southern Syria may now be called, first begins to be distinguishable from the alphabet of Central Syria, which goes by the name of the Palmyrene. How slight were the differences which at first distinguished these two alphabets may be seen by comparing the contemporary alphabets of Jerusalem and Palmyra, which are placed side by side in columns iv. and v. of the Table on the following page.

A differentiation having once been established, the divergence went on rapidly increasing, until, in the course of the next few centuries, the northern Aramean developed at Edessa into what is known as the Syriac alphabet, while out of the southern Aramean the Jews

EVOLUTION OF THE HEBREW ALPHABET.

	PHENICIAN		ARAMEAN.			HEBREW.								
	ISRAEL.		SATRAPIES.	EGYPT.	PALMYRA.	JERUSALEM.		BABYLON.	ODESSA.	Square Modern.	RAB-BINIC.			CURSIVE.
	Sec. viii B.C.	B.C.				Sec. i. B.C.	Sec. i. B.C.				Sec. i. B.C.	Sec. iv. A.D.			Sec. iv. & vii. A.D.	Sec. x. A.D.	Northern.	Southern.
			Sec. viii B.C.	Sec. iv. B.C.	Sec. iii. B.C.			Sec. i. B.C.	Sec. i. B.C.	Sec. iv. A.D.				Sec. iv. & vii. A.D.
Aleph	𐤀	𐤁	𐤁	𐤁	𐤁	𐤁	𐤁	𐤁	𐤁	א	א	א	1	
Beth	𐤂	𐤃	𐤃	𐤃	𐤃	𐤃	𐤃	𐤃	𐤃	ב	ב	ב	2	
Gimel	𐤄	𐤅	𐤅	𐤅	𐤅	𐤅	𐤅	𐤅	𐤅	ג	ג	ג	3	
Daleth	𐤆	𐤇	𐤇	𐤇	𐤇	𐤇	𐤇	𐤇	𐤇	ד	ד	ד	4	
He	𐤈	𐤉	𐤉	𐤉	𐤉	𐤉	𐤉	𐤉	𐤉	ה	ה	ה	5	
Vau	𐤊	𐤋	𐤋	𐤋	𐤋	𐤋	𐤋	𐤋	𐤋	ו	ו	ו	6	
Zayin	𐤌	𐤍	𐤍	𐤍	𐤍	𐤍	𐤍	𐤍	𐤍	ז	ז	ז	7	
Cheth	𐤎	𐤏	𐤏	𐤏	𐤏	𐤏	𐤏	𐤏	𐤏	ח	ח	ח	8	
Teth	[6]	𐤑	𐤑	𐤑	𐤑	𐤑	𐤑	𐤑	𐤑	ט	ט	ט	9	
Yod	𐤒	𐤓	𐤓	𐤓	𐤓	𐤓	𐤓	𐤓	𐤓	י	י	י	10	
Kaph	𐤔	𐤕	𐤕	𐤕	𐤕	𐤕	𐤕	𐤕	𐤕	כ	כ	כ	11	
Lamed	𐤖	𐤗	𐤗	𐤗	𐤗	𐤗	𐤗	𐤗	𐤗	ל	ל	ל	12	
Mem	𐤘	𐤙	𐤙	𐤙	𐤙	𐤙	𐤙	𐤙	𐤙	מ	מ	מ	13	
Nun	𐤚	𐤛	𐤛	𐤛	𐤛	𐤛	𐤛	𐤛	𐤛	נ	נ	נ	14	
Samekh	𐤜	𐤝	𐤝	𐤝	𐤝	𐤝	𐤝	𐤝	𐤝	ס	ס	ס	15	
'Ayin	𐤞	𐤟	𐤟	𐤟	𐤟	𐤟	𐤟	𐤟	𐤟	ע	ע	ע	16	
Pe	𐤠	𐤡	𐤡	𐤡	𐤡	𐤡	𐤡	𐤡	𐤡	פ	פ	פ	17	
Tsade	𐤢	𐤣	𐤣	𐤣	𐤣	𐤣	𐤣	𐤣	𐤣	צ	צ	צ	18	
Q'oph	𐤤	𐤥	𐤥	𐤥	𐤥	𐤥	𐤥	𐤥	𐤥	ק	ק	ק	19	
Resh	𐤦	𐤧	𐤧	𐤧	𐤧	𐤧	𐤧	𐤧	𐤧	ר	ר	ר	20	
Shin	𐤨	𐤩	𐤩	𐤩	𐤩	𐤩	𐤩	𐤩	𐤩	ש	ש	ש	21	
Tau	𐤫	𐤬	𐤬	𐤬	𐤬	𐤬	𐤬	𐤬	𐤬	ת	ת	ת	22	
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.		

of Jerusalem and Babylon evolved the wholly dissimilar alphabet which is employed in our Hebrew Bibles.¹

We possess an unusually complete series of dated monuments, by means of which the evolution of the square Hebrew character can be traced.

There are four inscriptions from Jerusalem which are believed to be anterior to the destruction of the city by Titus. The first of these, though only a fragment containing seven letters, is of singular interest. We learn from Josephus that when the Temple was rebuilt by Herod, notices, which were written both in Greek and Latin, were placed in the outer court, enjoining reverent behaviour, and forbidding Gentiles, under pain of death, to pass the limits prescribed to them. One of these steles, containing the Greek version of the ordinance, has recently been discovered

¹ The Table exhibits the nature of these changes. The introduction of ligatures increased the number of final forms, which are found in five letters, *kaph*, *mem*, *nun*, *pe*, and *tsade*. Owing to the same cause the horizontal bars at the bottom of כ פ ס נ מ have arisen out of the nearly vertical tails of their primitive prototypes; while the upper bars of כ פ ס נ מ are due to the opening of the closed loops and zigzags of the earlier forms. This destruction of the primitive distinctive features has caused the inconvenient similarity of so many of the letters. The reader will find it instructive to try and identify the component parts of the various letters. He will see for instance that in כ the cross bar has worked down from the top to the bottom of the letter; while in ה the horizontal line corresponds to the upper bar in our own E, whose second bar has gradually become vertical and detached, while the third bar has disappeared.

by M. Clermont-Ganneau. While exploring the substructures of the Temple, M. de Saulcy¹ was so fortunate as to come upon an ancient drain, in which he found a portion of a similar stele inscribed with Hebrew letters of extremely primitive form, deeply and regularly cut. That this fragment belonged to a Hebrew version of the notice may be conjectured with some certainty from the remaining words, which may be rendered "Here let every man keep silence." We obtain therefore a monument which may be confidently assigned to the end of the 1st century B.C.

Of the same date, or nearly so, and of a length sufficient to supply the forms of all but three of the Hebrew letters, is the inscription on the well known sepulchre in the valley of Jehosaphat which goes by the name of the Tomb of St. James, but which is really the burial place of the priestly family of the Beni-Hezir.

We have also an inscription on a sarcophagus which was found in a cave below the so-called Tomb of the Kings at Jerusalem. As this cave was used as a charnel house during the siege by Titus, the inscription cannot be later than the year 70 A.D. On another tomb, situated to the north-east of Jerusalem, a portion of an epitaph is still legible, and may be assigned, on palæographical grounds, to about the same period.

¹ De Saulcy, *Voyage en Terre Sainte*, vol. ii. pp. 12, 13.

The alphabet obtained from these four inscriptions is given in column v. of the Table. It may be regarded with confidence as the Hebrew alphabet of the Herodian period. As an alphabet it is decidedly superior to our modern square Hebrew, of which it is the earliest form; and it is not without interest of another kind, as it must have been the very alphabet which was ordinarily used by our Lord and his Apostles.

These four inscriptions, which have made it possible to determine the primitive form of the Hebrew alphabet, are all from the neighbourhood of Jerusalem. But it is worthy of note that the inscriptions of the centuries subsequent to the dispersion, by means of which the history of the development of the Hebrew alphabet is carried on, have been obtained from the remotest regions of the civilized world. From Italy and Gaul, from Spain and the Crimea, from Babylon and Aden, from Tiflis and Derbend, we obtain inscriptions, many of them with definite dates, showing how wide was the dispersion of the Jewish race, and also how constant was the intercommunication between the scattered exiles, who retained, wherever their lot might be cast, their ancient language and the peculiar alphabet of their sacred books.

The epitaphs, about 700 in number, from the cemeteries of the Karaite Jews in the Crimea, which have been brought forward by Messrs. Firkowitz and Chwolson, are probably genuine, but the very early

dates¹ claimed for some of them have been the cause of so much controversy that at present it may hardly be safe to include them among the materials from which the history of the Hebrew alphabet must be compiled.

From the two Jewish catacombs at Rome there are several bilingual inscriptions, which are assigned to the 2nd and 3rd centuries. Of the same date are the inscriptions published by Renan from the synagogues of Kefr Beraim in Galilee. To the 4th century must be ascribed an inscription from Byblos, an epitaph from the cemetery at Arles, and an inscription written by two Jewish pilgrims from Sicily, on a column in the vaults under the Mosque El Aksa at Jerusalem. The alphabet of these inscriptions is given in column vi. of the Table.

Of greater palæographical importance are the cabalistic incantations found on six earthenware bowls, obtained from an ancient Jewish cemetery at Babylon. These inscriptions, which are written with ink round the interior of the bowls, are of considerable length, and their contents are extremely curious. They consist of amulets and charms against sorcerers, witchcraft, and disease; exorcisms against evil spirits, Satan, Nerig,

¹ They bear dates ranging from the 1st to the 10th century A.D. Three purport to belong to the 1st century. On palæographic grounds, if the hypothesis of forgery be excluded, there is no reason to dispute the greater number of these attributions. The alphabets are given by Lenormant, plate 15, and by Madden, *Coins of the Jews*.

Abitur, and the ruler of the nocturnal monsters; with invocations of the nine guardian angels, Barakiel, Ramiel, Raamiel, Nahabiel, Sharmiel, Nadkiel, Damiel, Hachael, and Ashriel, and also of the unnamed angel to whom there are eleven names. It has been conjectured that the writing was intended to be dissolved in water, and drunk as a prophylactic against witchcraft or disease. These curious amulets bear no dates, but from the nature of the Mishnaic dialect employed, from the character of the Gnostic ideas, and from the fact that the Estrangelo alphabet is used on one of the bowls, it has been concluded that four of the cups belong to the 4th and 5th centuries, while another is as late as the 7th. The two alphabets—the earlier and the later—used on these bowls, are given, side by side, in column VII. of the Table.¹

To the 7th century belong the celebrated trilingual inscription from Tortosa in Spain, a dated inscription from Narbonne, and another from Vienne in France. For the period between the 4th and 10th centuries the inscriptions from the Jewish cemetery at Venosa, in Southern Italy, are of great importance. From Aden, where the Jews seem to have been numerous, we have two dated inscriptions which were written in the years 717 and 916 A.D.

From this time onwards we possess Hebrew manuscripts of undoubted authenticity. Of these the most

¹ The bowls are now in the British Museum. They are described and engraved by Layard, *Nineveh and Babylon*, pp. 509—526.

important is the "Odessa Codex," now at St. Petersburg, which was originally obtained from a synagogue in the Crimea.¹ This beautiful MS. is a small folio of 225 pages, containing Isaiah, Jeremiah, and the Minor Prophets. From a colophon at the end we learn that it was completed in the year 916 A.D. The readings and punctuation differ from those found in our printed Bibles, and are believed to represent the text adopted by the Babylonian Massoretic school.²

The Odessa Codex proves that in the 10th century the Hebrew letters had practically assumed their modern forms, though not their modern aspect. The squareness and uniformity, as well as the useless ornamental apices, which are so characteristic of Hebrew typography,³ are due to the schools of calligraphy which arose at the beginning of the 12th

¹ In the Firkowitz collection, now at St. Petersburg, are a number of rolls purporting to have been obtained from the synagogues of the Karaite Jews in the Crimea, which bear dates from the 5th century downwards. These MSS., however, are subject to even greater suspicion than the lapidary records to which reference has already been made. The Ben Asher Codex, recently discovered at Aleppo, and a MS. belonging to the Karaite Jews at Cairo, are older than the Odessa Codex.

² The alphabet of this MS. is given in column VIII. of the Table on p. 270. A facsimile of a few verses, copied from the photo-lithographic reproduction, published by Dr. Strack, will be found in the *Trans. Soc. Bibl. Archaeology*, vol. v. p. 129.

³ The change is marked by two MSS. in the British Museum, respectively written in 1091 and 1189 A.D. In the former there is hardly a trace of the apices, while in the latter they are conspicuous.

century. There were two leading styles of penmanship, the Spanish, which was more massive and monumental, and the German, which was somewhat elongated and pointed. The Spanish style was imitated in the types used to print the Antwerp polyglot and the Bible of Henry Stephens, while the German style, which first appears in the Münster Bible, has survived in the types now generally employed in European printing offices. These types have little to recommend them. They are trying to the eyes of students and compositors; several letters, such as נ and נ, ד and ד, or ך and ך, being so much alike as to be difficult to distinguish. Hence the primary requisite in a good alphabet, legibility and distinctness, is not attained. Neither great antiquity nor the deliberate choice of scholars can be pleaded in favour of these particular forms, the original adoption of which seems to have been almost a matter of accident. They were copied from the ornate MSS. which happened to be most in vogue at the time when the first Hebrew books were printed, very much as the "black letter" of our early printed books was an imitation of the vicious style of contemporary MSS. Except in Germany, the mediæval black letter has, with manifest advantage, been replaced by the distinct and beautiful Roman minuscule of an earlier period. In Greek printed books there can be no question as to the immense improvement which has been effected by exchanging the illegible contracted minuscule of the 15th century for

the older style which is now employed. In respect of Hebrew, the gain would be as great if type-founders would have the courage to adopt the older forms, which are better because more simple and more legible. There is no reason, except mere custom, why Hebrew students should continue to be troubled with the fantastic calligraphy of the 14th century, when it would be so easy to revert to the better alphabet of earlier times.¹

Besides the square Hebrew character, which is used for printed books and for the sacred rolls of the synagogues, there are other less elaborate styles. Of what is called Rabbinical Hebrew the chief types are the Northern, which embraces the German and the Polish styles, and the Southern, which includes the Italian or Raschi and the Spanish-Levantine. The German Rabbinical is descended from the square Hebrew of the 11th century. The Spanish-Levantine is of considerable antiquity. It does not differ greatly from the 7th century Tortosa inscription, and this again resembles the alphabet of the Babylonian cups.

Of the so-called cursive scripts, the two varieties used by the Jews in Algiers and in Morocco are manifestly derived from the Spanish-Levantine. The

¹ If the Archaic alphabet of the Herodian period be thought too unfamiliar, the style shown in the inscriptions of Babylon, Aden, and Tortosa, or in some good early manuscript, such as the Odessa Codex, might be taken as a model. Of the lapidary types, the Aden inscription of 717 A.D. leaves little to desire.

cursive script which is now used by the German Jews comes from the "Female German," which is of the same type as the Raschi. It is easy to write, though somewhat difficult to read.¹

A description of the elaborate system of points, by means of which the vowels are indicated in modern Hebrew, would be more suitable to a Hebrew Grammar than to a History of the Alphabet. A brief account of the origin of the punctuation may however be admissible as an illustration of the fundamental imperfections of Semitic as compared with non-Semitic alphabets.

The peculiar structure of the Semitic languages made it possible, as has already been explained (p. 183), to dispense altogether with a notation for the vowels. None of the earlier Semitic alphabets possessed any such notation. In Aryan and Turanian languages the vowels are radical and essential, and hence we find that the adoption of a Semitic alphabet by a non-Semitic people has been invariably accompanied by the development of actual letters to express the vowel sounds. This is the case with the Greek, the Parsi, the Armenian, the Mongol, and the Indian alphabets. In each of these instances the symbols for the breaths

¹ An attempt to show compendiously the broad features which distinguish Rabbinical and cursive Hebrew has been made in the last three columns of the Table on p. 270; for further details, see columns 45 to 50 of Euting's admirable *Schrifttafel*. Cf. Lenormant, *Alphabet Phénicien*, vol. i., plate xviii.

and the weaker consonants were transformed into vowel signs. The six Greek vowels, *alpha*, *epsilon*, *eta*, *iota*, *omicron*, and *upsilon*, were developed out of *aleph*, *he*, *cheth*, *yod*, *'ayin*, and *vau*. In Armenian, Georgian, and Mongolian, a similar result has been attained in very nearly the same way. In Parsi no less than seventeen distinct vowel signs were evolved by differentiation out of *aleph*, *vau*, and *yod*, while in India the fourteen Sanskrit vowel signs, and a still larger number in the Dravidian scripts, have arisen out of *aleph*, *vau*, and *'ayin*, and the liquids *lamed* and *resh*.

In no Semitic language has any analogous operation taken place. The nearest approach to it is found in the very curious script invented by the Mendaïtes, a semi-Christian people who now occupy the ancient Chaldean territory at the head of the Persian Gulf. Atrophied forms of *aleph*, *vau*, and *yod* are joined by ligatures to the consonants, so as to constitute a sort of syllabary. A somewhat similar notation, of obscure origin, is employed also in Ethiopic.

The first step towards the evolution of vowel signs may be observed even in the earliest Phœnician texts; the weak consonants being employed as *matres lectionis* to denote the cognate vowel sounds when emphatic.

In Syriac, Arabic, and Hebrew a system wholly divergent from that of the Aryan languages was ultimately adopted, the vowel sounds being expressed by means of diacritical points. This plan is of com-

paratively late introduction, and is so troublesome that its use has always been much restricted. Arabic scribes usually omit the vowel points, except in difficult poetry, in philological works, and in copies of the Koran, and the rolls read in the Jewish synagogues are as a rule unpointed.

The exact date at which vowel points were first introduced is not known with certainty. The Greek transcription of Hebrew names by the Septuagint translators and by Josephus proves that in the copies of the Scriptures to which they had access there was no method of denoting the vowels. It is also admitted that in the time of Jerome the vocalization of Hebrew was known only by oral teaching.

Vowel points make their earliest appearance in Syriac. An imperfect notation was employed in the time of St. Ephraem (c. 370 A.D.), and is used, exceptionally, in a manuscript in the British Museum which was written in the year 411 A.D.¹ This was replaced by a more elaborate system in the course of the 6th century. The Hebrew vowel points were doubtless suggested by the Syriac use. Two different systems of punctuation were invented nearly simultaneously; one, which has now fallen into disuse, arose at Babylon,² while the other, which is that now employed, originated in the Palestinian schools.

¹ Add. MSS., no. 12,150. Facsimile in Land, *Anecdota Syriaca*, vol. i., plate iv.

² The Babylonian system is known to us from the Odessa Codex.

In neither case does this seem to have been effected before the close of the Talmud in the 6th century. The Talmud, it is true, refers to certain signs by which the pronunciation of difficult words could be indicated, but it is evident that these signs were exceptional, and that the vowel points as we have them were then unknown. Soon after the close of the Talmud, however, the preservation of the traditional pronunciation was systematically undertaken, and the work is believed to have been completed before the end of the 7th century.

This great enterprise was due to a body of trained scholars, who were called the Massorettes, or "possessors of the tradition." By means of an elaborate system of vowel points and musical accents, the precise traditional vocalization and intonation of every word of the sacred volume was transmitted to posterity. Hence the Massoretic points of our Hebrew Bibles embody only the pronunciation, which, till the seventh century, had been orally handed down in the synagogues of Tiberias. It can easily be shown, however, that this traditional pronunciation differs considerably from that of Alexandria at the time when the Septuagint translation was made, and it is doubtless still more remote from the pronunciation at the time

The vowel points are somewhat different in form from our own, and are placed above instead of below the letters. The tonal accents differ also in form and disposition. See Ginsburg, in *Trans. Soc. Bibl. Arch.*, vol. v., p. 131.

when Hebrew was a living language. This, it is to be feared, is now lost beyond recovery.

§ 6. SYRIAC.

Attention has been already drawn to the fact that the later developments of the Aramean alphabet were determined mainly by religious causes. From the Aramean of the Seleucidan epoch sprang four great literary alphabets, which conserve the sacred books of the four great religions of Western Asia. The variety of the Aramean alphabet in which the Koran chanced to be composed goes by the name of Arabic; the Aramean of the Jewish dispersion is called Hebrew; Parsi is the Aramean alphabet of the Zoroastrians; while Syriac is the name used to designate the Aramean of the Christian peoples of the East. But since the people who were called Syrians by the Greeks knew themselves by the name of Arameans, we may expect to find that the Syriac language and the Syriac script are the lineal representatives of the language and script of ancient Aram.

From the 6th century B.C., as we have already seen, (p. 246), the Aramaic speech began to extend itself beyond its original limits, and owing to political and commercial causes gradually became the *lingua franca* of the Seleucidan empire, supplanting one by one the contiguous Semitic languages—Assyrian, Babylonian, Hebrew, and Phœnician. The Aramean alphabet

attained an even wider extension than the Aramaic speech, and at length extirpated all the independent North Semitic scripts.

In the early Christian centuries the Mesopotamian city of Edessa rose to great importance, becoming the head-quarters of Aramean culture, as Antioch was of Grecian learning. From the second to the seventh century, which was the flourishing period of Syriac literature, Edessa was the seat of a great theologic school. Here, soon after the close of the second century, was made the Syriac translation of the Scriptures which goes by the name of the Peshito version, and this helped to give a wide diffusion among all Aramean peoples to the local dialect and alphabet of Edessa.

The conquests of the Arabs, and the consequent spread of the faith of Islam, brought the Arabic speech and the Meccan type of the Aramean alphabet into competition with the language of Aram and the alphabet of Edessa, which had prevailed so widely for many centuries. In the 8th century Syriac rapidly declined, and soon nearly disappeared as a living language. It now survives mainly as the liturgical language of the Jacobite Christians of Aleppo and of the Maronites of the Lebanon, while as a spoken tongue it is represented only by a few Neo-Syrian dialects which linger on the shores of Lake Urumiah in North-Western Persia, and in the mountains of Kurdistan.

The Syriac alphabet has shared the fortunes of the Syriac language. Like its near congener the Palmyrene, it is descended from the Aramean alphabet of the second epoch. Several of the peculiarities which distinguish the Syriac alphabet from the Palmyrene are exhibited on certain coins struck at Edessa during the 1st century A.D., and also in a bilingual inscription on a tomb at Jerusalem, which must be earlier than the siege by Titus, and which seems to relate to some person connected with Helena, Queen of Adiabene. Hence we learn that the development of the Syriac alphabet as a distinct script commenced as early as the 1st century; and also that the Syriac was not, as has been supposed, derived from the Palmyrene, but was an independent development from a common source.

The form of the Syriac alphabet which prevailed during the flourishing period of Syrian culture is called the *ESTRANGELO*. Of this name the usual explanation, first propounded by Michaelis, and adopted by Adler, Land, and Lenormant, derives it from two Arabic words which signify 'the writing of the Gospels.' In support of this etymology it is alleged that the older uncial characters were retained for copies of the Scriptures, after they had been replaced for ordinary purposes by more cursive scripts. Nöldeke, however, the latest and best authority, prefers, and apparently with good reason, an older derivation, first suggested by Assemani, from the Greek *στρογγύλη*, 'rounded,' a term which would

appropriately distinguish the bold uncial forms of the Estrangelo letters from the later cursive script which the Syrians call SERTA, or 'linear.' This is the correct name for the modern Western minuscule which often goes by the name of PESHITO, a Syriac word meaning 'simple,' 'usual,' 'common,' applied to distinguish the ordinary script from the more archaic and elaborate writing employed for liturgical purposes. The name Peshito, however, if used to denote the modern Syriac minuscule, is open to serious objection, as the same word has also established itself as the designation of the ancient Syriac version of the Scriptures. This was made early in the 3rd century A.D., and was therefore, beyond a doubt, written in the Estrangelo character, whereas the variety of the Syriac alphabet which also goes by the name of Peshito dates only from the 9th century. It is true that the Peshito, that is the Vulgate, or common Syriac version, is now printed in the Peshito, the vulgar or common Syriac alphabet; but, although the name may thus be justified, it is desirable to discontinue an ambiguous and confusing nomenclature, especially as it is so easy to substitute for it a convenient and well established name. The Serta, or 'linear' script, which is the correct designation of modern Syriac, was probably so called, as Hoffmann has suggested, because of the characteristic horizontal line or ligature which unites the lower portions of the letters, and thus distinguishes it from the Estrangelo, or 'rounded' character.

The most ancient dated Syriac MS. that has come down to us was written in the year 411 A.D.,¹ and exhibits the Estrangelo character in its full perfection. Down to the end of this century the Estrangelo continued to be the sole Syriac script. At the beginning of the 6th century it began to develop the more cursive forms which gradually replaced it; but till the 8th century, when it fell altogether into disuse, the Estrangelo continued to be employed for uncial manuscripts and ornate codices.

The Estrangelo differs from the Palmyrene in being a literary rather than a lapidary script. Hence, as in all cursive alphabets, the tendency is to increase the breadth and to diminish the height of the letters, and more especially so to modify their forms as to make it easy to unite them by ligatures. In the Aramean of Egypt, where ligatures first appear, they are used only for three or four letters; in the Palmyrene the number is increased to twelve characters, whose forms chanced to be such as make it easy to unite them with either the preceding or the following letter. But when we come to the Estrangelo we find that ligatures are employed in the case of every letter of the alphabet, a

¹ This beautiful Codex is among the treasures of the British Museum (Add. MSS. no. 12,150). It contains the Clementine Recognitions and two treatises by Eusebius. A facsimile has been published by the Palæographical Society, *Oriental Series*, vol. i., plate 11; Wright, *Catalogue of Syriac MSS.*, plate 1; also by Land, *Anecdota Syriaca*, vol. i., plates 2 and 4, and p. 65. See Cureton, *Festal Letters of Athanasius*, pp. xv. to xxvi.

THE SYRIAC ALPHABETS.

Modern Names.	PALMYRENE.	PALESTINIAN.	ESTRANGÉLO.	JACOBITE. (Serta.)		NESTORIAN.	UIGUR	MEN-DAITE.	
	Sec. iii. A.D.	Sec. vii.	Sec. v.	Sec. xii.	Modern	Modern.	Sec. xiii.	Modern	
Ôlaf	ⲠⲚ	ⲠⲚ	Ⲛ	Ⲡ	Ⲡ	Ⲛ	Ⲛ	Ⲡ	1
Bêth	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	2
Gômal	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	3
Dôlath	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	4
Hê	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	5
Vau	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	6
Zên	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	7
Hêth	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	8
Têth	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	9
Yûdh	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	10
Kôf	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	11
Lômadh	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	12
Mîm	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	13
Nûn	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	14
Semkath	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	15
Ê	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	16
Pê	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	17
Sôdhê	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	18
Qôf	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	19
Rîsh	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	20
Shîn	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	21
Tau	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	Ⲡ	22

fact which sufficiently accounts for the great apparent changes in the alphabetic forms. That the universal use of ligatures must necessarily modify the outlines of the letters is easily seen. The case of the Roman minuscules, and the cursive forms derived from them, explains the mode in which such influences operate. It is easy to see, for instance, that the forms of the letters *b f g h p r* have been transmuted into *b f g h p r*, because the script formation offers greater facilities for obtaining speed by joining letters. Now, if the reader will compare the Palmyrene and the Syriac forms given in the Table on the opposite page, he will see that the changes in the letters which have undergone the greatest amount of alteration, such as *olaf*, *he*, *heth*, *teth*, *shin*, and *tau*, can thus be readily explained. To the same cause is due the startling difference which is sometimes found between the initial and final forms of the same letter, as in the following cases:—

	<i>l</i>	<i>'a</i>	<i>n</i>	<i>k</i>
Initials :	𐤫	𐤀	𐤒	𐤌
Finals :	𐤫	𐤀	𐤒	𐤌

Up to the close of the 5th century there is only one Syriac script, the Estrangelo. The style in fashion at Edessa prevailed over the whole Syrian region, both in the Roman and the Persian provinces. This unity of type was brought to an end by the great heresies, and the consequent schisms, of the 5th and following centuries. The replacement of the Estrangelo by a

variety of cursive scripts was influenced in a most curious manner by theological disputes which turned on the most subtle metaphysical distinctions.

Some of the secondary Syriac alphabets—Nestorian, Jacobite, Maronite—derive their very names from Syrian heresiarchs. The History of the Alphabet at this period is therefore inextricably involved with the history of minute theological distinctions, and of the great councils which were summoned to pronounce upon them.

The earliest of these schisms, that which takes its name from Nestorius, had a greater influence on the development and diffusion of the alphabet than any single event that can be named, save the rise of Islam, and actually resulted in transporting a form of the 5th century alphabet of Edessa as far as the southern extremity of India, and the remote shores of China.

Nestorius, a Syrian who was Bishop of Constantinople, doubted whether the Virgin Mary should be styled Θεοτόκος, the 'mother of God.' The Council of Ephesus, usually called the Third General Council, was summoned by Theodosius the Younger, and met in 431 to decide the question. By the violence of Cyril of Alexandria, who presided at the council, Nestorius was condemned unheard, deposed, and banished. Our involuntary sympathy with the victim makes it easy to understand how warmly the Oriental provinces espoused his cause. Barsumus, a doctor of Edessa, who was a zealous partisan of Nestorius,

having been ejected from his chair, took refuge in Persia, and in 435 became Bishop of Nisibis, where he founded a school of theology in rivalry of that of Edessa. The reigning Sassanian monarch, Firoz, who espoused the cause of the Nestorians, made over to them the patriarchal See of Ctesiphon (Seleucia), and expelled their opponents from Persia, just as the Nestorians themselves had been driven from those parts of Syria which were subject to Constantinople. From the school of Nisibis proceeded those bands of adventurous missionaries who during the 6th and the succeeding centuries spread the Nestorian tenets over Egypt, Arabia, India, Tartary and China.

The more vehement opponents of Nestorius naturally transgressed, in an opposite direction, the strict line of orthodoxy. This reaction from Nestorianism took shape in the heresy of the Monophysites, who were led by Eutychus. The Council of Chalcedon, called the Fourth General Council, which was summoned by Marcian in 451, condemned the Eutychian doctrines. As the Eastern Syrians were mainly Nestorians, so the Syrians of the West sided for the most part with the Eutychians; but those Syrian Christians who, though not Greeks, followed the doctrines of the Greek Church as declared at the Council of Chalcedon, were called by their opponents, by way of reproach, MELCHITES, 'royalists' or 'imperialists,' because they submitted to the edict of Marcian in favour of the decrees of the Council of Chalcedon.

The JACOBITES were the followers of Jacob Baradaëus, a monk who revived in the next century the languishing Monophysite heresy, and died Bishop of Edessa in 578. By his untiring energy he converted to the Eutychian creed the Syrian, Armenian, Coptic, and Abyssinian Churches; so that to this day the Patriarch of Antioch is a Jacobite, as well as the Patriarch of Alexandria, whose jurisdiction is still acknowledged by the remote Primate of Abyssinia.

The Monothelites, a sect who adopted in a modified form the views of the Monophysites, were condemned by the Sixth General Council in 680. Their opinions took root among the Mardaites, a people of Lebanon, who about the end of the 7th century received the name of MARONITES, from Maro their first Bishop. They afterwards abjured the Monothelite heresy, and were admitted into communion with Rome in 1182.

We can now trace the effects of these successive schisms on the fortunes of the Syriac alphabet. The Christians of Persia were exclusively Nestorian, so that the line which divided the Sassanian kingdom from the Roman empire severed also the Churches of the East from the culture of the ancient school of Edessa. Henceforward the Syriac alphabet is parted into two branches, the Eastern and the Western, which pursued their independent developments. The Nestorian, or, as it is sometimes called, the Syro-Chaldaic alphabet, is merely the Syriac alphabet as it was used in the Sassanian realm.

The Nestorians took with them that form of the Estrangelo which prevailed at the time of the schism. We possess Nestorian MSS. dated in the years 600 and 768 A.D., but the forms vary little from the Estrangelo of the 6th century. The distinctive Nestorian peculiarities make their earliest appearance in a MS. written at Haran in 899 A.D. The modern Nestorian, as now used by the Syro-Chaldee Churches in the Persian province of Azerbijan, exhibits somewhat more cursive forms, but is nevertheless the most archaic of existing Syriac scripts.

It was probably about the 9th century that the Nestorian alphabet was carried by Nestorian missionaries to India, where it is still used by their converts, the so-called "Christians of St. Thomas," on the Malabar coast. Nine additional characters have been borrowed from the Malayalim, a local Indian alphabet, in order to express certain peculiar Dravidian sounds. The original twenty-two Syriac letters have however remained almost absolutely true to the Nestorian forms of the 9th century. This curious composite alphabet is called KARSHUNI, a term whose meaning is unknown, though it is probably of Syrian origin, being also applied by the Maronites to the Syriac characters in which Arabic is sometimes written.

It is not only on the Indian Ocean that we find traces of the successful labours of the Nestorian missionaries. Soon after the schism they penetrated among the Turkic hordes of Central Asia, and even

crossed the great Wall of China. The Mongolian, the Kalmuk, and the Manchu alphabets, to whose singular history the next section will be devoted, are found to resolve themselves into slightly disguised forms of the Estrangelo alphabet as it was at the time of the Nestorian schism.

Within the Roman frontier the fortunes of the Syriac alphabet were less eventful. In the 6th century the Jacobite revival of the Eutychian heresy divided the Western Syriac alphabet into two branches, a northern and a southern. The Syrians of Palestine, who remained in communion with the Orthodox Church, are known by the name of Melchites, while the northern Syrians followed Jacob Baradaeus, who became Bishop of Edessa. The modern Jacobites, who may be said to continue the Syrian Church and alphabet in the line of direct descent, are now under the Patriarch of Antioch. Their alphabet differs little from that of the Maronites of the Lebanon, and goes by the names of Modern Syriac, Peshito, or Serta. The types in column iv. of the Table on p. 288 were cut under the direction of the present Patriarch of Antioch, and represent the Jacobite alphabet of the 12th or 13th century.¹ The modern Jacobite, or Serta, will be found in column v. of the same Table.

Of the alphabet used by the Melchites of Palestine, whose separation from the other Syrians dates from the Council of Chalcedon, two widely different forms

¹ Cf. Land, *Anc. Syr.*, vol. i., plate xxi.

are known,—an early uncial form which is found in three very ancient MSS. which probably belong to the 7th or possibly to the 6th century, and a later cursive form employed in numerous MSS. from Nitria and elsewhere, dating from the 11th to the 14th centuries. These two forms are so distinct that they may conveniently be distinguished by separate names. The uncial Melchite, called Hierosolymitan by Adler and Hoffmann, goes generally by the name of the Syro-Palestinian.¹ This remarkable alphabet preserves and exaggerates many of the most archaic features of the Estrangelo, but, as Land has suggested, it has doubtless been affected by an intentional imitation of the style of Byzantine manuscripts. The Melchites being the only Syrians who remained in communion with the orthodox Greek Church, this Byzantine influence can be easily accounted for. The later cursive Melchite is wholly unlike the Syro-Palestinian, and is the most deformed of all Syriac scripts.

The evidence of Greek influence is not confined to the Syro-Palestinian alphabet, but is curiously exhibited by the Jacobite adoption of superscribed Greek vowels in place of the primitive Syriac system of points. The five vowel sounds *a*, *e*, *o*, *i*, *u*, which in the older notation were indicated by the points ÷ √ √ √ √, are conveniently expressed by the symbols ⲁ Ⲃ ⲃ Ⲅ ⲅ, which

¹ See col. ii. of the Table on p. 288. Cf. Land, *Anec. Syr.*, vol. i., p. 89; Wright, *Catalogue of Syriac MSS.*, plate 18; Nöldeke, *Syr. Gram.*, col. 5 of the *Schrifttafel*.

are merely the Greek vowels **A E O H Y** turned upon their sides.¹

It is doubtful whether the singular Mendaite character² should be classed among the Syriac alphabets. It is used by the people who are variously called Sabeans, Nazarenes, Galileans, or Christians of St. John, but who call themselves Mendaï. They inhabit a region on the lower Euphrates, near Bassora. They retain vestiges of the Magian planetary worship, combined with a rudimentary Christian teaching, and they practice certain rites which have been supposed to be of Jewish origin. Their language is Aramaic, approaching to the Talmudic Chaldee, and they possess a very ancient literature, written partly in the Nabathean dialect, and partly in the Sabean, of which the "Book of Adam" is the most important relic. Their alphabet is of a character as composite as their religious beliefs, exhibiting affinities with alphabets of varied types. It is probably based on the ancient local Aramean of Chaldea which is exhibited in the legends on the coins of the Kings of Characene, assigned to the 2nd century A.D., and in an inscription at Abushadr.³ Some of the letters, such as *aleph*,

¹ The reason why this prone position was adopted will be presently explained. See p. 306 *infra*.

² Given in column viii. of the Table on p. 288.

³ The alphabet of this inscription, which is conjecturally assigned to the 5th century A.D., is given in column iii. of the Table on p. 326. It belongs to the Nabathean type.

seem to be Nabathean. The long supremacy of the Sassanian kings may possibly account for certain Pehlevi forms, while the Syriac mould into which the alphabet has been cast seems to bear witness to Nestorian influence.⁴ The vowel notation is unique, degraded forms of *aleph*, *vau*, and *yod* being suffixed to the consonants so as to form a sort of syllabary, which finds its nearest analogue in the methods by which the vowels are denoted in the Ethiopic and the old Indian writing.

§ 7. MONGOLIAN.

Turning from the scripts of the cultured Semitic nations, we have now to examine the alphabets used by the Ural-Altai races of Central Asia.

These tribes have possessed three alphabets of distinct origin. The first is the Syriac alphabet introduced by the Nestorian missionaries, the diffusion of which forms one of the most curious episodes in the whole History of the Alphabet; the second is an Indian alphabet obtained from the Buddhists of Tibet; the third is the Arabic alphabet which came in with the Mohammedan conquest.

The introduction of each of these three alphabets was due to religious causes. It is because Christianity,

⁴ The forms of several Mendaite letters, such as *h*, *r*, *s*, find their nearest analogues in the Mongolian alphabet.

Buddhism, and Islam have been the great aggressive missionary religions, that the alphabets of their sacred books have spread so widely that they may be said to share the world between them. Religious proselytism has proved to be more potent in effecting the dissemination of alphabets than even political or commercial influences.

Certainly no cause could seem to be more inadequate than a decree of an obscure council at Ephesus dealing with an abstruse point of theosophic speculation, yet it sufficed to cause the local alphabet of a remote Syrian city to become the parent of a family of alphabets which stretch more or less continuously across Central Asia, from the Volga in the West to the shores of the Pacific Ocean in the furthest East.

The researches of Klaproth and of Abel-Rémusat,¹ at the beginning of the present century, finally set at rest the question as to the nature and affinities of the Tartaric and Mongolian alphabets. When once the Nestorian clue had been discovered all serious difficulty ceased. The ancient forms of the letters have suffered so little change, that Vámbéry found that a Nestorian from Urumiah was able without assistance to decipher parts of an ancient Tartar manuscript which had been written at Herat.

The Nestorian schism dates from the 5th century. Within a hundred years the Nestorian missionaries

¹ Klaproth, *Abhandlung über die Sprache und Schrift der Uiguren*, 1812; Abel-Rémusat, *Recherches sur les langues tartares*, 1820.

who were sent forth from Nisibis passed the eastern limits of the Sassanian kingdom, and went out into the regions beyond. About the beginning of the 7th century they reached Kashgar, which seems to have become the chief centre of their mission work, and from hence they spread themselves among the surrounding Tartar tribes. So successful were their missionary enterprises that, by the beginning of the 8th century, Nestorian archbishoprics had been established at Herat, at Samarkand, and even in China itself.¹

Any scepticism which might be entertained as to the extent of the Nestorian enterprise must disappear in face of an inscription which was accidentally dug up in the year 1625 at Sin-gan-fu in China. It is engraved on a stone slab, about six feet by three, with a cross carved at the top. It bears a date corresponding to 781 A.D., and contains an abstract of Christian doctrine in Chinese characters. The names of the Nestorian patriarch, of the bishop, and of several priests are appended, written in an alphabet which proves to be excellent Estrangelo. The genuineness of this inscription, which at one time was doubted, has been established by Pauthier, and has been fully accepted by Klaproth, Abel-Rémusat, and Renan.²

¹ The scattered notices which refer to the establishment of the Nestorian missions in Central Asia and China have been collected by Col. Yule, *Cathay and the Way thither*, Preliminary Essay, pp. 88 to 101.

² See Renan, *Langues Sémitiques*, third edition, p. 290.

Naturally the art of writing took its chief hold among those of the Tartar tribes who were most advanced in civilization. These were the Uigurs—the Ogres of old romance—who were the ruling race in the regions now known as the Khanates of Khiva and Bokhara. They were the earliest of the tribes of Central Asia to adopt the Nestorian writing, which for a considerable time remained chiefly in their possession. In the 12th and 13th centuries Uigurs were employed almost exclusively by Genghis Khan and his three immediate successors as secretaries, chancellors, and physicians. The Uigur alphabet was thus established as the usual medium of written intercourse throughout the vast region over which the Mongol Empire extended, and it became the parent of the existing alphabets of the more barbarous tribes—the Mongols, the Kalmuks, and the Manchus.

In the 13th century Marco Polo found many Christians among the Turkic and Mongolic tribes, and even in China itself, but with the progress of Islam Christianity disappeared and Buddhism retreated. Among the Uigurs themselves the Nestorian writing gave place to Arabic, which is now used exclusively in the Khanates, so that the alphabets derived from the Nestorian missionaries are now employed only among the hordes of Mongol blood who are still beyond the pale of Islam.

A most important and curious relic of the ancient Uigur literature and alphabet has recently been

brought to light. This MS., which is now at Vienna, is a copy made in the fifteenth century of a Tartar poem composed in the eleventh century.¹ It is of unique interest, literary, palæographical, and linguistic. The MS. is entitled the Kudatku Bilik, which may be translated "the blessed knowledge." It is a somewhat lengthy poem treating of the duties, virtues, vices, and characters of persons in every position of life—princes and subjects, parents and children, husbands and wives, physicians, generals, merchants, peasants, and servants. The Kudatku Bilik, though it took its present form after the conversion of the Turkic tribes to Islam, yet reflects the Pre-Islamite state of thought and morals, giving a most curious insight into the primitive beliefs and civilizations of the tribes of central Asia, and is of interest inasmuch as it is the earliest specimen of literary effort among any of the Turkic races. From a philological point of view it is important, insomuch as it constitutes the oldest existing monument of Tartaric speech, occupying

¹ From a colophon at the end of the Vienna MS., we learn that it was written at Herat in the year 843 A.H. Thirty-six years later it was taken from Herat to Tokat, and from thence to Stambul, where it was ultimately acquired by the Baron Hammer-Purgstall, from whose possession it passed to the Imperial Library at Vienna. The MS. professes to be a copy of another which was written in 463 A.H., nineteen years after the death of Bogra Khan, in whose reign it purports to have been composed. It has been excellently edited by Vámbéry, *Uigurische Sprachmonumente und das Kudatku Bilik*. (Innsbruck, 1870.)

in relation to the Turkic group of languages the same position that the translation of the Gospels by Ulphilas bears to the Teutonic dialects. Palæographically it supplies the earliest existing specimen of the Nestorian alphabet as adapted to the use of the Ugro-Altaic tribes, thus furnishing the connecting link between the Nestorian writing and the various Mongolian alphabets.

The most important of these alphabets is the Mongolian Proper, which is used by the Khalkas and other Mongolian Buddhists who are found north of the desert of Gobi. It has diverged less from the Nestorian than any other of the Mongolian alphabets, except the Uigur.

During the reign of Kublai Khan (1259 to 1294) and his successors, the Uigur alphabet, under the influence of Buddhist teachers, was developed and adapted to the needs of Mongolic speech by the adoption of five additional letters from the alphabet of Tibet. The enlarged alphabet thus formed is called the Mongol Galik, from the Sanskrit *Ka-lekah*,¹ the name given to the Indian alphabet.

At the beginning of the 17th century the Kalmuks, a branch of the Eleut Mongols, brought a simplified form of the Mongol Galik alphabet with them when

¹ The formation of this word is analogous to that of *alphabetum*, *abecedarium*, *futhorc*, *bobeloth*, and other names of alphabets. It is compounded of *ka*, the first letter of the Nagari alphabet, and the Sanskrit *lekah*, 'writing.'

they settled on the lower Volga, where it is employed for the preservation of some fragmentary remains of Buddhist literature.

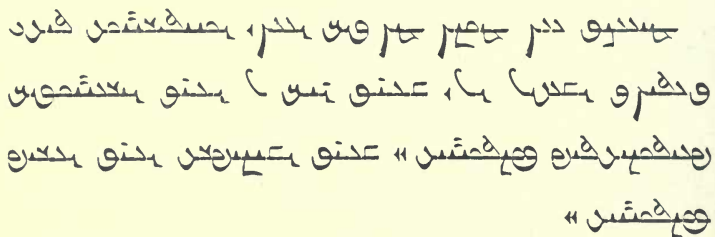
At the other extremity of Asia the Mongol alphabet was adopted at some unknown period by the Manchus, a Tungusic tribe, who overran the Chinese empire at the beginning of the 17th century, and who supply the ruling dynasty of China. The Manchu alphabet, which has developed a large number of additional symbols, is

1	2	3	4	1	2	3	4
tai nu	bi den u e chi gy	ku do la ga dka nu	bol to gai	ᠲᠠᠢᠨᠠ	ᠪᠢᠳᠡᠨᠤ	ᠪᠣᠯᠲᠤᠭᠠᠢ	ᠪᠣᠯᠲᠤᠭᠠᠢ
iy n	tol a	bol to gai:		ᠶᠡᠨ	ᠲᠤᠯᠠ		
ta ber ey n.	ch in u ner y	ch in u e che le gu ri		ᠲᠠᠪᠦᠷᠡᠢ	ᠴᠢᠨᠤ	ᠴᠢᠨᠤ	ᠴᠢᠨᠤ
ok ter goi	iy nu ar ri gob ber	iy nu iy rek u		ᠣᠬᠲᠦᠷᠭᠠᠢ	ᠶᠡᠨᠤ	ᠶᠡᠨᠤ	ᠶᠡᠨᠤ
deg y				ᠳᠡᠭᠢ			

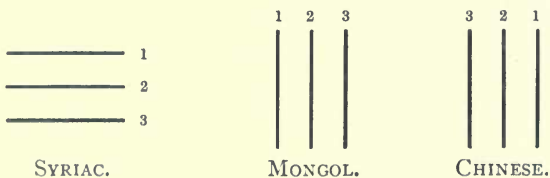
also used by the Buriat Mongols, who are settled to the north of the Baikal.

These various Mongolian scripts are much alike, but seem to present little external resemblance to the Syriac, from which they were derived. The difference is, however, merely superficial, being due principally to the altered direction of the writing.

The Mongolian is written in vertical columns from the top to the bottom of the page, as in the accompanying specimen, which contains the first four clauses of the Lord's Prayer. Syriac is written in horizontal lines from right to left; and it is only necessary to turn the Mongolian writing through an angle of 90° , and its resemblance to Syriac becomes at once conspicuous.



Abel-Rémusat suggested that the vertical writing of the Mongols was an imitation of the Chinese practice. This explanation, however, can easily be shown to be insufficient, as in that case the lines would begin, as in Chinese, at the right hand margin of the paper instead of from the left, as is the case. The arrangement of the lines proves that the Mongolian writing is the Syriac turned round, the lines in the three scripts being arranged as follows :—



The true explanation was first pointed out by Bayer. At

the time when the Nestorian writing was introduced into Central Asia, the Syrian scribes, as the grammarians inform us, were themselves accustomed to write from the top to the bottom of the page, the writing being turned round into the usual position in order to be read. That the Nestorian missionaries also wrote thus is shown by the inscription at Sin-gan-fu, in which the Estrangelo characters are disposed in vertical lines.

This habitude of writing explains some curious phenomena which are exhibited by ancient Syriac MSS. Thus in some Syriac codices we find Greek marginal notes written at right angles to the lines of the text, proving that the scribes who were accustomed to write Syriac vertically, wrote Greek in horizontal lines, as we do ourselves. Land cites an instance from a MS., now in the British Museum,¹ which was written in the 6th century, soon after the Nestorian schism. The scribe, in order to fill up a vacant space, scribbled, in Greek letters, the word *Abraam*, and then transliterated it in Estrangelo characters. **A B P A A M**
 If he had been in the habit of writing in **ܐ ܒ ܡ ܐ ܐ ܡ**
 horizontal lines, this experiment in Greek calligraphy would have been written with the **A B P A A M**
 Estrangelo characters correspondingly **ܐ ܒ ܡ ܐ ܐ ܡ**
 arranged below the Greek characters. Instead of this,

¹ British Museum Add. MSS., No. 14,558, folio 171; Land, *Anec. Syr.*, vol. i. p. 60, and plate vii. No. 27.

the Syriac letters are at right angles to the Greek, whence it appears that the lines of the parchment on which he was writing must have been held in a vertical position. Hence we obtain a simple explanation of the prone position of the superscribed Greek letters which were used to denote the vowels in Jacobite manuscripts (see p. 295). The Greek letters were naturally written as they would appear in Greek, and hence when the writing is turned round they appear to be lying on their sides.

Α Β Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ Ν Ξ Ο Π Ρ Σ Τ Υ Φ Χ Ψ Ω
 Α Β Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ Ν Ξ Ο Π Ρ Σ Τ Υ Φ Χ Ψ Ω

The practice of writing in vertical lines was probably a mere matter of convenience. As the pen moves from right to left across the paper the fingers which support the hand are apt to blot the word that has last been written, an inconvenience which is obviated by the adoption of vertical lines. At the same time the thick connecting ligature which is so characteristic of Syriac and Mongolian scripts, and from which the Serta (Peshito) writing derives its name, can be produced more easily by a downward stroke than by a lateral movement of the pen, as will easily be discovered by an attempt to copy the Mongolian Paternoster given above.

The practice of writing in vertical lines, which was discontinued by the Syrians in the 13th century, was permanently retained by the Mongols, possibly because the practice facilitated the interlinear translation of Chinese documents.

In comparing the Mongolian letters with their Syriac prototypes it is necessary to replace them in the original position in order to recognize the resemblance. This has been done in the Table on the following page.¹ Column iv. exhibits the Mongolian letters in their customary position. Column iii. contains the same letters turned round, so as to correspond with the Uigur letters from the Kudatku Bilik which are given in column ii., and also with the probable² Syriac prototypes in column i. Column v. shows the greatly developed alphabet employed by the Buriat Mongols and the Manchus.

The adaptation of the Syriac script for the requirements of Altaic speech is of considerable interest. It

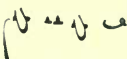

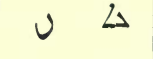
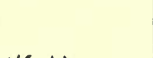
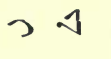

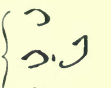
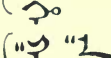

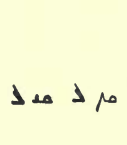
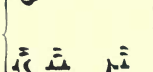
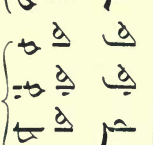
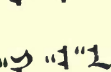
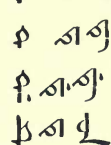

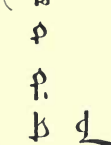
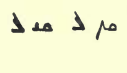
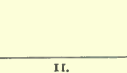
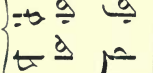
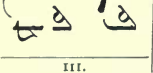
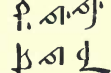
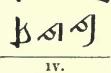
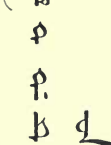
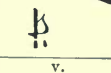
¹ This table gives only a summary of results. The evidence for the various identifications would occupy a space greater than would be warranted by its interest or importance. As regards the Mongolian letters, the sources of information are indicated in Vámbéry's *Uigurische Sprachmonumente* and in chapter viii. of Lenormant's *Alphabet Phénicien*. For the Syriac forms, see Euting's *Schrifttafel* in Nöldeke's *Syrische Grammatik*, and Land's *Anecdota Syriaca*.

² The letters of dubious attribution are placed in a separate Table on p. 309. It is not always possible to refer the Mongolian letters to a single Syriac prototype. Thus with regard to the two Uigur palatals the medial forms of both ᠠᠠ and ᠠᠢ seem to be from the Syriac *heth* ᠮ , while one of the final forms ᠠ seems to be from *gof* ᠮ , and the other ᠢ from *kof* ᠮ . The same ᠢ seems to have taken place with the dentals, ᠮ resembling *teth* ᠮ , while ᠠ is more like *tau* ᠮ , and ᠡ like *dolath* ᠮ . This explanation is rendered more probable by the fact that similar processes have also taken place in Arabic, as will be shown in the ensuing section, p. 332.

THE MONGOLIAN ALPHABET.

	SYRIAC.	UGUR.		MONGOL. (turned.)		MONGOL.		MANCHU.		Names.	Values.
		I. & M.	F.	I & M.	F.	I. & M.	F.	I. & M.	F.		
1	𐌒	𐌒	𐌒	𐌒	𐌒	𐌒	𐌒	𐌒	𐌒	A	a
										E	e
2	𐌔	𐌔	𐌔	𐌔	𐌔	𐌔	𐌔	𐌔	𐌔	Fa	f
										Wa	w
6	𐌖	𐌖	𐌖	𐌖	𐌖	𐌖	𐌖	𐌖	𐌖	O	o
										U	u
										O	ó
10	𐌘	𐌘	𐌘	𐌘	𐌘	𐌘	𐌘	𐌘	𐌘	I	i
										Ya	y
										Ja	j
										Jha	jh
12	𐌚	𐌚	𐌚	𐌚	𐌚	𐌚	𐌚	𐌚	𐌚	La	l
13	𐌛	𐌛	𐌛	𐌛	𐌛	𐌛	𐌛	𐌛	𐌛	Ma	m
14	𐌜	𐌜	𐌜	𐌜	𐌜	𐌜	𐌜	𐌜	𐌜	Na	n
15	𐌞	𐌞	𐌞	𐌞	𐌞	𐌞	𐌞	𐌞	𐌞	Za	z
										Sa	s
17	𐌠	𐌠	𐌠	𐌠	𐌠	𐌠	𐌠	𐌠	𐌠	Ba	b
										Pa	p
18	𐌡	𐌡	𐌡	𐌡	𐌡	𐌡	𐌡	𐌡	𐌡	Cha	ch
										Chha	chh
										Zha	zh
20	𐌣	𐌣	𐌣	𐌣	𐌣	𐌣	𐌣	𐌣	𐌣	Ra	r
21	𐌥	𐌥	𐌥	𐌥	𐌥	𐌥	𐌥	𐌥	𐌥	She	sh
										Dze	dz
										Tze	tz

THE GUTTURALS AND DENTALS.

SYRIAC.	UGUR.		MONGOL. (turned.)		MONGOL.		MANCHU.		Names.	Values.
	I. & M.	F.	I. & M.	F.	I. & M.	F.	I. & M.	F.		
3									Ke	k
8									Ge	g
19									Ka	k
11									Ga	g
9									Kha	kh
4									Ta	t
9									Da	d
22									Te	t
									De	d
I.	II.		III.		IV.		V.			

affords a conspicuous illustration of the modifications needed when a Semitic alphabet comes to be used for the expression of a non-Semitic language.

As in the case of the Greek, Indian, and Pehlevi adaptations, characters to denote the vowels were necessarily developed. Seven vowels were obtained from three of the Semitic breaths and semivowels. Two vowel-signs, for *a* and *e*, were obtained from *alephi*; one, for *i*, from *yod*; and four, for *ö*, *ü*, *ō*, *ū*, from *vau*.

It is also instructive to note the manner in which the Mongols obtained the large number of additional consonants which they required. As in the Armenian, Indian, Parsi, Greek, and other alphabets, this was in

no case effected by the invention of new symbols, but by the differentiation of the old. Thus the Syriac letter *tsodhe* ܣ is plainly to be identified with the Uigur letter 𐰸 which has the double value *ts* and *tz*. From this were derived three Mongolian letters, 𐰺 *ch*, 𐰻 *chh*, and 𐰼 *zh*. Again, the Syriac *yudh* ܝ, *y*, which appears in Uigur as 𐰽 with the two values *i* and *y*, was the source of the four Mongolian characters 𐰾 *i*, 𐰿 *j*, 𐱀 *y*, and 𐱁 *jh*. In this way, from the seventeen or eighteen Syriac characters which were taken over,¹ between thirty and forty Mongolian characters were developed, in addition to those which were derived from Buddhist sources.

It will be noticed that it is not always from the so-called Nestorian letters that the Uigur and Mongolian forms can be most readily derived. This can easily be accounted for. Since the distinctive peculiarities of the Nestorian writing were not developed before the

¹ Of the original twenty-two Syriac letters several seem at first to have fallen into disuse, the nicer phonetic distinctions being apparently ignored. A more exact notation of sounds being afterwards required, the surviving characters were nearly doubled in number by differentiation. Thus of the four Syriac sibilants two, or perhaps three, were retained in Uigur, and these were differentiated into nine Mongolian letters. The seven Syriac dentals and gutturals are reduced to three in Uigur, which were developed into ten in Mongol. The Syriac *p* yielded signs for *p*, *b*, and *v*; while *w* and *f* were obtained from the Syriac *b*. A similar operation was effected in Parsi, forty-five characters having been evolved out of the seventeen Aramean letters which were taken over.

9th century A.D. it is plain that the Mongolian alphabets must have been derived from some earlier type. Hence the Estrangelo and Syro-Palestinian alphabets of the 6th and 7th centuries frequently supply better prototypes for the Mongolian forms than the more recent Nestorian characters.¹ In some cases² the nearest analogues are found in the alphabet of the Mendaïtes. Klaproth even went so far as to refer the origin of the Mongolian alphabet to the Mendaïte rather than to the Nestorian script. It is more probable that the analogies between the two alphabets are due to the Manichæans, who, like the Nestorians, had fled from persecution into Persia. To their teaching some of the peculiar dogmas of the Mendaïtes may perhaps be traced, while, as Reinaud has shown, they also exercised considerable influence in the regions beyond the Oxus.³

It appears possible also to detect the traces of Arabic influence in the Uigur,⁴ if not in the Mongol alphabet. For instance, the diacritical point which

¹ See columns ii. iii. and vi. of the Table on p. 288.

² Such as *r*, *t*, and *k*. In Mongol as in Mendaïte the derivative of *shin* is differentiated by two subscribed dots. A coincidence so precise can hardly be due to accident.

³ See Renan, *Langues Sémitiques*, p. 289.

⁴ The external appearance of the writing in the Kudatku Bilik is much assimilated to the Arabic style, and this is still more the case with the later Uigur alphabet given by Kasem-Beg, *Gram. d. Türkisch-Tatarischen Sprache*, plate v.

distinguishes \aleph *n*, from \aleph *a*, may have been suggested by the similar point which marks the Arabic \aleph *n*. Thus it would appear that the formation of the Mongolian alphabet may have been affected by elements derived from four distinct religious sources—Nestorianism, Manichæism, Buddhism, and Mohammedanism.

§ 8. ARABIC.

Of all existing alphabets the Arabic, both from its literary importance and its geographical extent, ranks next after the great Latin alphabet itself. These two cosmopolitan alphabets are the alphabets of the two great cosmopolitan religions; all others, in comparison, are merely national or provincial. The Arabic has not only exterminated the other Semitic alphabets, but has encroached upon extensive regions once occupied by alphabets of Greek and Roman origin. It has expelled the Greek alphabet from Asia Minor, Thrace, Syria, and Egypt, and the Latin alphabet from Northern Africa; and is now used over regions inhabited by more than one hundred millions of the human race. In its numerous varieties it prevails in Morocco, Algiers, Tunis, Tripoli, Egypt, and down the eastern coast of Africa as far as Zanzibar. It is the sole alphabet employed in Arabia, Western Asia, Persia, Afghanistan, and the Tartar Khanates, besides being the best known of all the alphabets employed

in India. It is no longer, as it was at first, the mere alphabet of a religion or of a dialect. The alphabet of the Koran is now the chief commercial alphabet of the East. It constitutes the official script by means of which three Asiatic empires are ruled, and has been adapted to express the peculiar sounds of languages of the most varied type—Arabic, Turkic, Persian, Pushtu, Beluchi, Hindustani, and Malay.

That the local alphabet of Mecca should have exterminated all other Semitic scripts, and have established itself as the dominant alphabet of Africa and Asia, is an illustration more striking than any other that can be adduced of the power of religious influences in effecting a wide and rapid diffusion of alphabets. We have seen how the Nestorian schism took three centuries to carry a local Syrian alphabet from the Mediterranean to the Pacific, while a much longer period was required by the marvellous propaganda of the Buddhist missionaries to spread an Indian alphabet from Ceylon to Corea, from the Caspian to the Philippines. The diffusion of the alphabet of the Koran from the Indian Ocean to the Atlantic was effected with far greater rapidity. It took no more than eighty years (632–712) for the Arab conquerors to found a dominion wider in extent than the widest empire of Rome, and to extend the alphabet of Mecca from the Indus to the Tagus.

Yet vast as is the range of this great alphabet, which now stretches across the old world from the

Atlantic to the China Sea, it is almost wholly unknown beyond the limits of its own domain. It is rare to meet with an educated European or American who can read an Arabic book, and still more rare to find one who has any knowledge of the history of the script. I well remember the incredulous astonishment of a great Indian administrator, who had been accustomed to the familiar use of the Arabic alphabet for more than a quarter of a century, when he was told that the Arabic was collaterally related to our own alphabet, and that both might be traced back without difficulty to the same primitive Phœnician source. If such be the case with an Arabic and Persian scholar of no mean practical attainments, it may perhaps be permissible in these pages to treat this portion of the subject in an elementary manner, assuming no special knowledge on the reader's part.

It can readily be shown that the Arabic alphabet, greatly though it differs in outward aspect from other Semitic scripts, is a member of the Aramean family. Of the literary alphabets it approaches most closely to the Syriac, although the approximation is somewhat disguised by reason of the change in the number, form, and arrangement of the characters. The essential identity of the modern Syriac and the modern Arabic alphabets is conveniently exhibited in the comparative Table on the opposite page. The ancient alphabetic order, as evidenced by the numerical values attached to the letters, taken in connection with

COMPARATIVE TABLE OF SYRIAC & ARABIC ALPHABETS.

SYRIAC.				ARABIC.						
Order.	Ancient Names.	FORMS.		Numerical Values.	Primitive Order	Names.	NESKHI FORMS.			Numerical Values.
		I.	F.				I.	M.	U.	
1	Alaf	ܐ		1	1	Alif	ا			1
2	Beth	ܒ		2	2	Be	ب	ب	ب	2
					22	{ Te	ܬ	ت	ت	400
						{ The	ܬ	ث	ث	500
3	Gamal	ܓ		3	3	Jim	ܓ	ج	ج	3
					8	{ Ha	ܚ	ه	ه	8
						{ Kha	ܚ	خ	خ	600
4	Dalath	ܕ		4	4	{ Dal	ܕ	د	د	4
5	He	ܗ		5		{ Dal	ܗ	ذ	ذ	700
6	Vau	ܘ		6	20	Re	ܘ	ر	ر	200
7	Zain	ܙ		7	7	Ze	ܙ	ز	ز	7
8	Heth	ܚ		8	15	Sin	ܚ	س	س	60
9	Teth	ܛ		9	21	Shin	ܛ	ش	ش	300
10	Yodh	ܝ		10	18	{ Sad	ܝ	ص	ص	90
11	Kaf	ܟ		20		{ Dad	ܟ	ض	ض	800
12	Lamadh	ܠ		30		{ Ta	ܠ	ط	ط	9
13	Mim	ܡ		40	9	{ Za	ܡ	ظ	ظ	900
14	Nun	ܢ		50	16	{ Ain	ܢ	ع	ع	70
15	Semkath	ܦ		60		{ Ghain	ܦ	غ	غ	1000
16	'E	ܥ		70	17	Fe	ܥ	ف	ف	80
17	Pe	ܦ		80	19	Qaf	ܦ	ق	ق	100
18	Sadhe	ܨ		90	11	Kef	ܨ	ك	ك	20
19	Qof	ܩ		100	12	Lam	ܩ	ل	ل	30
20	Resh	ܪ		200	13	Mim	ܪ	م	م	40
21	Shin	ܫ		300	14	Nun	ܫ	ن	ن	50
22	Tau	ܬ		400	5	He	ܬ	ه	ه	5
					6	Waw	ܘ	و	و	6
					10	Ye	ܝ	ي	ي	10

their abraded names, makes it easy by the aid of the Syriac alphabet to identify the Arabic characters with their Aramean prototypes.

It is evident that the bracketed characters are merely differentiations of the same primitive forms. By excluding these six new letters, whose recent origin is shown by their numerical values, the Arabic alphabet is reduced to the primitive number of twenty-two letters. The numerical values serve to identify the several letters, all of which, except those with connecting lines, have been dislocated from their original positions. The changes in the arrangement can mostly be accounted for by two causes which have largely influenced the rearrangement of other alphabets. It is evident that letters have been brought into juxtaposition either on account of the resemblance of their forms, or because of the similarity of their phonetic powers. Thus *te* ت has been brought from the end of the alphabet into the third station because of the resemblance of form to *be* ب, while *re* ر for a like reason has been moved up thirteen places and placed next to *ze* ز. The juxtaposition of *qaf* and *kef* is due to the similarity of their powers. Both causes have co-operated in bringing about the collocation of the sibilants in the middle of the alphabet.

The Arabic alphabet, commonly so called, which has been employed in the preceding Table, is only one of numerous varieties, which bear much the same

mutual relation as the various types of the Latin alphabet. There are calligraphic styles, such as the Diwani, the Rika'a, and the Ta'alik, whose differences are of the same nature as are seen in the Italic, Roman, and Gothic letters of our printing-offices. And as there are national varieties of the Latin alphabet, such as the Italian with its 22 letters, English with 26, and Bohemian with 40, so we have the Karmathian Arabic with 17 letters, the Persian with 30, the Turkish with 32, the Afghan with 42, and the Indian with 49. The additional letters are distinguished by diacritical marks, as is the case with the supplementary characters, such as ñ, š, ç, â, which are used in various European alphabets.

The two most important varieties of Arabic are the Neskhi and the Kufic. No two scripts can well be more dissimilar in appearance; the Kufic being singularly square and monumental, while the Neskhi is one of the most formless of all existing alphabets. Neskhi, which means the "writing of transcribers," is the ordinary cursive Arabic in which books and newspapers are printed. The Kufic, which bears to the Neskhi something of the same sort of relation which the uncial writing of mediæval manuscripts bears to modern running hand, has practically fallen into disuse since the 14th century. It took its name from the town of Kufa on the Euphrates, which at one time was the seat of a great school of Mohammedan learning. At an early period it was employed as an

ornamental character for costly copies of the Koran, and was afterwards extensively used as a sort of architectural ornamentation for the decoration of mosques and palaces.

Of the less important varieties, the Karmathian, which is chiefly used in the north of Arabia, is intermediate in character between the Kufic and the Neskhi, being less square and stiff than the one, and less cursive than the other. The Maghrebi, which is the script of Morocco and Algiers, is also less cursive than the Neskhi, and much easier to read. Of the Neskhi character there are several national varieties, differing chiefly in the number of the letters. The chief of these national Neskhi alphabets are the Persian, the Turkish, the Afghan, the Hindustani, and the Malay, each of which contains additional signs to express the peculiar sounds of those languages. In the Malay and Hindustani the Neskhi characters are arranged according to the *kalekah* method, so as to correspond with the order of the letters in native Indian alphabets.

There are several scripts which are little more than calligraphic styles. The Diwani, a bold round hand, is the official Turkish character adopted for passports and similar documents. The Rika'a is employed by Arabs and Turks for ordinary correspondence. The Ta'alik, or 'hanging' writing, is an elegant court hand, much admired in Persia. The Thuluth is a fanciful character which lends itself to the calligraphic flourishes

and involutions which are thought appropriate to the titles of books and the headings of documents ; while in the Jeri and the Jeresi, as the names imply, the utmost possible limits of intricacy and convolution have been attained.

All the varieties of Arabic writing, whether national or merely calligraphic, may however be ultimately referred to one of the two great early styles, the Kufic and the Neskhi. The relation which subsists between these two types has formed the subject of keen controversies, which involve the question as to the ultimate origin of the Arabic alphabet itself.

The Kufic has been generally considered by Arab writers to be the primitive script from which the Neskhi was afterwards derived. From the time of Pococke to that of de Sacy this belief was accepted without question by European scholars. It was also assumed that the Kufic was itself derived from the Estrangelo,¹ an opinion which was maintained by Kopp, Gesenius, Caussin de Perceval, and at one time also by Renan. The more recent palæographical

¹ That the Arabic alphabet could not have been obtained from the Syriac is proved, among other reasons, by the fact that the tendency to assimilation affected different letters in the two alphabets. Thus, in the earliest Estrangelo MSS., which are older than the Mohammedan era by more than two centuries, the forms of א (*d*) and ר (*r*) have already become identical, and are distinguished by diacritical marks, whereas in every Arabic script these two letters have remained distinct, the assimilation having affected ر (*r*) and ز (*z*), which are easily distinguishable in Syriac scripts.

investigations of de Sacy, Amari, and de Vogüé have shown both these assumptions to be untenable. Early dated Kufic inscriptions of unquestionable authenticity have now been recovered, and leave it no longer doubtful that the so-called Kufic style must have been employed by the Arabs at the time of their conquest of Syria, before the foundation of the city of Kufa.¹ These monuments do not exhibit that approximation to the Syriac forms which the hypothesis demands, differing in many essential points from all contemporary Syriac types.² It is no less certain that the Neskhi, instead of having originated, as was formerly supposed, as late as the 3rd century of the Mohammedan era, was used simultaneously with the Kufic in the reigns of the earliest Khalifs, if not during the lifetime of Mohammed himself. Indeed the probability is that the Koran was first committed to writing in an early form of the Neskhi alphabet.

Since it is no longer possible to maintain the old hypothesis that the Neskhi was derived from the

¹ The Kufic writing no doubt obtained its designation from having been chiefly practised and perfected by the school of Arabic copyists for which Kufa subsequently became famous.

² The resemblances of the later Kufic to the Syriac, by which early scholars were misled, may be explained partly by the derivation of both alphabets from a common source, and partly by an assimilation to Syriac forms which seems to have taken place after the Arabs had established themselves in Syria. At Kufa no doubt the influence of Syrian scholars would be more strongly felt than in Egypt, where the Neskhi forms seem chiefly to have prevailed.

Estrangelo through the medium of the Kufic, the question arises whether any more probable source can be discovered. This problem can only be solved by determining the oldest forms of the Arabic letters.

Unrivalled among Arabic inscriptions, in its manifold interest, is the record which surrounds the colonnade of the Qubbet-es-Sakhra at Jerusalem.¹ This great mosque, which is commonly designated by its translated name, the "Dome of the Rock," stands within the Haram area, on a portion of the site of the Jewish Temple, and in all probability it actually covers the venerable boss of smooth limestone rock which formed the historic threshing-floor of Araunah the Jebusite. On a border of blue tiles running above the arcades which support the dome is a long Kufic inscription in letters of gold. It consists of passages from the Koran, those verses being appropriately selected which bear upon the position claimed by Mohammed for Jesus of Nazareth. Between two of these verses, and near the great southern door, comes the dedicatory inscription of the founder, of which a facsimile is given on the next page.²

¹ The best account of this inscription, with an admirable facsimile, will be found in de Vogüé, *Le Temple de Jérusalem*, p. 84. A translation of the whole inscription is given by Besant and Palmer, *Jerusalem, the City of Herod and Saladin*, p. 86. Cf. Madden, *Coins of the Jews*, p. 280.

² It has been necessary to divide the facsimile into two lines. In the original it is continuous.



This dome (*alqubeh¹*) was built by the servant of God, Abd[allah-el-Imam-al-Mamûn, E]mir of the Faithful, in the year seventy-two. May God be well pleased, and be satisfied with him. Amen.

Not only does this inscription exhibit a very early type of the Arabic alphabet; but it is especially curious as having been the subject of an historical forgery as audacious and as futile as any that can be named. The inscription purports to be a record of the erection of the mosque by Al-Mamun, Commander of the Faithful. This Khalif ruled from 198 to 218 A.H., (813-833 A.D.), whereas the date given in the inscription is the year 72 A.H., which falls within the reign of the Khalif Abdalmalik, to whom with one accord the Arab historians attribute the erection of the building. That part of the inscription which in the facsimile has been enclosed in brackets is contained on two tiles which differ in the colour of the blue ground from the more subdued tone of the remainder. It will also be observed that the letters on these two tiles are of a somewhat different style from the rest, and are crowded together without any division between the words. If, with careful

¹ This is our 'alcove,' a word introduced by the Arabs into Spain.

measurement, the bracketed portion of the inscription be reconstructed in the same open style of Kufic letter which is used elsewhere, it will be found that the space is exactly filled by the six letters required to complete the name of Abdalmalik. The audacity of Al-Mamun's attempt to impose on posterity will perhaps be more conspicuously seen by exhibiting in Roman characters, letter for letter, the crucial portion of the conjectural record, placing below it the inscription as it actually stands :

BNY HDH ALQBH ABD ALLH ABD A L M L K A MYR
 BNY HDH ALQBH ABD ALLH ABD ALLHELIMAMALMAMUNA MYR

The history and motive of the forgery is explained by the fact that Al-Mamun has also placed inscriptions, correctly dated in the year 216 A.H. (831 A.D.), over the other doors of the mosque, claiming for himself the merit of its erection. This claim was contradicted by the original inscription. It is therefore manifest that 144 years after the mosque was built Al-Mamun took out two tiles, containing six letters of the name of the founder, replacing them by two nearly similar tiles, on which eighteen letters containing his own name were crowded. If it had not been for his oversight in omitting to alter the tell-tale date in the original record, the attempted imposture might have been successful. As it is, he has only succeeded in placing beyond any shadow of doubt the name of the actual builder.¹

¹ This inscription is obviously fatal to Mr. Fergusson's persistent

The inscription on the Dome of the Rock, though by far the most interesting, is not the oldest record in Kufic characters. Still more ancient are the legends on the coins of the early Khalifs, which date from the year 20 A.H. downwards. Two of them are represented below.



These coins are assigned to Mua'wiah, 46–60 A.H. (662–680 A.D.), who preceded Abdalmalik in the Khalifate. The Khalif is seen standing to the front, girt with a sword, with the legend, محمد رسول الله MOHAMED RASUL ALLAH, "Mohammed [is the] Apostle of God." The legends on the reverse, فلسطين 'Palestine' and ايليا 'Aelia,' show that the coins were struck at Jerusalem, while the Byzantine M, the Greek numeral for 40, which is seen beneath the crescent, serves as an index of the value, forty *nummi*, proving that the early Khalifs imitated the coins of the Byzantine empire which were current in Syria.¹

contention that the "Dome of the Rock" is to be identified with the Church of the Sepulchre, built by Constantine, and it also incidentally upsets his reconstruction of the topography of Jerusalem. He has the courage to meet the difficulty by pronouncing the inscription, whose genuineness is so curiously vouched by the mutilation, to be a *forgery!* See Madden, *Coins of the Jews*, p. 278.

¹ The determination of the primitive Kufic alphabet depends on

The oldest specimens of Neskhi are hardly less ancient.¹ There are two Egyptian passports of the year 133 A.H.,² and a private letter, also written in Egypt, dated in the year 40. Some stray leaves from copies of the Koran, written in an alphabet of the same apparent date as this letter, but with more deliberate and careful penmanship, were brought from Egypt by M. Asselin, and are now in the Bibliothèque Nationale at Paris. Some of these leaves are of special significance, as they are supposed to represent the primitive alphabet, not of Egypt, but of Mecca and Medina. They have been assigned with considerable probability to the middle of the first century of the Mohammedan era. The alphabet of these fragments, for the use of which I am indebted to the kindness of M. Lenormant, is given in column vii. of the Table on the following page, as the best attainable representation of the earliest form of the Neskhi alphabet. The Kufic alphabet in column vi. has been carefully compiled from the coins of the Khalifs of the 1st

the inscription of Abdalmalik and the early coins. It may however be noted that Kufic inscriptions, belonging to the 1st century A.H., have been found in a cemetery at Assouan, in Egypt. A page of a very early Kufic Koran has also been published by the Palæographical Society.

¹ The letter addressed by Mohamed to the Coptic Patriarch is so faded that its palæographic value is not great. The alphabet seems to belong to the Kufic rather than the Neskhi type.

² Facsimile in Silvestre, *Paléographie Universelle*, plate 29. facsimile of an Egyptian Neskhi papyrus of nearly the same date has been published by the Palæographical Society.

century A.H., and from the inscription of Abdalmalik round the Qubbet-es-Sakhra. It will be found to agree in all essential particulars with the primitive Kufic alphabet constructed by M. de Vogüé from the same materials.¹

Having now traced back both the Kufic and the Neskhi alphabets to their earliest discoverable forms, it will be seen that the divergence is not great. It would seem that the oldest Neskhi has a claim almost as strong, if not even stronger than the Kufic, to represent the primitive type of the Arabic alphabet. Both may be considered to have been derived from a common prototype, not very remote, the Kufic probably representing the monumental style of Syria, and the Neskhi the more cursive script of Egypt. What was this common parent of the two Arabic alphabets is the question now to be discussed. It may at once be admitted that no absolute prototype can be pointed out. This, however, need be no matter for surprise. There is a strong antecedent probability that the alphabet of the Koran was merely a development of the local type of the Aramean alphabet which prevailed at Mecca and Medina in the lifetime of the Prophet. In this region therefore the prototype should be sought. But religious fanaticism has rendered the birthplace of Islam practically inaccessible to European travellers.

¹ See de Vogüé, in *Revue Archéologique*, 1865, vol. xi., plate 8; and *Mélanges d'Archéologie Orientale*, plate 8, p. 150; Waddington, *Inscriptions Grecques et Latines de la Syrie*, vol. iii., p. 564.

We consequently possess no early inscriptions from the neighbourhood of Mecca, so that the evidence by which the affiliations of alphabets are usually determined is in this case unattainable. In default of direct evidence as to the nature of the primitive alphabet of the Koreysh clan, it is necessary to fall back on the cognate alphabets of other Ishmaelite tribes. The inscriptions from the Northern frontier of Arabia, and from the Syrian desert between the Euphrates on the one hand and the Jordan and the Red Sea on the other, must therefore be examined.

These North-Arabian scripts may be designated by the general name of Nabathean. The connecting link between the Palmyrene and the Nabathean types of the Aramean alphabet is found in the alphabet of the volcanic region known as the Hauran (Auranitis), the ancient land of Bashan. Here a number of inscriptions, ranging in date from the 2nd century B.C. to the 2nd century A.D., were discovered by MM. Waddington and de Vogüé. The most important of these, an inscription on a basalt block in honour of Maliketh, belongs to the time of Herod the Great, and has been published in facsimile by the Palæographical Society. The alphabet of the Hauran, obtained mainly from this inscription, is given in column ii. of the Table on p. 326, and may be considered as an early transitional form of the Nabathean.

The curious Mendaïte alphabet to which reference has already been made (p. 296) is also intermediate

between the Palmyrene and other alphabets of Syria and the ancient Ishmaelite script. The earliest type of the Mendaïte is exhibited on the coins of the kings who reigned at Characene, on the lower Tigris, in the 2nd or 3rd century A.D. Of somewhat later date is the sepulchral inscription from Abushadr, near the confluence of the Tigris and Euphrates. The alphabet of this inscription is given in col. iii. of the Table on p. 326.

The Hauranitic and early Mendaïte can however only be considered as outlying members of the Nabathean alphabet, the chief monuments of which have been obtained from the ancient territories of Edom and Midian. Josephus assigns to the Nabatheans the whole region between the Red Sea and the Euphrates. They seem to have been mainly a pastoral people, who derived considerable profits from the transport trade between Arabia Felix and the Mediterranean, which was almost entirely in their hands. Their importance and wealth appears from the account given by Diodorus Siculus of the disastrous defeat which they inflicted on the expedition sent against them by Antigonus, in 312 B.C. They were in possession of a not inconsiderable literature, which however is only known to us from an Arabic translation of Kuthami's "Book of Nabathean Agriculture." The capital in which their kings resided was the powerful and wealthy city of Petra. Here and at Bozra a few inscriptions have been found in the typical Nabathean

alphabet. A large number of inscriptions in the same alphabet have also been obtained from rocks in the peninsula of Sinai. These records have been the subject of much controversy, and have even been referred, by enthusiastic writers, to the time of the sojourn of the Israelites in the desert after the Exodus. Their true nature has, however, been placed beyond dispute by the memorable essay of Dr. Levy which appeared in 1860.¹ He has shown that the greater number of the Sinaitic inscriptions are written in a Nabathean alphabet of the 3rd or 4th century A.D., and in an Ishmaelite or old Arabic dialect influenced by Aramean forms. They are of small intrinsic interest, being mainly records left by pilgrims or by wandering herdsmen; and their ordinary purport is the utterance of some pious sentiment, or the invocation on the writer of peace, blessings, and health, or the record that a certain person passed that way. They naturally contain no dates, though some of them clearly belong to the heathen period, while the Cross and other Christian emblems plainly testify that others date from Christian times.

The somewhat indefinite chronology of the Nabathean inscriptions has, however, been determined with

¹ Levy, *Ueber die nabathäischen Inschriften von Petra, Hauran, vornehmlich der Sinai-Halbinsel, und über die Münzlegenden nabathäischer Könige*, *Z. D. M. G.*, vol. xiv., pp. 363 to 480. In 1840 Beer had already succeeded in deciphering the Nabathean alphabet, and in translating several of the Sinaitic inscriptions.

considerable certainty by reference to the legends on the coins struck by the Nabathean kings and queens. Of these coins about thirty types are known, bearing the names of Malchus, Aretas, Dabel, Gamalith, Sycaminth, and ranging in date from the time of Hyrcanus, Pompey and Herod, down to the reign of Trajan.

By the aid of these data it has been possible to establish with reasonable certainty the orderly chronological development of the Nabathean alphabet from the 2nd century B.C., to the 5th century A.D. Two representative stages are given in columns iv. and v. of the Table on p. 326.

From the Northern borderland of Arabia we have thus obtained a series of alphabets of that Ishmaelite type to which in all likelihood the pre-Islamic alphabet of Mecca must have belonged. A comparison with the early Kufic and Neskhi forms from Palestine and Egypt, as given in columns vi. and vii. of the Table, leaves little doubt as to the affiliation of the Arabic, and its true place as the most southern member of the Aramean family of alphabets.

The differences, which are not great, between the Nabathean of the 5th century and the Arabic of the 7th, are not more than might be expected when we remember that the former represents the irregular writing of wandering herdsmen, scrawling hasty records upon hard rocks, while the latter is obtained from costly codices and the coins and inscriptions of

powerful and wealthy monarchs. The shepherds of Sinai can hardly have possessed graphic skill equal to that of the artists to whom we owe the great inscription of Abdalmalik.

The Nabathean prototypes explain to some extent a puzzling peculiarity of the Arabic alphabet. Not only do the initial and final forms differ, as in Syriac and Hebrew, but letters of different origin have identical forms. Most of these assimilations and dissimilations may be traced to reasons of mere graphic convenience. In some other cases a different explanation seems to be required.¹ Take, for instance, *jim* and *kha*, the Arabic derivatives of *gimel* and *cheth*. The initial and final forms of *jim* are ج and ح, those of *kha* are خ and ح. The Nabathean inscriptions, in which each of these letters has only a single form, show that *jim* has borrowed its final form from *kha*, while *kha* has taken its initial form from *jim*. The same is possibly the case with the sibilants *sin* س and ش, and *shin* ش. The initial forms seem to be derived from *samckh*, and the final forms from *shin*.²

The following Table shows the chief systems of

¹ These identical forms, whether obtained by borrowing or by assimilation, are noted by the bracketed numerals in columns vi. and vii. of the Table on p. 326.

² This curious process may perhaps be explained by the fact of the Arabic alphabet having been transmitted through a pastoral people of small literary culture. Sounds which, at one time, could not have differed more than the initial consonants in the words *jest* and *chest*, would not be distinguished in written records, the two primitive

TRANSLITERATIONS OF ARABIC AND PERSIAN LETTERS.

	Unconnected.	Final.	Medial.	Initial.	Sir W. Jones.	French (Chodsko).	German (Fürst).	Wright.	Lane.	Standard Alphabet (Lepsius).	Namismata Orientalia (Thoma).
Alif	ا		...	...	a	e, a	ʌ	'	a	'a	a
Be	ب	ـب	...	...	b	b	b	b	b	b	b
*Pe	پ	ـپ	...	...	p	p	...	p	...	p	p
Te	ت	ـت	...	...	t	t	t	t	t	t	t
The	ث	ـث	...	...	th, ʃ	s	t, θ	t	th	θ	ʃ, th
Jim	ج	ـج	...	...	j	dj	g'	g'	j	dž	j
*Chim	چ	ـچ	...	...	ch	teh	...	c	...	tš	ch
Ḥa	ح	ـح	...	...	ḥ	hh	ḥ	ḥ	ḥ	li	ḥ
Kha	خ	ـخ	...	...	kh	kh	ḥ	ḥ	kh	χ	kh
Dal	د	ـد	...	...	d	d	d	d	d	d	d
Dzal	ذ	ـذ	...	...	z	z	ḏ	ḏ	dh	δ	z, ḏ
Re	ر	ـر	...	...	r	r	r	r	r	r	r
Ze	ز	ـز	...	...	z	z	z	z	z	z	z
*Zhe	ژ	ـژ	...	...	j	j	...	j	...	ž	zh
Sin	س	ـس	...	...	s	s	s	s	s	s	s
Shin	ش	ـش	...	...	sh	ch	ś	ś	sh	š	sh
Ṣad	ص	ـص	...	...	s	s	ṣ	ṣ	ṣ	ṣ	ṣ
Dad	ض	ـض	...	...	ž	z	ḏ	ḏ	ḏ	z	z, ḏ
Ṭa	ط	ـط	...	...	t	t	t	t	t	ḏ	t
Za	ظ	ـظ	...	...	z	z	z	z	ḏh	δ	z
'Ain	ع	ـع	...	...	ʿ	'a	ʿ	'	'a	'	'
Ghain	غ	ـغ	...	...	gh	gh	g'	g'	gh	γ	gh
Fe	ف	ـف	...	...	f	f	f	f	f	f	f
Qaf	ق	ـق	...	...	k	q	k	k	k	q	k
Kef	ك	ـك	...	...	k	k	k	k	k	k	k
*Gef	گ	ـگ	...	...	g	g	...	g	...	g	g
Lam	ل	ـل	...	...	l	l	l	l	l	l	l
Mim	م	ـم	...	...	m	m	m	m	m	m	m
Nun	ن	ـن	...	...	n	n	n	n	n	n	n
Waw	و	ـو	...	...	v, w	v, ou	v, w, û	w	w	w	v, w
He	ه	ـه	...	...	h	h, é	h	h	h	h	h
Ye	ي	ـي	...	...	y	y, î	y, i	y	y	y	y, i, e

transliteration which are in use for Arabic and Persian.¹ The venerable system of Sir William Jones stands first. This is followed by the methods used by M. Chodzko in his *Grammaire Persane*; by Dr. Fürst in his *Lexicon*; by Dr. William Wright in his *Arabic Grammar*; by Mr. Lane in his *Arabic Lexicon*, and by Professor Lepsius in his *Standard Alphabet*. The last column contains the convenient compromise which has been adopted in the *Numismata Orientalia*, which will probably be extensively used in English books.

characters being conveniently adopted as initial and final forms. With increasing culture, a nicer phonetic distinction was required, and the characters were differentiated by diacritical marks. This explanation is confirmed by the fact that in the Karmathian Arabic, which is used by the pastoral tribes of northern Arabia, the alphabet has been reduced to seventeen letters, the broader phonetic distinctions being alone recognized.

The same process has taken place in the Mongolian alphabet, which was also transmitted through a people of little culture. The Syriac dentals and palatals were first assimilated and then differentiated.

¹ This Table is essentially identical with that which appears in vol. i. of the *International Numismata Orientalia*. The letters marked with an asterisk are used only in Persian.

CHAPTER VI.

THE SOUTH SEMITIC ALPHABETS.

§ 1. *Affiliation of the South Semitic Alphabets.* § 2. *The Thamudite Inscriptions of Safa.* § 3. *The Himyaritic or Sabean Alphabet.* § 4. *The Ethiopic.*

§ 1. AFFILIATION OF THE SOUTH SEMITIC ALPHABETS.

AT a very early period the primitive Semitic alphabet had parted into three great stems.¹ The first was the alphabet of Phœnicia, which may be considered as the central trunk, out of which grew the great Hellenic branch from which are derived the various alphabets of Europe; the second was the Aramean, the source of the alphabets of western and central Asia; and the third was the primitive alphabet of Arabia, which became the parent of the alphabets of Abyssinia and of India.

For this important family of alphabets it is difficult to find a generic name altogether satisfactory. Arabian and Ishmaelite are misleading appellations; the name Ethiopic, which is often used, applies properly only to

¹ See the Genealogical Table of Alphabets on p. 81.





one alphabet of the group; the otherwise excellent term 'Joktanite' has the disadvantage of being unfamiliar to English ears; so that the only resource is to fall back on a well established but somewhat awkward descriptive phrase, SOUTH SEMITIC, which may be adopted for want of a better designation.

Up to a recent period the only alphabet of this family known to scholars was the Ethiopic, the ancient liturgical script of the Abyssinian Christians. It conserves translations of several apocryphal works, such as the Book of Enoch, the Apocalypse of Isaiah, and the Book of Jubilees, the originals of which have perished wholly or in part, as well as an early version of the Bible, which was in existence in the 4th century, as appears from an allusion to it in the writings of St. Chrysostom.

Owing to the remarkable isolation of the Ethiopic alphabet it is unusually difficult to determine the time and place of its origin, or even its precise parentage. That it belongs to the Semitic class is shown by the retention of the ancient names of the letters, while a considerable antiquity is indicated by the extensive disturbance of the alphabetic order, by the transformation of the alphabet into a syllabary, and by the extraordinary transmutation of the letters, which bear only a slight resemblance to those of other alphabets.

A few years ago, when the Ethiopic was the only known alphabet of the group, any attempt at a closer determination of its date and affiliation must have

been merely empirical. Quite recently, however, two older alphabets of the same class, exhibiting forms of a transitional character, have been brought to light. One of these intermediate alphabets, the Sabean or Himyaritic, which supplies the direct ancestral type of the Ethiopic, has been obtained from numerous inscriptions found near Aden, and in other parts of southern Arabia. The Himyaritic inscriptions supply the archaic forms of the Ethiopic letters at a period prior to the commencement of the Christian era, but the approximation to any of the alphabets of the North Semitic stock is hardly, if at all, appreciable. It is only within the last five or six years that the discovery of inscriptions at Safa, in the neighbourhood of Damascus, has supplied the needful intermediate link between the alphabets of the northern and southern Semites. These alphabets are given in the Table on the following page.

The alphabets of the south Semitic group have necessarily to be assigned to one of the three north Semitic types, that is, either to the Tyrian, or the Sidonian, or the Aramean. Taking the Himyaritic as the most primitive representative of the south Semitic alphabets, and testing it by means of the characteristics which have already been determined and formulated,¹ it will be seen that the loops of the Himyaritic letters *daleth* , *teth* , *'ayin* , and *goph* , being closed, this alphabet cannot belong

¹ See pp. 201 and 251 *supra*, and the Tables on pp. 227 and 250.

THE SOUTH SEMITIC ALPHABETS.

NORTH SEMITIC.				JOKTANITE.		ETHIOPIIC.				
Names.	Values.	ISRAELITE.	CHALDEAN & NABATHEAN.	THAMUDITE. (Safit.)	SABEAN.	OLDEST ETHIOPIIC.	AXUM.	GEEZ.	MODERN AMHARIC	Names.
		Sec. vii. B.C.	Sec. i.	Sec. i.	Sec. ii. & i. B.C.	Sec. iv. A.D.	Sec. v.		Values.	
Aleph	'a	א	א	𐤀𐤁𐤁	𐩇 𐩈	𐩇	ለለለ	አ	አ	'a alf
Beth	b	ב	ב	𐤁𐤂 𐤁𐤃	𐩈 𐩉	𐩈	ቤ	በ	በ	b bet p pait
Gimel	g	ג	ג	𐤁𐤄	𐩉		ג	ገ	ገ	g gēmel
Daleth	d	ד	ד	𐤁𐤅	𐩊 𐩋		ד	ደ	ደ	d dent
He	h	ה	ה	𐤁𐤆𐤆	𐩋𐩌𐩌	𐩋	ሀሀሀ	ሀ	ሀ	h hoi
Vau	v	ו	ו	𐤁𐤇	𐩌	∞	ሀሀ	ወ	ወ	w wawe
Zayin	z	ז	ז	𐤁𐤈	𐩍 𐩎		ז	ሀ	ሀ	z zai
Cheth	ch	ח	ח	𐤁𐤉𐤀	𐩎	𐩎	ሀ	ሀ	ሀ	h haut kh kharn
Teth	t	ט	ט	𐤁𐤊𐤊	𐩏		𐩏	𐩏	𐩏	t tait
Yod	y	י	י	𐤁𐤋	𐩐	𐩐	ሀሀ	ሀ	ሀ	y yaman
Kaph	k	כ	כ	𐤁𐤌	𐩑 𐩒	𐩑	הה	ከ	ከ	k kaf
Lamed	l	ל	ל	𐤁𐤍	𐩑 𐩒		ለ	ለ	ለ	l lawe
Mem	m	מ	מ	𐤁𐤎	𐩓 𐩔 𐩕	𐩓	𐩔	𐩔	𐩔	m mai
Nun	n	נ	נ	𐤁𐤏	𐩓	𐩓	𐩔	𐩔	𐩔	n nahas
Samekh	s	ס	ס	𐤁𐤐	𐩓	𐩓	𐩔	𐩔	𐩔	s sat
'Ayin	'a	ע	ע	𐤁𐤑	𐩓		𐩔	𐩔	𐩔	'a 'ain
Pe	p	פ	פ	𐤁𐤒	𐩓		𐩔	𐩔	𐩔	f ef
Tsade	ts	צ	צ	𐤁𐤓	𐩓 𐩔 𐩕 𐩖	𐩓	𐩔	𐩔	𐩔	ts tsadai
Q'oph	q	ק	ק	𐤁𐤔	𐩓	𐩓	𐩔	𐩔	𐩔	q qaf
Resh	r	ר	ר	𐤁𐤕	𐩓		𐩔	𐩔	𐩔	r rees
Shin	sh	ש	ש	𐤁𐤖	𐩓		𐩔	𐩔	𐩔	sh saut
Tau	t	ת	ת	𐤁𐤗	𐩓	𐩓	𐩔	𐩔	𐩔	t tawe

to the Aramean type.¹ On the other hand, the zigzag form of *shin* ז, the extremely primitive forms of *tau* ט and *qoph* פ, the upright positions of *yod* י and *gimel* ג, and the closed form of *teth* ט, are sufficient to prove that it was not derived from the Sidonian type of the Phœnician alphabet. In fact, with respect to all the most important alphabetic tests, it agrees with the Tyrian and Israelite forms as they appear in the very earliest inscriptions, those of the 10th and following centuries. Its origin must therefore be assigned to a period certainly earlier, and probably much earlier, than the 6th century B.C., when the archaic alphabet of Tyre was replaced in the west by the Sidonian, and in the east by the Aramean.

This very early date is in accordance with every other available consideration. The general aspect of the Himyaritic script, so square and monumental, resembles very remarkably the style of the earliest Phœnician and Greek inscriptions, as exhibited before the commencement of the cursive tendencies shown in the Sidonian and Aramean writing of the 7th and following centuries. Again, the fact that a well developed alphabet, apparently derived from some antetype of the Himyaritic writing, was employed in India in the middle of the 3rd century B.C., argues a considerable prior antiquity for the South Arabian script. Nor must it be forgotten that the wide dissemblance between even the oldest Sabeian letters and any Phœnician

¹ The nearest Aramean forms are given in col. ii. of the Table.

prototypes with which we are acquainted, demands a very prolonged period for the gradual development of these differences of form.

On all these grounds we are led to the conclusion that the Tyrian alphabet must have been communicated to the tribes of southern Arabia several centuries at least before the 3rd century B.C. There is indeed no reason why the alphabet should not have been conveyed to Saba and Sheba as early as the reign of Solomon, when the direct trade route by the Red Sea was opened by the enterprise of Hiram, king of Tyre. This seems the most probable date both on historical and palæographical grounds, and any appreciably later period would hardly allow sufficient time for the evolution of the great dissemblances between the forms of the Tyrian and Sabean letters.¹

Any difficulties which may be felt as to the admission of such an early date for the origin of the alphabet of southern Arabia will be diminished if we remember that this region was the centre of a very ancient civilization, and was also in close commercial relations with the northern Semites. This would make the communication of the art of alphabetic writing an event almost as inevitable as was its contemporaneous transmission to the Greeks.

¹ As to the very early date which must be assigned for the origin of the Himyaritic alphabet, see Müller in the *Z. D. M. G.* for 1876, p. 522. The date of the earliest Sabean inscriptions will be presently discussed. See p. 347 *infra*.

There is abundant evidence that Arabia Felix was the seat of one of the oldest civilizations of the world, and in the possession of great commercial wealth. As early as the 17th century B.C. it was pillaged by Thothmes III., and again in the 8th and 7th centuries, in spite of its inaccessibility, its reputed opulence excited the cupidity of Tiglath Pileser, Sargon and Sennacherib. In the 14th century B.C. the spices of Arabia Felix, and even silks from India, were brought to Babylonia by the merchants of Yemen. In the 10th century the Queen of Sheba brought gifts to Solomon, whose great riches were largely derived from the new trade route¹ opened in his reign by the Phœnicians from Elath down the eastern arm of the Red Sea, by which the payment of black-mail to the nomad tribes of central Arabia was avoided. In the days of Pharaoh Necho the route was changed to Suez, and Nebuchadnezzar transferred it to the line of the Persian Gulf.

Thus, from an immemorial time, Yemen had served as the point of connection between Eastern and Western Asia, and as the central mart from which the much desired products of Arabia, Eastern Africa, and India—spices, silks, ivory, sandal-wood, “apes and peacocks” were transported to the shores of the Mediterranean. It was as the emporium of this lucrative

¹ The old camel route from the land of the Sabceans took seventy days to Elath, whence it passed by Bozra, Kir-Moab, Rabbath Ammon and Damascus to Phœnicia.

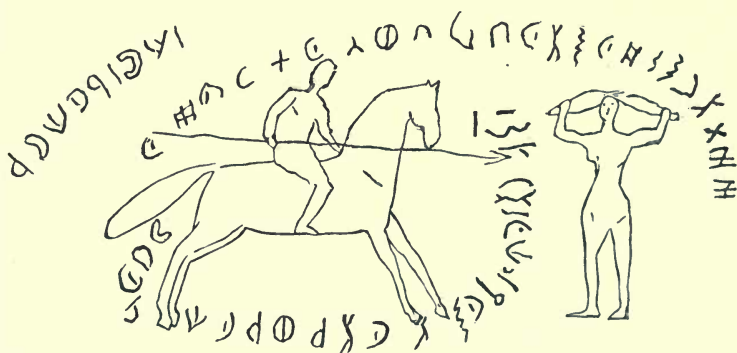
traffic that Yemen derived the immense wealth for which it was so famous in the ancient world. Thus Agatharchides, writing in the 2nd century B.C., affirms that the Sabean people were more opulent than any other nation in the world, their palaces being furnished with gilded columns, while their banquets were served on vessels of gold and silver. A little later Artemidorus of Ephesus also records the wealth and luxury of the Sabeans. Their land abounds with evidences of its ancient splendour. The astonishment of travellers is still excited by the remains of vast aqueducts and terraced gardens, and the ruins of magnificent structures of hewn stone.

It is plain that the land of the Sabeans must have been one of the chief centres of primitive civilization. It is therefore no matter for surprise that a people of such high culture, enjoying organized commercial intercourse with the Mediterranean lands, should have acquired a knowledge of the Phœnician alphabet soon after the time when the ships of Hiram of Tyre began to frequent their ports.

§ 2. THE THAMUDITE INSCRIPTIONS OF SAFA.

Safa is a volcanic region south-east of Damascus and nearly due east of the Jebel Hauran. The barren soil is covered with rounded fragments of black basalt varying from the size of the fist to that of a man's body. On many of these blocks, specimens of which

may be seen in the Louvre, inscriptions are engraved. The inscribed blocks may be counted by thousands, and they are found not only in the neighbourhood of inhabited places, but also near the tracks leading through the desert. They rarely occur singly, being usually found in groups, collected on the huge tumuli called *rijm*, which cover the country. These mounds are supposed to owe their origin to an ancient custom, frequently mentioned in the Bible, of raising monumental cairns, a practice still employed by the Bedouin to mark the site of a battle-field or the tomb of a chief. The records found on the *rijm* are occasionally accompanied by illustrative designs, executed with considerable graphic skill, as in the accompanying sketch, which represents the capture of a female slave.



The existence of the inscriptions of Safa, of which nearly 700 have been copied, was first made known by Cyril Graham. Numerous transcriptions have been published by Wetzstein, and also by de Vogüé and

Waddington. The resemblance to the Himyaritic writing was at once recognized by Blau and Wetzstein, and de Vogüé tried to decipher them, but without result. Another partially successful attempt was made by D. H. Müller in 1876. He assigned the correct values to five of the characters which are nearest to the Himyaritic, but failed conspicuously with the remainder. In the following year the problem was finally solved by J. Halévy.¹

These inscriptions differ wholly in their alphabet and dialect from the nearly contemporaneous Aramean records found in the neighbouring region of the Hauran.² It is evident that these deserts were inhabited by races of distinct origin, the one being Joktanite and the other Nabathean. It is difficult to account for the presence of a South Semitic population so far to the north. Wetzstein attributes the inscriptions of Safa to Himyaritic tribes who migrated northwards during the earlier centuries of the Christian era, a continuous stream of emigration, as Caussin de Perceval has shown, having set in from the south of Arabia. Halévy maintains that many of these inscriptions were

¹ Halévy, *Essai sur les Inscriptions du Safa*, in the *Journal Asiatique*, Seventh Series, vol. x., pp. 293 to 450 (1877); and in *Z. D. M. G.*, vol. xxxii. (1878). See also Müller's Paper in the *Z. D. M. G.*, vol. xxx. (1876); and Wetzstein, *Reisebericht über Hauran und die Trachonen*, from which the facsimile given above is taken.

² See p. 328 *supra*, and compare the Hauran alphabet given in column ii. of the Arabic Table on p. 326.

written by Thamudite soldiers in the Roman army ; but it seems on the whole more probable either that a South Arabian or Joktanite population had been settled from time immemorial in the Safa district, or that pastoral Thamudite tribes may have ranged as far as Safa in search of summer pasture.¹

The inscriptions of Safa are of singular interest, as they supply forms transitional between the alphabets of the Northern and Southern Semites, thus explaining how the Ethiopic letters were obtained from the Phœnician characters, to which they bear so little apparent likeness.

§ 3. THE HIMYARITIC OR SABEAN ALPHABET.

The Sabean is the most archaic of the South Semitic alphabets. The Ethiopic is only its modern development ; and the alphabet of Safa, though intermediate between the Phœnician and the Sabean, retains less primitive forms of several letters, such as *nun*, *teth*, and *gimel*. Some lost alphabet, of which we have no knowledge, must have been the archetype

¹ The Thamudites came from the district now called the Hejaz. It lies along the coast of the Red Sea from Medina northwards, and is about 400 miles from Safa, a distance quite within the range of the annual migrations of Arab tribes. Inscriptions in a character similar to that of Safa were found by Mr. Blunt on the rocks of Jebel Shammar in Nejd, close to the regular pilgrim route from Mecca to Baghdad.—Blunt, *Pilgrimage to Nejd*.

alike of the Safaite, the Sabean, and of the Indian alphabet of Asoka.

In the Arabian tradition the common progenitor of the tribes of Yemen was Kahtan, who is to be identified with the Joktan of the Book of Genesis. Abd-Shams-Saba, said to have been the great grandson of Kahtan, is the Eponymus of the Sabeans, the name by which these tribes were known to the Northern Semites.¹ His son was Himyar, the Eponymus of the Himyarites, who are first mentioned by ancient authors about the year 100 B.C., when Hareth, a descendant of Himyar, obtained the Sabean throne; the place of the Sabeans in history being henceforth taken by the Himyarites, who are the Homerites of Western writers.² The inscriptions of Southern Arabia date mainly from the period of Himyaritic supremacy, but as some of them go back to the Sabean epoch, the alphabet may also lay claim to the earlier Sabean name. Hence the ancient Joktanite alphabet of Southern Arabia is often designated in its earliest stage as the Sabean, and in its later development as the Himyaritic.

Till recently it was believed that no monuments of the Sabean alphabet were older than 120 B.C., but a recent discovery of Schlumberger³ has rendered it

¹ The "kings of Sheba and Saba" are referred to in the Seventy-second Psalm, which is probably of Solomonian age.

² See Duncker, *Hist. of Antiquity*, vol. i., p. 327.

³ Schlumberger, *Le Trésor de San'á; Monnaies Himyaritiques*, Paris, 1880. Cf. *Athenæum*, July 16, 1881.

possible to throw back this date to a somewhat earlier period. When resident at Constantinople in 1879 M. Schlumberger became the fortunate possessor of some 200 Himyaritic coins, most of them unknown to numismatic science. There are two types, the most ancient¹ exhibiting on the reverse the Athenian emblem of the owl, with the Greek letters **ΑΘΕ**, and a Sabean legend. The more recent type² has the owl on the reverse, and on the obverse the head of Augustus with a Himyaritic inscription. This type must therefore belong to the second half of the 1st century B.C. The coins of the earlier type were plainly imitations of Athenian mintages, just as the early Gaulish and late British coins were copied from the 'Philippi' of Macedon, which the tribes of Gaul are supposed to have brought back with them in the 3rd century B.C., after their inroad into Greece under Brennus. M. Schlumberger concludes that the types imitated in the earlier Sabean coins are of Seleucidan date, probably of the time of Seleucus IV. and Antiochus Epiphanes, 187-164 B.C.³

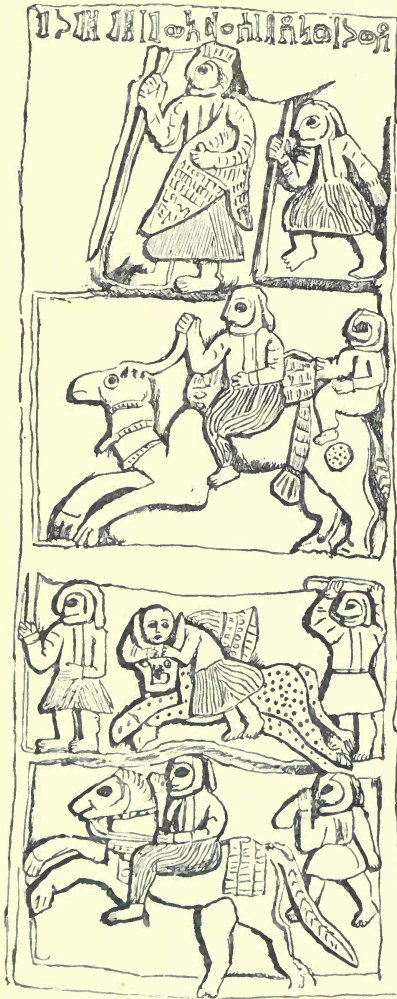
Himyaritic inscriptions are very numerous; the greater number are believed to date from about the period of the Christian Era. Some of them, however,

¹ *Ib.*, plates i. and ii., Nos. 1 to 36.

² *Ib.*, plates ii. and iii., Nos. 37 to 60.

³ On some of the coins the legend is in a character not yet deciphered, which may possibly supply an earlier or intermediate type of the Himyaritic alphabet.

belong to a somewhat earlier stage of the Sabean alphabet.¹



A facsimile of one of the most interesting monuments left by this ancient people is here reproduced. The sculpture represents four scenes from the life of the Lord of Mazmar, who was evidently a personage of great importance. In the upper compartment he marches on foot in all his dignity, with shield, sword, and helmet, attended by his servant. In the next compartment he is journeying on a camel with the same attendant mounted behind him, and in the third he is bringing a cow for sacrifice to

¹ Among the more ancient inscriptions is the record on a seal found at Anah on the Euphrates. The figures are of good Baby-

Ashtar, as is indicated by the priest who precedes him bearing the sacrificial knife, and by the hands of the offerer clasped over the forehead of the victim,¹ whose crescent horns are depicted so as to represent the symbol of the goddess. Lastly, he is seen on horseback, unarmed, evidently on a progress of state, as his attendant accompanies him on foot. The inscription is from right to left, the words being divided by vertical lines. It reads:—

צור | ונצב | סעדאום | זמזמר

“The effigy and monument of Sa'adavam of Mazmar.”²

§ 4. THE ETHIOPIC ALPHABET.

The earliest forms of the language and alphabet of Abyssinia and Southern Arabia are exhibited in the Sabean and Himyaritic inscriptions just discussed. From the south of Arabia, where these inscriptions have been found, the Joktanite Semites crossed over

Ionian workmanship of the ante-Achæmenian period, and can hardly be later than the 6th or 7th century B.C. The Sabean legend is now believed to be of later execution than the seal, but it exhibits primitive forms of three letters, *alf*, *kaf*, and *rees*. The inscription was published by Sir H. Rawlinson in the *J. R. A. S.*, N. S., vol. i., p. 234. A large number of Himyaritic inscriptions have been published in the *Z. D. M. G.*; by Halévy in his *Études Sabéennes*, and by Prideaux in *Trans. Soc. Bibl. Arch.*

¹ See Leviticus iv., 4.

² See the Plate by Euting, and the description by D. H. Müller, in the *Z. D. M. G.*, vol. xxx., p. 115.

into Abyssinia. They called themselves Ghe'ez, "the emigrants," and their language Lisana Ghe'ez, "the speech of the emigrants." In the 4th century they were converted to Christianity and subjected to Greek influences. The alphabet of the early Christian period, which is still used by the Abyssinians for liturgical purposes, is usually called the Ethiopic. It was converted into a syllabary, written from right to left, additional letters being formed by differentiation, and the letters of the Greek alphabet were employed as numerals. About the year 1300 A.D. a family from the province of Amhara obtained possession of the throne, and the Ghe'ez language has been replaced in the court and capital of Gondar by the Amharic, a Semitic dialect largely corrupted by African idioms. The Amharic script, which is used for secular purposes, is a cursive form of the old Ethiopic, enlarged by the addition of seven new letters.

The most important monuments of the ancient Ethiopic alphabet are the two great inscriptions from Axum, the former capital of the country, which were discovered by R uppel in 1830.¹ In the longer inscription, which is cut on three large limestone slabs, about four feet in height, "Halen, king of Axum and of Himyar, of Raidan and of Saba, and of Salhen,"

¹ R uppel, *Reise in Abyssinien*, 1838, vol. ii., pp. 268 to 281, and Plate v. See also Dillmann, *Grammatik der Aethiopischen Sprache*, 1857; and *Z. D. M. G.*, vol. vii. (1853).

commemorates his victory over the king of Falasha, and records the number of the slain, and the amount of booty which was taken. The date of this inscription, which is assigned to the 5th century A.D., is determined by the fact that it must be later than the conversion of the Abyssinians in the 4th century, and earlier than the conquest of Arabia Felix by the Sassanian king Chosroes in the 6th century.¹

A Greek inscription of the time of Constantius (343-356 A.D.) was also found by Rüppel at Axum, together with some shorter Ethiopic inscriptions on a lava altar and elsewhere, which may be assigned to a still earlier date. They are too fragmentary and obscure to yield any very positive results, but are valuable as supplying a transitional type of the Ethiopic letters which is nearly identical with the Himyaritic.²

The early Ethiopic, like the Himyaritic and the Safaite, is known solely from inscriptions. We possess it only as a script, not as an alphabet. But in the later Ethiopic the order and names of the letters are known. From the Table on the next page it will be

¹ The Axumite kings extended their dominion over a great part of Arabia Felix, where they established a great Christian State, which was in alliance with Justinian (527 to 565 A.D.). Remains of great Christian churches have been found at Sana and elsewhere. Chosroes conquered Yemen, and suppressed Christianity. The great Axum inscription claims the Arabians as still subject to the Axumite king.

² The alphabets of these inscriptions will be found in columns v. and vi. of Table on p. 338.

THE ETHIOPIC ALPHABET.

Names.	Values.	Forms.						
		with <i>a</i>	with <i>á</i>	with <i>i</i>	with <i>á</i>	with <i>é</i>	with <i>é</i>	with <i>ó</i>
Hoi	<i>h</i>	ሀ	ሁ	ሂ	ሃ	ሄ	ህ	ሆ
Lawe	<i>l</i>	ለ	ሉ	ሊ	ላ	ሌ	ል	ሎ
Haut	<i>h</i>	ሐ	ሑ	ሒ	ሓ	ሔ	ሕ	ሖ
Mai	<i>m</i>	መ	ሙ	ሚ	ማ	ሚ	ሞ	ሞ
Saut	<i>s</i>	ሠ	ሡ	ሢ	ሣ	ሤ	ሥ	ሦ
Rees	<i>r</i>	ረ	ሩ	ሪ	ራ	ራ	ር	ሮ
Sat	<i>s</i>	ሰ	ሱ	ሲ	ሳ	ሴ	ስ	ሶ
Qaf	<i>q</i>	ቀ	ቁ	ቂ	ቃ	ቄ	ቅ	ቆ
Bet	<i>b</i>	በ	ቡ	ቢ	ባ	ቤ	ብ	ቦ
Tawe	<i>t</i>	ተ	ቱ	ቲ	ታ	ቲ	ት	ቶ
Kharm	<i>kh</i>	ኀ	ኁ	ኂ	ኃ	ኄ	ኅ	ኆ
Nahas	<i>n</i>	ነ	ኑ	ኒ	ና	ኔ	ን	ኖ
Alf	<i>'a</i>	አ	አ	አ	አ	አ	አ	አ
Kaf	<i>k</i>	ከ	ከ	ከ	ከ	ከ	ከ	ከ
Wawe	<i>w</i>	ወ	ወ	ወ	ወ	ወ	ወ	ወ
'Ain	<i>'a</i>	ዐ	ዐ	ዐ	ዐ	ዐ	ዐ	ዐ
Zai	<i>z</i>	ዘ	ዘ	ዘ	ዘ	ዘ	ዘ	ዘ
Yaman	<i>y</i>	የ	የ	የ	የ	የ	የ	የ
Dent	<i>d</i>	ደ	ደ	ደ	ደ	ደ	ደ	ደ
Gemel	<i>g</i>	ገ	ገ	ገ	ገ	ገ	ገ	ገ
Taiṭ	<i>t</i>	ጠ	ጠ	ጠ	ጠ	ጠ	ጠ	ጠ
Pait	<i>p</i>	ጸ	ጸ	ጸ	ጸ	ጸ	ጸ	ጸ
Tsadai	<i>ts</i>	ጸ	ጸ	ጸ	ጸ	ጸ	ጸ	ጸ
Dzappa	<i>dz</i>	ሀ	ሀ	ሀ	ሀ	ሀ	ሀ	ሀ
Ef	<i>f</i>	ሩ	ሩ	ሩ	ሩ	ሩ	ሩ	ሩ
Pa	<i>p</i>	ተ	ተ	ተ	ተ	ተ	ተ	ተ

seen that though the ancient alphabetic order has been greatly modified, and the alphabet has been turned into a syllabary, the primitive names have either been translated, or preserved with so little change, that the identification of the letters with their Phœnician prototypes can be effected with much greater certainty than by means of mere resemblances of form, which are frequently deceptive.

Turning to the Table of the South Semitic alphabets on p. 338, it will be seen that the letters *alf*, *bet*, *gemel*, *wawe*, *tait*, *kaf*, *'ain*, *tsadai*, *qaf*, *rees* and *tawe*, retain their ancient names practically unaltered. In other instances we have the Ethiopic equivalent of the old Phœnician word. Thus *mai* is the Ethiopic word for 'water,' corresponding in meaning to the Phœnician *mem*, while the name *haut* is the South Semitic equivalent of the North Semitic *cheth*, a 'fence.' In three instances the North Semitic word, having no Ethiopic equivalent, has become meaningless, and the name has naturally suffered from phonetic corruption. Hence we have *zai* for *zayin*, *dent* for *daleth*, and *lawe* for *lamed*. In other cases, where the North Semitic word has no South Semitic representative, a name of analogous signification has been substituted. Thus the word *yod* having become *ad* in Ethiopic, owing to phonetic decay, was no longer acrologically appropriate as the name of the letter ϱ , *y*. Hence *yaman*, the 'right hand,' a new acrologic term of nearly equivalent meaning, was substituted for the old name *yod*, 'hand.'

The same plan has been pursued in another case. The North Semitic word *nun*, 'fish,' not existing in South Semitic dialects, an acrologic term of somewhat similar meaning has been substituted for it, and the letter \aleph *n* is called *nahas*, a 'snake.' In one case an analogous meaning has been preserved at the cost of a departure from the strict acrologic principle. Instead of *pe*, 'mouth,' we have *ef*, which means 'nose' in Ethiopic.

Two of the Ethiopic names have not been satisfactorily explained. These are *saut*, which corresponds to *shin*, and *sat*, which represents *samekh*. That this failure should occur in the case of the sibilants is especially noteworthy, as the correspondence of the Greek and Semitic names, which in other cases is so exact, fails also in the case of the sibilants.¹ The conjecture may perhaps be hazarded that at the early

¹ In the Greek alphabet *zeta* has the form and place of *zayin* and the name of *tsade*; *sigma* has the form and place of *shin* and the name of *samekh*; *xi* has the form and place of *samekh* and the name of *shin*; while *san* had the form and place of *tsade* and the name of *zayin*. It is possible that in Ethiopic the close assimilation of the forms of *sat* \aleph and *tsadai* \aleph may have brought about an assimilation of the names, just as in Arabic the names as well as the forms of *sin* and *shin* are assimilated. Possibly *saut*, whose form is manifestly derived from *shin*, may also have obtained its name from *tsade*, assimilated by superficial imitation, as Dillmann has suggested, to *haut*, the forms of the two letters bearing some resemblance. With regard to *sat*, however, it must be borne in mind that *semkath*, the Syriac name of the fifteenth letter, points to a primitive form from which the Hebrew *samekh*, the Syriac *semkath*, the Greek *sigma*, and the Ethiopic *sat*, may all have been obtained by phonetic decay.

time when the Greek and Joktanite alphabets originated, the names, powers, and positions of the sibilants had not been definitively fixed in the mother alphabet of Phœnicia.¹

In the Ethiopic alphabet there has been extensive dislocation in the primitive order of the letters. This must be attributed to the desire of bringing together for convenient comparison letters closely resembling one another in their forms, a course which has greatly affected the arrangement of the letters in the Arabic and other alphabets. An explanation is thus afforded of the juxtaposition of *yaman* **Ṗ** and *dent* **Ṛ**, of *pait* **Ṙ** and *tsadai* **Ṙ**, of *kharm* **Ṛ** and *nahas* **Ṛ**, and of *alf* **Ṛ** and *kaf* **Ṛ**.²

The Ethiopic letters are more numerous than those of the North Semitic alphabet, additional characters having been obtained by differentiation from the primitive stock. This process began at a very early time, and was carried on during many centuries. Even in the Himyaritic inscriptions some of these differentiated forms make their appearance, while others

¹ See p. 194, *supra*. The names of the Ethiopic letters have been discussed by Dillmann, *Grammatik der äthiopischen Sprache* (1857); and by Lagarde, *Symmicta*, i., pp. 114, 115.

² That these changes were gradually effected is curiously indicated by the position of *lawe* **Ṛ** near the head of the alphabet. This letter must have been transferred from the twelfth to the second station on account of its resemblance to *alf* **Ṛ**, before *alf* was moved downwards, and must have retained its new position, otherwise so inexplicable, when *alf* had been brought into juxtaposition with *kaf*.

which are absent from the ecclesiastical Ethiopic have been introduced into the modern Amharic alphabet.

Thus from *cheth*, representing the two cognate Arabic sounds ح and خ, we have the two letters *haut* **ሐ** and *kharm* **ኀ**, whose origin may be traced back to the Sabean alphabet. The name *haut* is simply the name *cheth* modified according to the law of letter-change, while *kharm* is an acrologic translation of the primitive name, meaning, like *cheth*, a 'hedge' or 'palisade.' The letter *pait* **ኀ** again is a differentiated form of *bet* **በ**, the modification of the name being due to assonance with *tait*, next to which it stands in the Ethiopic alphabet. Both forms may be traced back to the Himyaritic alphabet. The name of the new letter *dzappa* **ዐ**, obtained by differentiation from *tsadai*, is not, as Gesenius imagined, derived from the Greek *kappa*, but is probably a term descriptive of the appearance of the letter, meaning, as it does, a 'bar,' or 'crossbeam.'

The process of differentiation was continued after the old Ethiopic alphabet had given place to the Amharic. In the Amharic there are seven new letters, constructed on the same principle, by the addition of an upper bar. They are:—

Ethiopic: ሰ *s* ጥ *t* ኀ *n* ኀ *k* ዘ *z* ጸ *d* ጠ *t*
 Amharic: ሰ *sh* ጥ *tsh* ኀ *gn* ኀ *kh* ዘ *zsh* ጸ *j* ጠ *tsh*

The most remarkable feature of the Ethiopic alphabet is the method by which the vowels are

denoted. A somewhat similar, but much less elaborate system, is found in the Mendaite alphabet (see p. 297), in which syllabic signs have been formed by affixing to the consonants abraded forms of *aleph*, *vau*, and *yod*. An earlier example of this notation is found in the alphabet used in the Indian inscriptions of Asoka (250 B.C.), medial vowel-signs being introduced into the body of the covering consonant. The Himyaritic inscriptions show no trace of this device, and it seems more probable that the Ethiopic vowel notation was independently invented, than that it was borrowed from the Indian system.¹ But the Mendaite and Indian syllabaries, in which the suffixed vocalic signs are manifestly only abraded letters, makes it probable that the 'tags' in the Ethiopic syllabary originated in a similar way.²

¹ Lepsius, *Anordnung des Alphabets*, p. 76, contends for a much greater influence of the Indian on the Ethiopic alphabet than is here suggested. Most of the resemblances between the Ethiopic and old Indian alphabets may, however, be sufficiently explained by their descent from a common source.

² The present extended development of the Ethiopic vowel notation is probably to a great extent merely arbitrary and artificial; but the syllabic suffixes which denote the vowels \bar{e} and \bar{a} occasionally bear such a resemblance to the letters 'ain **Ⲁ** and alf **ⲁ**, as to suggest the hypothesis that the germs of the vocalic suffixes were abraded letters. Ancient Ethiopic codices may possibly afford a solution of the problem.

In this volume the origin of the Semitic alphabet has been discussed, and the history of the three great stems into which it parted has been traced. Each of the three Semitic stems became the source of a group of non-Semitic alphabets. To the Phœnician may be traced the origin of the Greek alphabet, which became the parent of the various alphabets of Europe. From the Aramean proceeded the Iranian group of alphabets, which replaced the Cuneiform writing as the script of the Eastern provinces of the Persian empire. To the South Semitic type must be referred the ancient alphabet of India, with its numberless descendants. It now only remains to investigate the history of the three Aryan alphabetic families—the European, the Iranian, and the Indian—which were derived by independent transmission from the three great types of the Semitic alphabet.

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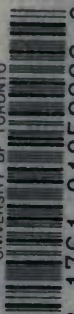
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I

THE ALPHABET

AN ACCOUNT OF THE

Origin and Development of Letters

VOL. II.



THE ALPHABET

AN ACCOUNT OF THE

Origin and Development of Letters

By ISAAC TAYLOR, M.A., LL.D.

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CONTENTS OF VOL. II.

CHAPTER VII.—THE GREEK ALPHABET.

	PAGE
§ 1. The Science of Greek Epigraphy	1
§ 2. Abu Simbel	5
§ 3. The Legend of Cadmus	18
§ 4. The Cadmean Alphabet	28
§ 5. The Dated Monuments	44
§ 6. Classification of the Greek Alphabets	61
§ 7. The Abecedaria	69
§ 8. The Letters	80
§ 9. The Asianic Scripts	108

CHAPTER VIII.—ALPHABETS OF HELLENIC ORIGIN.

§ 1. The Italic Alphabets	124
§ 2. Latin	136
§ 3. Greek Uncials and Minuscules	145
§ 4. Latin Uncials and Minuscules	163
§ 5. Coptic	191
§ 6. The Slavonic Alphabets	195
§ 7. The Albanian Alphabets	207
§ 8. The Runes	210
§ 9. The Oghams	225

CHAPTER IX.—THE IRANIAN ALPHABETS.

§ 1. The Primitive Scripts of Persia	228
§ 2. The Pehlevi Alphabets	238
§ 3. The Indo-Bactrian Inscription of Asoka	256

	PAGE
§ 4. The Indian Numerals	263
§ 5. The Armenian and Georgian Alphabets	268

CHAPTER X.—INDIAN ALPHABETS.

§ 1. The Multiplicity of Indian Scripts	285
§ 2. Asoka	289
§ 3. The Primitivc Alphabets of India	296
§ 4. The Origin of the Indian Alphabets	304
§ 5. The Epoch of Transition	324
§ 6. The Vernacular Alphabets	342

CHAPTER XI.

THE EPILOGUE	360
------------------------	-----

INDEX OF ALPHABETS	374
GENERAL INDEX	377

T A B L E S .

	PAGE
Chronological development of the Greek Alphabet	59
Geographical distribution of Greek Alphabets	60
Greek test letters	66
The Sibilants, Greek and Semitic	97
Cypriote and Lycian characters	116
Hittite and Cypriote characters	123
The Italic Alphabets	126
Greek and Latin letters	138
Greek Uncials and Minuscules	154
Latin Uncials and Minuscules	164
The Coptic Alphabet	194
The Slavonic Alphabets	196
Origin of the Glagolitic Alphabet	203
Cyrillic and Russian ligatures	206
The Albanian Alphabets	209
The Runic Alphabets	218
The Oghams	225
The Iranian Alphabets	236
The Parsi or Zend Alphabet	252
The Arabic Numerals	266
Armenian Alphabets	276
Georgian Alphabets	277
The Primitive Alphabets of India	298
Origin of the Asoka Alphabet	320
The Ancient Alphabets of India	336
Vernacular Alphabets of the Peninsula of India	338
Vernacular Alphabets of Further India and the Islands	340
The Maledevi Alphabets	357

ILLUSTRATIONS.

GREEK INSCRIPTIONS :—	PAGE
Abu Simbel	7, 11
Thera	30-33
Athens	35, 36
Melos	37
Branchidæ	46
Platean Trophy	50
ABECEDARIA :—	
Formello	74
Cære	75
Colle	79
Grosseto	79
Cypriote Inscription	114
Epitaph of Scipio Barbatus	141

CHAPTER VII.

THE GREEK ALPHABET.

- § 1. *The Science of Greek Epigraphy.* § 2. *Abu Simbel.*
§ 3. *The Legend of Cadmus.* § 4. *The Cadmean Alphabet.*
§ 5. *The Dated Monuments.* § 6. *Classification of Greek Alphabets.* § 7. *The Abecedaria.* § 8. *The Letters.*
§ 9. *The Asianic Scripts.*

§ I. THE SCIENCE OF GREEK EPIGRAPHY.

UPWARDS of ten thousand ancient Greek inscriptions are included in the four volumes of the *Corpus Inscriptionum Græcarum*. It has been estimated, however, that this is not more than half the number which a complete collection would comprise. How much, or rather how little, was known sixty years ago about this vast mass of epigraphic material, may be gathered from the scholarly work of Hugh James Rose, *Inscriptiones Græcæ Vetustissimæ*, published in 1825, which contains notices of less than one hundred inscriptions. Now, however, by the labours of the great school of German epigraphists, among whom the most illustrious names are those of Böckh, Franz, Mommsen, and Kirchhoff, our knowledge has been

greatly extended, chaotic confusion has been replaced by orderly arrangement, and the history of the Greek alphabet has been placed upon an unassailable scientific basis.¹ In England the new science of Greek epigraphy, which may be said to deal with the chronological and geographical classification of Greek inscriptions, has found few followers, and there is only too much truth in the complaint urged by Professor Mahaffy that even eminent English Hellenists are

¹ The publication of the *Corpus Inscriptionum Græcarum* may be said to have made possible the science of Greek Epigraphy. The two first volumes, edited by the illustrious scholar, Böckh, appeared in 1828 and 1833. Without detracting from the extraordinary merit of Böckh's labours, it may be acknowledged that the time has come when a revised edition of these two volumes might be published with advantage. Böckh was followed by Franz, who discussed the fundamental principles of epigraphic science in his *Elementa epigraphicæ Græcæ*, published in 1840, and brought out the 3rd volume of the *Corpus* in 1853. The important work of Mommsen, *Die unteritalischen Dialekten*, appeared in 1850. The 4th volume of the *Corpus* was published in 1856 by Kirchhoff, to whom we also owe a compendious and most valuable systematic manual of Greek epigraphy, the *Studien zur Geschichte des griechischen Alphabets*, an essay originally published in the Transactions of the Berlin Academy for 1863, which has gone through three editions in its separate form. The *Études sur l'origine et formation de l'alphabet grec* of Lenormant appeared in the *Revue Archéologique* for 1867 and 1868. The substance of these essays will be found in the article entitled *Alphabetum*, published in 1873 in Daremberg and Saglio's *Dictionnaire des Antiquités Grecques et Romaines*, which still remains the most lucid elementary treatise on the subject. The works of Rangabé (*Antiquités Helléniques*), Ross, Le Bas, Waddington, Kumanudes, and Hicks, will also be found essential by the student.

found to be helpless in face of a Greek inscription.¹ The fundamental principles of the science are however so simple, and the essential facts on which it rests are so few, that without going into an overwhelming mass of detail, it may perhaps prove possible to give within the compass of a single chapter a clear and useful summary of the results which have been obtained by the great German scholars who have been named.

From the character of the alphabet employed, the science of Greek epigraphy professes to be able to determine approximately the date and the place of origin of inscriptions. Starting with the assumption that the Greek alphabet underwent a process of orderly evolution, which lasted continuously for several centuries, a series of cautious deductions and brilliant generalizations have been drawn from a very limited number of fundamental facts.

The general nature of these facts and conclusions

¹ Mahaffy, *History of Greek Literature*, vol. ii., p. 2. Professor Mahaffy's book has elicited a striking illustration of the truth of his remark. Mr. Paley making acquaintance in it, for the first time, with the cardinal monument of Greek epigraphy, the inscription at Abu Simbel (see p. 11. *infra*), finds he cannot reconcile it with his Homeric theories, or his conjectures as to the date at which written literature commenced among the Greeks. So much the worse for the inscription. He pronounces "the whole thing a hoax." "I have no hesitation," he says, "in expressing my belief that it is not really earlier than the age of Pericles." (Paley, *Bibliographia Græca*, p. 32.) If Mr. Paley had been acquainted with the elements of epigraphic science he would doubtless have felt some 'hesitation' before setting aside the unanimous verdict of European epigraphists.

can be indicated in a single paragraph. Up to the end of the fifth century we find that almost every Hellenic State possessed its own local alphabet. After this time a nearly uniform alphabet prevailed throughout Greece, which underwent only inconsiderable modifications. Now we know that in the year 403 B.C., after the close of the Peloponnesian war, the Ionian alphabet was formally adopted for public purposes at Athens by a decree of the people, and within a few years the example of Athens was followed throughout the greater part of Greece. An inscription from Halicarnassus, containing internal evidence by which its date is fixed, establishes the fact that in Asia Minor this Ionian alphabet had approximately attained its final form as early as the 80th Olympiad (460 B.C.). For the history of its formation out of the Phœnician alphabet—a process which must have occupied many centuries—and for the history of the local alphabets which it displaced, the definite materials consist of the inscriptions which happen to contain a date. Naturally these are few. It would be possible to reckon on the fingers the inscriptions earlier than the 80th Olympiad to which a positive date can be assigned. The rest of the science of Greek epigraphy has been built up of ingenious but fairly certain deductions based on these somewhat narrow foundations. These facts and conclusions have now to be examined.

§ 2. ABU SIMBEL.

The first absolutely firm standing ground in the history of the Greek alphabet, and consequently in the history of our own, is furnished by a monument which appertains, not to Hellas, or to any of the numerous seats of Hellenic culture, but to the Nubian desert, a region so remote as to be almost beyond the confines of ancient civilization.

At Abu Simbel, or as it used to be more correctly called, at Ipsambul,¹ near the second cataract of the Nile, the most imposing of all the monuments of the ancient magnificence of Egypt still attracts, as it has done for five-and-twenty centuries, the wondering admiration of a host of visitors.

At this spot the alluvial plain, which elsewhere fringes the river, has disappeared; the bare cliffs and the desert have closed in on either side. The boundaries of Egypt have been left behind, and the traveller seems to be passing through the rocky gates which lead to the unknown regions of central Africa. At that vastly remote period, when the Hebrews were still toiling in Egyptian bondage, Rameses II., the most magnificent

¹ Abu Simbel, the 'Father of the Sickle,' which is the modern local name, is a recent Arabic *Volks-etymologie*, formed by the corruption of Ipsambul, itself a corruption of Psam-polis, the 'city of Psam,' the name bestowed by Greek travellers at a very early period.

of all the Pharaohs, carved this great precipice of rock into a stupendous temple-cave dedicated to the great gods of the land of Egypt, and committed to its walls the annals of his reign and the records of his distant conquests; trusting, and not in vain, that the desolate solitudes of Nubia would guard more faithfully the memories of his glory than the palaces and temples which he reared in the precincts of his great cities of Thebes, Memphis, or Abydos.

In front of the portals of this temple are seated four colossal portrait statues of the king, all hewn out of the solid sandstone of the cliff. The scale of these figures is astounding,¹ but the impression which they make upon the imagination of the traveller is probably due not so much to the gigantic size, or to the desolation of the surrounding desert, as to their air of everlasting and serene repose. No grander conception has ever been formed by man than to hollow the walls of this vast cliff into a memorial temple, its portals guarded by the eternal majesty of these stupendous figures.

Travellers have exhausted the vocabulary of panegyric in endeavouring to describe the overwhelming impression made upon the mind by this marvellous

¹ If erect, their stature would be nearly 90 feet. The exact dimensions are as follows:—height, 66 feet; breadth across the shoulders, $25\frac{1}{2}$ feet; from elbow to tip of fingers, 15 feet; nose, $3\frac{1}{2}$ feet; leg from knee to heel, 20 feet; forefinger, 3 feet; height of façade, about 100 feet.

façade;—these four great masterpieces of Egyptian sculpture standing in their unapproachable magnificence



in a spot so remote from the dwellings of mankind. "It surpasses everything which imagination can conceive of grandeur in a human work." It seems "hewn as if by enchantment—for this is the proper word—so bold,

so powerful, so exceeding all human measure, as if giants had turned the bare rocks into a living work of art." "The first view ranks with Niagara, Naples, and Mont Blanc, as a sight never to be forgotten."

Such are the words in which travellers have attempted to describe the wonders of Abu Simbel.¹

The temple of which these marvellous statues form the portal is itself of almost matchless interest. It enshrines a complete contemporary chronicle of the proudest period of Egyptian history. The richly painted and sculptured walls are crowded with the records of the stirring reign of Rameses—we have the account of the countless wars which he waged, the battles which he fought, the cities which he captured, the embassies which he received, the tributes from distant nations which were laid at his feet—we have priceless ethnographic portraiture of the races of almost every land, from the Hittites living on the banks of the Orontes, to unknown tribes inhabiting the shores of the Indian ocean.

But the interest of Abu Simbel does not end here.

The colossal statues² are covered with memorials,²

¹ The best descriptions will be found in Brugsch, *History of Egypt*, vol. ii. pp. 90, 91; Lepsius, *Briefe aus Aegypten*, pp. 260, 261; Villiers Stuart, *Nile Gleanings*, p. 168; Edwards, *A Thousand Miles up the Nile*, p. 424; Duncker, *History of Antiquity*, vol. i. p. 175.

² The inscriptions were originally transcribed by Bankes and Salt, and first published by Leake in *Trans. Royal Soc. Lit.* for 1827. See Lepsius, *Denkmäler aus Ägypten*, vol. xii., plates 98, 99, Nos. 515 to 536; Böckh, *Corpus*, vol. iii. p. 507, No. 5126; Kirchhoff, *Studien*.

written in many alphabets, by countless travellers of all ages who have visited this spot. Most of these inscriptions are brief, containing little more than the bare names of visitors. But among all the confusion of these scribbled records there are several of priceless value for the student of Palæography. Among the more ancient inscriptions six are Phœnician, nineteen are Greek, and three are in an unknown alphabet which is supposed to be Carian. The most important is a Greek inscription consisting of five lines of writing, which serves to fix approximately the date at which it was written. It records the visit of certain Greeks who were in the service of Psammetichus, an Egyptian king belonging to the twenty-sixth dynasty, and it must therefore date from the 7th century B.C., or from the beginning of the 6th. Of the shorter Greek inscriptions, eight appear from internal evidence to have been written at the same time and probably on the same day. The other ten records, though ancient, are shown by the character of the writing to belong to later periods.

We have therefore at Abu Simbel nine records, which may claim to be the earliest Greek inscriptions

pp. 34 to 42; Blass, in *Hermes*, vol. xiii. p. 381; Wiedemann, in *Rheinisches Museum*, 1880, p. 364; Blau, in *Z. D. M. G.*, vol. xix. p. 522; Judas, *Étude Démonstrative*; Sayce, in *Transactions of Royal Society of Literature* for 1873; Levy, *Phönizische Studien*, heft iii. p. 80; Rawlinson, *Herodotus*, ii. p. 37; Mahaffy, *Greek Literature*, ii. p. 2; Duncker, *Hist. Antiq.*, vol. iii., pp. 307, 399; Hicks, *Manual of Greek Historical Inscriptions*, p. 4.

in existence to which any positive date can be assigned. They were cut when what we call Greek history can hardly be said to have commenced—two hundred years before Herodotus, the Father of History, had composed his work, a century before Athens began to rise to power. More ancient even than the epoch assigned to Solon, Thales, and the 'seven wise men of Greece,' they must be placed in the half legendary period at which the laws of Dracon are said to have been enacted. At this time, which to us seems so remote, the Ionian and Carian mercenaries must have gazed at the façade of Rameses as a monument of immense antiquity, belonging to a period of Egyptian history which long since had passed away. For eight centuries those colossal figures had been sitting silent in the Nubian desert; the glories of the Theban empire had vanished altogether, while in all probability the exploits of Rameses himself had already become blended with those of Thothmes and Sethos into the legend of the imaginary hero Sesostris.

The unrivalled importance of the chief Abu Simbel inscription for the history of Greek palæography, and the costly inaccessibility of the huge folios in which it is engraved, make it desirable here to reproduce, on a smaller scale, but with all possible accuracy, the facsimile which Lepsius has given.¹ The great letters, which are about two inches in height, were so

¹ Lepsius, *Denkmäler aus Ägypten*, plate 99.

ΒΑΣΙΛΕΥΣΕΛΘΟΝΤΟΣΕΞΕΛΕΦΑΝΤΙΑΝΨΑΜΑΤΙΧΟ
 ΨΑΝΤΑΕΓΡΑΨΑΝΤΟΙΣΥΝΨΑΜΑΤΙΧΟΙΤΟΦΕΟΚΝΟΣ
 ΕΠΛΕΟΝΘΟΝΔΕΚΕΦΚΙΟΣΚΑΤΥΠΕΘΕΥΙΣΟΠΟΤΑΜΟΣ
 ΑΝΙΨΑΝΟΓΡΟΣΟΔΩΤΕΠΟΤΑΣΙΜΤΟΑΙΓΥΠΤΙΟΣΔΕΡΜΑΣΙΣ
 ΕΓΡΑΦΕΔΑΜΕΡΨΟΝΑΜΟΙΒΙΧΟΚΑΙΠΕΛΕΞΟΣΟΔΑΜΟ

THE ABU SIMBEL RECORD.

βασιλεος ελθοντος ες Ελεφαντιναν Ψαματιχο
 ταυτα εγραψαν τοι συν Ψαμματιχοι τοι Θεοκλ[ε]ος.
 επλεον, ηλθον δε Κερκιος κατυπερθε υις ο ποταμος
 αυτη. αλογλοσος ο ηχε Ποτασιμτο, Αιγυπτιος δε Αμασις.
 εγραφε δ' αμε Αρχον Αμοιβιχο, και Πελεξος οΥδαμο.

"When King Psamatichos came to Elephantina, those who were with Psamatichos the son of Theokles, wrote this. They sailed and came above Kerkis as far as the river permitted. Potasimto led the foreigners, and Amasis the Egyptians. The writer was Archon Amoibichos, and Peleqos son of Eudamos."

deeply chiselled, and in the dry Nubian air have suffered so little from atmospheric influences, that there is hardly a doubt as to the actual reading of the inscription.¹

It would appear that when King Psammetichus was at Elephantine, some of his Greek and Carian mercenaries, headed by a Greek captain, who, according to a common practice, had been named after the king, undertook an exploration into Nubia, sailing on to Kerkis, where they found navigation stopped by the second or Great Cataract. On their return they halted at Abu Simbel, and left there this record of their journey. Two of the Greeks seem to have shared the work of engraving the great inscription, while eight Greeks, three Carians, and several of the Phœnicians separately scratched their names elsewhere on the knees of the colossus.

Some of the shorter inscriptions furnish information as to the nationality of the writers. One of them designates himself as "Pabis the Kolophonian, who came with Psammaticchos." Another was "Elesibios the Teian;" a third states, "Telephos the Ialysian wrote me." The names, separately recorded, of "Python, son of Amoibichos," "Hermokrithis," "Hagesermos," and "Pasidon, son of Ippos," serve to prove how

¹ I have given the new version of Blass and Wiedemann, which is not however free from difficulty. Potasimpto seems to be an Egyptian name, the first portion, which we have in Potiphar, meaning 'belonging to,' 'priest of,' and *simpto* being equivalent to *Sem-tauï*, a title of Horus. Possibly we should read $\Delta\eta\chi\epsilon\pi\acute{o}\tau\alpha\varsigma$ "Ἴμπτου.

widely diffused at this early period was the art of writing among the Ionian Greeks.

The longer record enables us to determine the date of the inscriptions within limits which are comparatively narrow. There were three Egyptian kings called Psamatik, all of whom belonged to the 26th or Saitic dynasty. Psammetichus III., who reigned only for a few months, is out of the question. Both the others visited Elephantine, where they have left their records on the rocks. Scholars have, for the most part, been inclined to assign the visit of the Ionian mercenaries to the reign of Psammetichus I., which would bring it between 654 and 617 B.C., when he was succeeded by his son Necho, the Pharaoh by whom Josiah, King of Judah, was slain, in the battle of Megiddo. If Psammetichus II. be the king intended—and it must be acknowledged that arguments of great weight can be produced in favour of this view—the date would be between 594 and 589 B.C. In such a matter, however, a few years more or less are of no great importance. In any case the inscription represents the Ionian alphabet towards the close of the 7th century B.C.

The interest and importance of this record can hardly be exaggerated. To the historian it is of interest as a confirmation of the account given by Herodotus¹ of the employment of Ionian and Carian mercenaries in Egypt; by the geographer it is prized

¹ Cf. Herodotus, ii., § 30; ii., § 152.

as the earliest contemporary record of geographical exploration; for the philologist it conserves in an unimpeachable form a most primitive specimen of Ionic Greek; while for the student of Greek palæography it is of inestimable value as the cardinal example of Greek writing of the 7th century B.C., and also, being the first Greek inscription to which a definite date can be assigned, as affording an unassailable standing ground for constructing the history of the early alphabet of Greece.

But the chief importance of the Abu Simbel records lies in the evidence which they incidentally supply as to the date at which the Greeks must have come into possession of the art of alphabetic writing. We have nine Greek inscriptions, three Carian, and six Phœnician, all presumably contemporary.¹ In these nine Greek inscriptions the alphabet employed is practically uniform, the variations in the forms of individual letters are trivial, while the precision and regularity of the writing, the correctness of the spelling, and the evidence of familiar habitude with the use of graphic materials, show that in the 7th century B.C. alphabetic writing could have been no novelty among the Greeks who were accustomed to take service as mercenaries with foreign princes.

¹ The Carian inscriptions have not yet been read. The Phœnician records are very difficult to decipher, but they seem to contain the name of Hamsabatichi (Psammetichus) and of mercenaries named Pethar ben Jethar and Sillon ben Pethiach.

That so large a proportion of these soldiers of fortune knew how to write, and that adventurers from different states, Dorians from Ialysos in Rhodes, and Ionians from Teos and Kolophon on the mainland, were able to inscribe their names in well formed and legible letters, proves that such a generally diffused knowledge of alphabetic writing could not have been introduced at any very recent date. How considerable a period would be required for the formation of this definite and uniform Greek alphabet will be seen more plainly by comparing it with the alphabets employed in the contemporary records of the Carian and Phœnician comrades of the Greek mercenaries. The Carian and Ionian alphabets, which must have been developed from a common source, are so different that it is doubtful whether a person acquainted with the one would have been able to decipher the other. This great difference in the alphabets of two adjacent peoples establishes the very remote antiquity of alphabetic writing in the Ægean. It will, however, suffice to institute a comparison between the alphabets used in the Greek and the Phœnician records.

In the Greek inscriptions the direction of the writing has already been changed ; it no longer runs from right to left, but has definitely assumed the modern direction from left to right. The phonetic changes are still more significant. The four guttural breaths, *aleph*, *he*, *cheth*, and *'ayin*, and the two semi-consonants, *vau* and *yod*, have been transformed into the six vowels α , ϵ , η , \omicron , υ , ι ,

only one of them, *eta (cheth)*, retaining traces of the earlier phonesis by its permissive use as an aspirate. Three new letters, ϕ , χ , ψ , all of them unknown in any Semitic alphabet, have been introduced, while important morphological changes have taken place in nearly half of the letters of the alphabet.¹

Thus widely had the Greek and Phœnician alphabets diverged from each other since the Greeks had acquired the art of writing. All the really important characteristics, phonological or morphological, which now distinguish the alphabets of Europe from those of Asia, had already, before the close of the 7th century B.C., had time to make their appearance.

Knowing the extreme slowness of the processes of alphabetic evolution, every student of epigraphy will admit that such a radical transformation of the Phœnician alphabet could only have been effected in the course of centuries. Not to speak of the time required for the change in the direction of the writing, or for the evolution of the vowels, the mere modifications in the forms of the letters must have taken many successive generations to bring about. We know, from the case of other alphabets, that the forms of letters change with extreme slowness, the modifications introduced during any single generation being almost imperceptible.

¹ Compare the forms of the Greek letters α , β , δ , ϵ , λ , μ , ν , π , σ , τ , in the facsimile on p. 11, with the Abu Simbel forms of their Phœnician prototypes given in column iv. of the Table in vol. i., p. 227.

In order to arrive at some rude measure of the time that would be needed to bring about such considerable results we may compare the alphabet of Abu Simbel with the next succeeding monuments of Greek epigraphy which bear a definite date. These are the inscriptions on the pedestals of certain statues which lined the sacred way leading to the temple of Apollo at Branchidæ near Miletus, which on valid grounds are assigned to the 60th Olympiad.¹

Although these inscriptions are later by nearly a hundred years than those at Abu Simbel, yet the forms of the letters are almost identical. One new letter, *omega*, makes its appearance; *koppa*, which at Abu Simbel is already obsolescent, has now finally disappeared; while *eta*, which at Abu Simbel may denote either a vowel or the aspirate, is now specialized, and is used exclusively as a vowel. Since it took nearly a century to bring about these three innovations, it is obvious that a century would be wholly inadequate for effecting the enormously greater amount of divergence between the Abu Simbel alphabet and the parent Phœnician. Instead of one additional letter, there are three, ϕ , χ , ψ ; instead of one or two trifling variations of form, material changes have affected nearly half the letters of the alphabet, not to speak of the evolution of the vowels, a process which has already been completed in five cases, and partially in a sixth.

¹ Kirchhoff, *Studien*, pp. 25, 26. See the facsimile on p. 46, and cols. v. vi. and vii. of the Table on page 59.

The formation of this Abu Simbel alphabet, it may confidently be concluded, must have been a prolonged process ; and the two or three centuries which have sometimes been thought to be sufficient may fairly be extended, on a reasonable computation, to four or even five.

§ 3. THE LEGEND OF CADMUS.

The inscriptions at Abu Simbel afford a fixed starting point from which the inquiry into the early history of the Greek alphabet may be conducted. They prove that at the close of the 7th century B.C. the Ionian Greeks were in possession of a well-developed alphabet of considerable antiquity, which agreed in all essential respects with the Greek alphabet in its final form. As regards the direction of the writing, the forms, powers, and number of the letters, the Abu Simbel records exhibit all the characteristic features which distinguish the Greek from the Phœnician alphabet.

The formation of this seventh century Greek alphabet, which must have required such a lengthened period to effect, has now to be investigated. The mode in which this inquiry can be prosecuted is twofold. It will be necessary to examine, in the first place, the evidence afforded by Greek tradition, and the results yielded by the modern methods of historic inference ; and, in the second place, the resources of the new science of

Greek epigraphy must be employed to determine the earliest form of the Greek alphabet, by arranging in chronological sequence the long series of monuments which, though undated, manifestly belong to its earlier stages.

That the primitive Greek alphabet was obtained by direct transmission from the Phœnicians is indicated by such a unanimous tradition of classical writers that it must be regarded as more than a mere legend. This general belief is implied by the very name borne by the ancient Greek letters, *φοινικῆια γράμματα*. These "Phœnician letters" were also called the "Cadmean letters," having been introduced, according to a Greek legend, which is repeatedly quoted by Herodotus, by Cadmus the Tyrian when he sailed for Greece in search of Europa.¹ It is plain that Cadmus and Europa are merely eponymic names, Cadmus meaning in Semitic speech² "the man of the East," while Europa is the damsel who personifies "the West." The Phœnician mariners who brought merchandise to the shores of Greece were the "men of the East," just as the Danes of Dublin were the "Ostmen," and to the English of the 14th century the Lübeck merchants were the "Easterlings," who have

¹ Europe, as a geographical term, not improbably designated at first merely the plain of Thebes, just as the word 'Asia' originally denoted only the plain of Ephesus, and 'Africa' the plain of Carthage.

² Thus the Hebrews knew the Arab tribes of the trans-Jordanic deserts as the Beni Kedem, the "sons of the East." See Job i. 3.

left in our language an abiding memorial of their trade in the "sterling" or "easterling" currency which still remains our monetary standard. The name of Europa tells its tale no less plainly, being adapted from the Semitic word *ereb*, the "darkness," the "evening," and hence the "West."¹ The tradition of the search by Cadmus for Europa must therefore be regarded as an eponymic myth referring to the exploration of western lands by the eastern navigators.

This tradition of the Greeks, that their alphabet was obtained from the Phœnicians, derives strong confirmation, as has been already shown,² from the essential identity of the early Greek and Phœnician alphabets as regards the names, the order, and the forms of the letters. It is therefore in those parts of Greece which were occupied by Phœnician colonies that we must search for vestiges of the earliest forms of the Greek alphabet.

Herodotus informs us that Cadmus, having undertaken the search for Europa, landed first on the island of Thera, which was then probably inhabited by Carians, a people of non-Aryan race. On Thera, we are told, he left a colony of Phœnicians, who lived on the island for eight generations, until the arrival of the

¹ We have this word in Erebus, the darkness of the west. The modern Arabic form of the word is *gharb*, familiar to us in the name of the Portuguese province of Algarve, which is simply the Moorish designation *al-gharb*, "the West."

² See vol. i., p. 74.

Dorians.¹ The rest of the companions of Cadmus sailed on to Thasos, and thence to Bœotia, where they taught the inhabitants the art of writing, of which, adds Herodotus, "as it seems to me, the Hellenes had heretofore been ignorant."² This account, though evidently not historical, is so far corroborated by independent evidence that it may be regarded as a genuine tradition of the gradual progress of Phœnician colonization in the Ægean.

The island of Thera, as we shall presently see, has furnished the most ancient of all the existing monuments of Greek epigraphy, while with regard to Thasos we have not only ceramic inscriptions of great antiquity;³ but we learn from Herodotus that he had seen with his own eyes the traces of the gigantic mining excavations undertaken by the Phœnicians in their search for gold. The worship in Samothrace of the Cabiri, the great deities, whose name must be referred to the Semitic word *kabir*, 'great,' must be regarded as evidence of Phœnician settlement.

The Greek tradition affirmed that it was from the Phœnician colony in Bœotia that the alphabet was obtained. The existence of an early settlement of the Phœnicians at Thebes is borne out, not only by the

¹ That the neighbouring island of Melos was also occupied by a very ancient Phœnician colony we learn from Thucydides, v. 81.

² For the legend of Cadmus, see Herodotus, ii. 44, 49; iv. 147; v. 57 to 59.

³ See Dumont, *Inscriptions Céramiques de Grèce*. Paris, 1872.

worship of the Cabiri, but by the historical name of the Cadmeia,¹ which was applied to the Theban acropolis, and by the survival in the Theban dialect of Semitic words, such as ἐλιεὺς, 'god.'

At Corinth there was a very ancient and important Phœnician settlement. This is proved by the worship of the Tyrian deity Melcarth under the Hellenized name of Melicertes, who was affirmed to be the son of Ino, daughter of Cadmus. The legend of Cadmus, as recorded by Herodotus, must therefore be admitted to have a basis of historic fact.

The date of these Phœnician settlements in Hellas is referred by Greek tradition to a period anterior to the Trojan war, that is to a time earlier than the 12th century B.C.

This traditional date is not unsupported by other considerations. There can be no doubt that the 13th century B.C. witnessed a sudden extension of maritime enterprise among the Phœnicians, as to the causes of which a reasonable conjecture may be offered. The great Hittite empire, already weakened by the wars of Rameses, seems to have been pressed upon by the Amorites, who in turn were driven forward by the Hebrew conquest, many of the fugitives doubtless taking refuge in the coast cities of Phœnicia. To

¹ This is evidently a name of the same class as the name of Oxmantown (vicus Ostmannorum), the entrenched quarter of Dublin, which still bears witness to the ancient Danish or Norwegian colony

carry off the surplus population, and to obtain the raw materials for their manufactures, the Phœnicians established trading posts and colonies in Cyprus, Rhodes, and Crete, which were presently extended to Thera and Melos, afterwards to Samothrace, Imbros, Lemnos, and Thasos, and lastly to Chalcis, Thebes and Corinth. They got copper from Cyprus, and gold from Thasos, and they obtained their dye for the Tyrian purple chiefly from the coasts of Hellas, and more especially from the straits of Eubœa, where the shell-fish which yielded it was found in the greatest abundance.

This great extension of commercial enterprise among the Phœnicians can hardly be placed later than the year 1200 B.C. In all probability it was in the 13th century that they settled in Cyprus and Rhodes, and in the 12th that they advanced to the Isles and Hellas. Hence about this time the Phœnician alphabet must have become known to the Carian and Hellenic races who inhabited the islands of the Ægean. This cannot have occurred at any much later date, since the Phœnician predominance in this region did not last for more than two hundred years. In the 10th century the Phœnician trade extended from the Atlantic to the Indian Ocean, but their mines and colonies in the Ægean had been lost by the advance of Dorian conquest. Before Hiram mounted the throne of Tyre the Phœnicians, after having taught the Greeks the use of the Assyrian weights and measures, the art of mining,

and of alphabetic writing, had finally retired from the coasts of Hellas.¹

The Cadmean legend affirms that the Greeks obtained the alphabet directly from the mariners of Tyre. There is however an argument, not without weight, which seems to indicate that they acquired it, possibly at a still earlier period, through some Aramean channel. The form taken by the Greek names of the Semitic letters indicates an Aramean rather than a Phœnician source. The final vowel which distinguishes the Greek names *alpha* and *beta* from *aleph* and *beth* has to all appearance been derived from what is called the 'emphatic *aleph*,' a post-fixed article which is characteristic of the Aramean idiom. The Greek alphabet may have been obtained, as Professors Jebb and Sayce have supposed, from Aramean merchants of the Gulf of Antioch, who may have crept along the coast before the Sidonian sailors steered across the open sea. If this hypothesis be accepted, the very ancient differences which characterize the Eastern and Western branches of the Greek alphabet receive an explanation. We may still give credit to the Cadmean tradition, which affirms that the Bœotians and other inhabitants of the mainland of Hellas received their alphabet from Tyrian or Sidonian traders, while the Ionians of Miletus and Halicarnassus, and the Dorians of Rhodes, may have obtained it from the

¹ See Duncker, *Hist. of Antiquity*, vol. ii. pp. 77-87, 302-305.

Solymi and other Semitic tribes of Lycia and Cilicia with whom they were in approximate geographical contact, and who must have belonged to the Aramean branch of the Semitic stock. As it was the Ionian alphabet which ultimately became the definite alphabet of Greece, this would account for the Aramean garb in which the names of the Greek letters appear.

Another hypothesis may, however, be suggested, which I venture to think accords better with the epigraphic evidence, and also derives curious confirmation from recent investigations into the origin of the metric systems which prevailed in Greece.¹ Two standards of gold weight, and two corresponding standards for silver coins, were employed—the light, called the Euboic, or old Attic, and the heavy, which goes by the name of the Phocaic. These were respectively derived from the two Semitic standards, namely, the light or Babylonian talent of 30·3 kilograms, and the heavy or Assyrian talent of 60·6 kilograms.² The two standards were transmitted to

¹ See Head, *Coinage of Lydia and Persia*, pp. 4 and 5.

² Our own partial retention of the ancient Babylonian numeration curiously exemplifies the capabilities of transmission, and the tenacity of life which are displayed by metrical systems. It is due to the Babylonians that we reckon 20 shillings to the pound, 60 minutes to the hour, and 90° degrees of latitude from the Equator to the Pole. The Babylonian numeration was not decimal but sexagesimal. They counted by *sossi* and *sari*, the *sossos* being 60, and the *saros* 60 × 60 = 3600. Hence an hour contains 60 minutes and 3600 seconds, and the circle is divided into 360 degrees. We reckon 20 silver units to

Greece by two independent trade routes. The heavy Assyrian talent passed by land to the Phœnicians, and by them was carried by sea to either side of the Ægean—to Rhodes and Ionia on the east, and to Bœotia on the west. On it was based the Phœnician silver standard, the stater of 230 grains, which became the ordinary standard of Greece. The light or Babylonian talent, on the other hand, found its way by the Euphrates to the Lydians, who constituted the western outpost of the Semitic race; Lydia, whose capital was Sardis, being in commercial relations with Babylon by the great land trade route which passed through Asia Minor. The Lydian silver standard, which was the stater of 170 grains, was transmitted to Chalcis and Eretria, cities which, prior to the 7th century, were the most important trading communities of Greece, and had active commercial relations with the opposite Asiatic coasts. The so-called Euboic standard, based on the Lydian, and ultimately on the Babylonian, coming by land through the Aramean region, spread from Chalcis to Athens and Corinth. The other, or Phocæic standard, based on the Phœnician and ultimately on the Assyrian, and transmitted by sea through the agency of Tyrian merchants, was used in the cities of Ionia and the islands of the Ægean.¹

the gold unit because our silver unit represents half a silver shekel, and the Babylonian silver shekel was one-tenth of the gold shekel.

¹ The rivalries which existed in the Ægean trade may be illustrated by those of the Portuguese and English factories at Goa and Surat, or

These investigations, based on the unimpeachable evidence of the weights of coins, prove that there were two independent channels by which Semitic culture reached the Greeks.

There were also two types of the Semitic alphabet which prevailed in Greece from the remotest period to which epigraphic evidence extends, and whose geographical distribution coincides with that of the two metric standards. We have the Chalcidian, or old Attic type, distinguished by the Western *lambda* λ, and the Ionian, or new Attic type, which employed the Eastern *lambda* Λ. Since Greek colonization in Italy dates from the remote period of the mercantile supremacy of the Chalcidians, the Italic alphabets inherited the Chalcidian forms, and hence the two primitive alphabetic types have perpetuated themselves in such Latin forms as L C S R Q X, which correspond to the Greek symbols Λ Γ Σ Ρ Κ Ξ.

It does not seem improbable that the two great trade routes by which the Greeks obtained the two primitive metric standards were also the channels by which the two primitive and persistent types of the Greek alphabet were transmitted. On this hypothesis, the peculiarities shared by the Chalcidian, the old Attic, and the Latin alphabets, may be attributed to an influence ultimately Aramean; while the alphabet of Ionia,

at Macao and Hong Kong, and by the concurrent circulation of Mexican dollars and English sovereigns in Eastern trade.

which finally became the standard alphabet of Greece, together with the Corinthian alphabet, which seems to have been merely a less developed form of the Ionian, would be traceable to the Phœnicians.¹

It would thus be possible to explain how the Phœnician letters, *φοινικῆῖα γράμματα*, came to bear Aramean names. The names by which we know the Greek letters were handed down by the grammarians of Athens, the centre of Hellenic literary culture. When the Athenians discarded the Chalcidian forms of their letters as well as their Chalcidian standards, there is no reason for supposing that they also discarded the familiar Aramean names, which doubtless had come from Chalcis, together with the symbols which they designated. We are only acquainted with the name of one Dorian letter, and it is worthy of note that it exhibits a Phœnician form, *san*, and has not, like the rest, been Arameanized into *sana*. Hence it may be inferred that there were two distinct channels through which the names of the letters were transmitted to the Greeks.

§ 4. THE CADMEAN ALPHABET.

The story of Cadmus designates the Island of Thera as the earliest site of Phœnician colonization in the Ægean. The epigraphic evidence accords with

¹ The transmission must in any case have been earlier than the 7th century, when the great transformation of the forms of the Aramean letters began. See p. 251 *supra*.

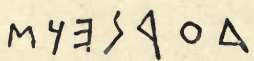
the indications of the legend, and leads to the conclusion that Thera may be regarded as the first spot of European soil on which words were written. In this island inscriptions have been found in which, though the language is Greek, the forms of the letters are of a most primitive Phœnician type, belonging to an earlier stage of the Semitic alphabet than the Moabite stone itself.

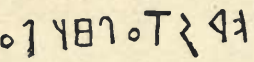
The island of Thera, now called Santorin, is an extinct volcano. The crater, now partially submerged, forms a land-locked harbour, whose central position and security from attack fitted it admirably for the site of a commercial station for the Tyrian merchants.

The two ancient cemeteries of Mesa-Vouno and Exomiti, buried more or less beneath the ashes of an eruption, probably date from the time when the Dorians first established themselves in the island. From these cemeteries have been obtained upwards of twenty inscriptions traced on blocks of lava or basalt. No absolute date can be assigned to these records, as they consist of little more than the mere names of the Dorian settlers whose graves they covered, but their relative antiquity can be decided without difficulty. Excluding a few of more recent origin, the rest can be arranged in a chronological series extending over two or three centuries; the latest, written from left to right in a Greek alphabet approaching to the Abu Simbel type, may be assigned to the seventh century; others, still older, are boustrophedon; while four or five, written

from right to left in letters of Phœnician style, may be pronounced without hesitation to be the oldest extant monuments of the alphabet of Greece.

The Thera inscriptions are of such cardinal importance in explaining the formation of the Greek alphabet, that it seems desirable to place before the reader in facsimile the more characteristic examples.¹

No. 1.  The first, which reads ΔΟΡΙΕΥΜ (Δοριεύς), though a mere name, is itself a record of the Dorian conquest, which Thucydides places eighty years after the Trojan war. The letters are purely Phœnician with the exception of two, *yod* and *tsade*, which have been somewhat modified.

No. 2.  Hardly less primitive is the name ΚΡΙΤΟΠΗΥΛΟ (Κριτοφύλου), engraved on a rude stone found in the cemetery of Μέσα-Βουνόν. We have a diminutive circle representing both *o* and *ou*, and the angular *iota*, while *π* retains the hook-shape which it has on the Moabite

¹ The Thera inscriptions have been repeatedly engraved and discussed. See especially the elaborate treatise by Böckh, *Ueber die von Herrn v. Prokesch in Thera entdeckten Inschriften*, printed in the Berlin Transactions for 1836, pp. 41 to 101; Ross, *Inscriptiones Græcæ Ineditæ*, vol. ii., p. 82, Nos. 199 to 202, vol. iii., No. 247; Rangabé, *Antiquités Helléniques*, p. 11; Le Bas, *Inscriptions des Iles de la Grèce*, plate 5; Franz, *Elementa Epigraphicæ Græcæ*, p. 51; Michaelis, *Annali dell' Istituto di corrispondenza Archeologica*, vol. xxxvi., pp. 246 to 269, plate R, figs. 3 and 4; Lenormant, *Études*, in *Revue Archéologique*, N.S., vol. vii., p. 273; Kirchhoff, *Studien*, p. 49.

stone. The combination ΠΗ shows that *phi* Φ had not yet been invented, and that *eta* retained the Semitic power of a breath.

No. 3. ΜΟΤΑΓΑΓΕ
ΕΛΟΙΕ

The next inscription is more than a mere name, and is of curious interest as being

the oldest Greek sentence in existence. It reads ΕΠΑΓΑΤΟΜ ΕΠΟΙΕ (*Ἐπάγατος ἐποίει*), and must be of nearly the same date as the two preceding records. The sloping cross-bars of α ε and τ are in the Semitic style.

No. 4. ΜΙΑΑΘ
ΑΒΒΟΜΙΕΛΟΙΕ
ΜΑΤΣΜΚΑΡ

The next record, which was first published by Michaelis in 1864, is less rude in execution, and has the words divided by lines, but still is not materially later in date, as is proved by the forms of the usual test letters, more especially by the rounded π and the small ο. It reads

ΠΡΑΚΜΙΛΑ | [Ε]Μ[Ι] | ΘΗΑΡ[Υ]ΜΑΦΗΟΜ | ΕΠΟΙΕ
(*Πραξίλα εἶμι, Θαρρύμαχος ἐποίει*).

This inscription is important as exhibiting the expedients by which the sounds of *theta*, *xi* and *chi* were denoted in the earliest stage of the Greek alphabet. The letter Θ, as in Phœnician, is an unaspirated dental, the letter Η being appended in order to obtain the sound of *th*. Afterwards the aspirate was omitted,

and the Phœnician *teth* acquired the power of *theta*. Equally significant is the use of ΦH *koppa-eta*, for *chi*. This suggests the explanation that Υ , the Western form of *chi*, was differentiated from *koppa* Φ by opening the loop; the subjoined *eta* being dropped, as in the case of Θ . The combination KH , which expresses the sound of *chi* before the upper vowels, explains the similar formation of X , the Eastern symbol for *chi*, as a differentiated form of *kappa* K .¹ At this time *samekh* had not obtained its later power of *x*, which is expressed by the combination *kappa-san* KM . Unfortunately the reading $\epsilon\iota\mu\iota$ is not clear, but the next inscription will show how the diphthong $\epsilon\iota$ was written.

No. 5. $\{\text{M}\}\text{E}\text{B}\text{M}\text{O}\text{Y}\text{O}\text{V}\text{A}$ The later date of the record $\text{A}\text{P}\text{P}\text{R}\text{O}\text{N}\text{O}\text{M}\text{H}\text{E}\text{M}\text{I}$ (*Ἀπρωνός εἶμι*) is shown by the angular form acquired by π , by the distinction between the long and short o , and by the use of *eta* as a vowel in the combination HE for $\epsilon\iota$. The distinction between the forms of *san* and *mu* may also be noted.

The best known of the Thera records is a block of basalt, now in the Museum at Athens, which contains ten names of the Lacedæmonian type in a Doric dialect. They were evidently inscribed at successive

¹ This explanation of the origin of *chi* is supported by transitional forms, ∇ in the West, and † or ‡ in the East. It is worthy of note, as an indication of the origin of the forms, that the western alphabets, which have Υ for *ch*, retain *koppa*, while the eastern alphabets, which have X for *ch*, prefer *kappa*.

dates, six being written from right to left, and four from left to right. The letter *eta* now appears as a vowel in the name ΜΟΡΗΛΑΜ (*Mάληλος*); we have also KH for *ch*, KM for *x*, and ⊕, without the added aspirate, for *th*. A central dot distinguishes the long *o* in the earlier names on this block and the short *o* in the later ones. The angular *iota*, the closed *eta*, *κορρα* and *σαν*, are still retained, while *delta* assumes the later form Δ. The most characteristic of these records are:—

No.	ϜϞΥΑΜϞϞϞ	PEKMANΩP APKHAΓETAM
6.	APEBATE TAM	(‘Ρηξάνωρ Ἀρχαγέτας).
No.	ΥΘΙΓΑ	ΑΓΛΩΝ (Ἄγλων).
7.		
No.	⊙ ϩ ⊕ ⊙ ϩ Γ Θ Μ	ΟΡΘΟΚΛΗΜ (Ὀρθοκλής).
8.		

These names may be taken to illustrate the two chief stages in the transition from the alphabet of Phœnicia to the alphabet of Greece; the change in the direction of the writing and in the value of the characters.

The Thera inscriptions cover the whole period during which the change in the direction of the writing took place. The older records, No. 3, for instance, are written in horizontal lines from right to left, according to the Semitic practice. Somewhat later we find a curved script running round the margin of the stone, as in No. 4, and which suggested the serpentine writing seen in the Athenian epitaph on p. 35. This was succeeded by *βουστροφηδόν*, or ‘plough-wise’ writing, as in

No. 6, the lines proceeding alternately from right to left, and from left to right, just as oxen when ploughing draw the alternate furrows in opposite directions.¹ Finally, the more convenient habitude prevailed, all the lines being written from left to right. The change of direction was plainly effected by a process of very gradual development, and must have occupied a lengthened period. Not only was the direction of the writing changed, but also the values of some of the symbols. The evolution of the vowel signs is the most distinctive peculiarity which differentiates the Greek and Semitic alphabets. We have repeatedly had occasion to observe that the consonantal alphabet which sufficed for Semitic speech was unsuited for languages in which the vowels are fixed and radical. As in the case of the Indian, Iranian, and Mongolian alphabets, the Greeks developed symbols for the vowels out of the breaths and semiconsonants of the Semitic alphabet. When the earliest of the Thera inscriptions were written, five true vowels, *alpha*, *epsilon*, *iota*, *omicron*, and *upsilon*, had already been evolved out of *aleph*, *he*, *yod*, *'ayin*, and *vau*. During the

¹ It has been noticed by Böckh and Franz that in the earliest examples of boustrophedon writing the first line is from right to left, and the second from left to right. In inscriptions of a somewhat later date the first line is from left to right, and the second from right to left. The superior convenience of the new direction caused it to be selected preferentially by the scribe. The chief value of Böckh's acute observation is the proof which it affords of the extremely gradual nature of the change.

period covered by the Thera records, symbols were evolved to denote \bar{e} , \bar{o} , and th , but the double consonants ξ , ψ , ϕ , and χ , continued to be expressed by $\kappa\sigma$, $\pi\sigma$, πh , and κh or qh . The letters *san* and *kopra*, the angular *iota*, and the closed *eta* are retained.

The inscriptions from Thera exhibit better than any others the early form and the progressive evolution of the Cadmean alphabet. From other regions a few records have been obtained belonging to the same primitive period, which may now be briefly noticed.

From Athens we have records which must be assigned to a very early but somewhat different type of the Greek alphabet. The oldest¹ is an epitaph engraved on a fragment of Pentelic marble, now in the Museum at Athens. It was discovered in 1836, built into the wall of a cottage.²

K A Λ Y ⊕ O J A I Y E
 Δ O E J E T Z Z O M A A E K E
 Λ O K Δ I Δ O

ΕΝΙΑΛΟ ΘΥΓΑΤΡΟΣ ΣΠΟΥΔΙΔΟ ΚΕΡΑΜΟΣ ΣΤΕΛΕ

(Ἐνιάλου, θυγατρὸς Σπουδίδου κεραμ[έ]ως, στήλη.)

¹ The boustrophedon inscription from Athens (Böckh, *Corpus*, No. 1.) is probably not quite so early. It has $\boxplus = h$, $\boxplus = \phi$, and $M = \sigma$.

² Pittakis, *Ephem.* 167. Cf. Rangabé, *Antiq. Hellén.*, plate i., No. 6; Kirchhoff, *C. I. A.*, No. 467; Böckh, *Corpus*, No. 5; Le Bas, *Voyage*, plate ii., No. 3.

The age is apparently the same as that of the Thera inscriptions of intermediate date, no distinction being made between ϵ and $\bar{\epsilon}$, and ov being represented either by O or OY . But *sigma* takes the place of *san*, *lambda* has the Western form, and *iota* is straight.

Somewhat later is the celebrated inscription on a Panathenaic vase found at Athens, known as the 'Burgon Vase.'¹

ΙΜΕ:ΥΟΝΟΑΥΘΞΥΞΘΑΥΟΤ

ΤΟΝ ΑΘΕΝΕΩΝ ΑΘΛΟΝ : ΕΜΙ

(τῶν Ἀθηνέων ἀθλον εἰμι.)

Adjacent to Thera is the island of Melos, now Milo, which appears to have been colonized by Phœnicians from Byblos (Gebal) not long after the Tyrian settlement on Thera. Thucydides (v. 84) has preserved the tradition that the Dorians, at the time of their invasion, found the Phœnicians masters of Melos. From this island we have a series of inscriptions, inferior in date to the earlier records from the cemeteries at Thera, but of considerable value. The oldest of them is of much greater interest than the barren names contained in the Thera records, as it consists of a dedication to Apollo, in two lines of elegiac verse,²

¹ Böckh, *Corpus*, No. 33; Rose, *Inscript. Vet.*, p. 14; Millingen, *Vases*, plate i.

² The very name of *elegy* comes to us from this region. A 'reed' is *eleg* in Armenian. The elegies of Callinus of Ephesus, and

the earliest specimen in existence of such a composition. It goes by the name of the Inscriptio Naniana, being inscribed along one of the plinths of a votive column, brought from Melos, which has been for more than a century in the Nani Museum at Venice. A reduced facsimile, with the transliteration and translation of Franz, are given below.¹

ΡΑΥΔΥΟΜΕΚΡΗΛΑΝΤΟΖΔΕΚΜΑΥΤΟΔΑΜΕΝΓΗΕΜΑΤΑΙΜΥΑ
ΜΟΗΤΑΡΕΓΕΥΚΗΟΜΕΝΟΜΤΟΥΤΕΤΕΙΕΜΜΕΤΡΟΡΗΟΛ

παῖ Διὸς, Ἐκφάντω δέξαι τόδ' ἀμενφὲς ἄγαλμα
σοὶ γὰρ ἐπευχόμενος τοῦτ' ἐτέλεσσε γρόφων.

“Jove gnate, accipe ab Ecphanto hoc sine reprehensione
elaboratum donarium :

Tibi enim supplicans id perfecit scalpendo.”

The date of this inscription is not very easy to determine. The direction of the writing, from left to right, is sufficient to show that it does not belong to the earlier stage of the Cadmean alphabet; and the use of open *eta*, which is not found in Ionia before the middle of the 6th century B.C., is an indication of date to which great weight has been attached. On the other hand, the angular *iota*, the diminutive **O**, the use of **ΠΗ** for *φ*, of **ΚΗ** for *χ*, of **ΚΜ** for *ξ*, and the retention of *san*, all point to an early date, while the *mu* with five

Archilochus of Paros were accompanied by the notes of the Armenian pipe or flute.

¹ Lanzi, *Saggio*, vol. i., p. 71; Franz, *Elementa*, No. 21, pp. 57 to 59; Böckh, *Corpus*, No. 3; Rose, *Inscriptiones*, plate xlii., p. 327; Lenormant, *Études*, p. 278.

strokes is actually older than any of the Thera forms. We must either assume a certain amount of archaistic survival or intention; or we may suppose, on the other hand, that the open *eta* was employed at Melos somewhat earlier than elsewhere. But, whatever the actual date may be, there can be no doubt that the Nani inscription belongs to the Cadmean alphabet in its later stage.¹

The oldest of the records from the adjacent island of Thera plainly belong to an epoch decisively more remote. Not only is their execution rude in the extreme, manifesting no such literary or graphic habitude as is exhibited in the Nani couplet, but the writing is still in the Semitic direction, from right to left; while the letters, which in the Melos dedication have mostly acquired their familiar Hellenic outlines, are distinctively of Phœnician style, agreeing essentially with the forms used in the 10th century records on the vessels of Baal Lebanon.

¹ The evolution of the alphabet of Melos has been discussed exhaustively by Ross, *Inscriptiones Ineditæ*, vol. iii., p. 4. Some thirty inscriptions, mostly mortuary records, are known. There are four successive epochs. The first epoch, represented by the Nani inscription, is characterized by the angular *iota*, $\mathbf{H} = h$, by the use of *san*, and the absence of double consonants. In the second epoch *iota* is straight, and *chi* makes its appearance. In the third epoch *phi*, *xi*, and *sigma* are introduced, and $\mathbf{H} = \eta$. In the fourth epoch *omega* appears. As we know that *omega* was developed as early as the middle of the 6th century, it is manifest that the three earlier epochs must extend over a considerable prior period.

Böckh assigned the Thera inscriptions to the epoch of the Persian war; Kirchoff places them all, (*sampt und sonders*), "in the second half of the 7th century, prior, possibly, to the 40th Olympiad," (620-617 B.C.), an attribution which Mr. Newton accepts, apparently without misgiving. With all deference to the opinions of such high authorities, dates so recent and so precise cannot be admitted without question. The Thera records, like the grave-stones in an English churchyard, are plainly the epitaphs of many successive generations; they exhibit the stages of a prolonged process of alphabetic evolution, covering the whole period during which the direction of the writing was gradually changed; beginning with the Semitic use, they proceed, through the circular, the snake-like, and the boustrophedon fashions, till the final direction from left to right is ultimately attained. At the commencement of the Thera period the Greek alphabet possessed only five vowels; at its close *cheth* had acquired a vocalic power, and an imperfect mode of discriminating between *ø* and *ō* had been devised. During this period *theta*, the oldest aspirated consonant, was developed out of *teth*—retaining its Semitic form, but acquiring a new phonetic value. To suppose that these changes must have required a century or two to bring about, does not seem to be an extravagant computation.

Still more extensive is the amount of evolution undergone by the Greek alphabet between the time of the last of the Thera inscriptions and our first fixed

date, which is supplied by the Abu Simbel records. During the Thera epoch only one aspirated consonant, *theta*, was evolved. Inscriptions from other localities, such as those from Melos, prove that the evolution of *chi* out of *kappa* was effected at some subsequent epoch, and that in the time of still later generations *phi* was differentiated from *theta*, the symbol for *psi* being finally devised. All these developments were effected during the period between the last of the Thera records and the date of the 7th century inscription at Abu-Simbel, in which ϕ , χ , and ψ , are found. If once the principle is grasped that no such thing as an arbitrary invention of graphic symbols is to be expected, but that alphabetic changes are brought about by gradual processes of evolution, whose operation is necessarily of extreme slowness, it will be obvious that it is needful to demand considerable periods of time for bringing about changes which at first sight may seem comparatively trivial. Instead of making the whole of the Thera inscriptions the work of men who were the contemporaries of the mercenaries of Psammetichus, as is done by Kirchhoff and Newton, it must be assumed that they constitute the mortuary records of many generations, spreading over a century or two at the least, a similar period being interposed between the inscriptions of Thera and those of Abu Simbel. We should thus have to go back to the 9th, or even to the 10th century B.C., as the date of the earliest extant monuments of the Greek alphabet, a



date which satisfactorily explains the resemblance of the letters to the 10th century Phœnician characters. Since the evolution of the two vowels η and ω occupied some two centuries, the fact that five out of the seven vowels had already been evolved at the time when the Thera records commence, makes it certain that the Thera inscriptions are by no means coeval with the introduction of the art of writing into the Ægean. As the extension of Phœnician commerce to the shores and isles of Greece may be placed as early as the 12th century, we should still obtain a period of two or three centuries for the evolution of the five primitive vowels out of the corresponding breaths and semi-consonants of the Semitic alphabet, and also for the changes in the forms of certain letters.¹ The epigraphic history of these earlier centuries may probably never be recovered, but nevertheless certain faint survivals from the first stages of development may possibly be detected.

The Cadmean legend, as recorded by Herodotus, while it designates Thera as the site of the first Phœnician colony, yet distinctly claims for Bœotia the glory of having been the birth place of the Greek alphabet. As in the case of Thera, a substratum of

¹ The radical transformation of *lambda* from the Semitic form λ to the Thera λ alone demands a lengthened period. The way in which the cross-bar was transferred from the bottom to the top, and from the right side to the left, will hereafter be explained.

fact probably underlies the legend. It so happens that in Bœotia itself no very ancient inscriptions have come to light; but the case is otherwise with the Phœnician colony of Corinth, the establishment of which was probably coeval, or nearly so, with the foundation of the settlement at Thebes. Now the primitive alphabet of Corinth, and of the Corinthian colony of Corcyra, founded in the 8th century (734 B.C.) exhibits, as has been already mentioned (pp. 103, 115, 171), extremely archaic forms of certain letters. Although the actual inscriptions¹ in which these characters occur

¹ The oldest actual inscription in the Corinthian alphabet is probably one written from right to left on a bronze tablet found in Corfu (Corcyra), inscribed ΒΚΞΘΒΥΛΑΜΜΟΣΦΟΙ (Λόφιος μ' ἀνέθηκε). It was first published by Vischer, *Epigraphische und Archäologische Beiträge aus Griechenland*, and has been phototyped by the Palæographical Society, plate 77 A. The date cannot be later than the 7th century B.C. We have also from Corcyra the 7th century boustrophedon epitaph on Arniadas, who perished in a sea fight, a facsimile of which is given by Riemann, *Recherches arch. sur les Iles Ioniennes*, i., p. 42, and by Ross, *Archäolog. Aufsätze*, ii., pl. 22; and the inscription on the tomb of Menecrates, assigned to the 45th Olympiad (Riemann, *Recherches*, p. 31.) Vischer has also engraved an ancient Corinthian sling bolt found in Corfu, stamped on one side with the letters ΒΒ for βέλος, and on the other ϞΟ for Κορινθίων. From Corinth itself nothing is older than the names on the Dodwell vase (Böckh, *Corpus*, No. 7), which may be assigned to the 7th century. We have ΑCΑΜΒΜΜΟΜ (Ἀγαμέμνων), ΦΞΙΟΜ (Φίλων), ΔΟΡΞΜΑΧΟΜ (Δορίμαχος), ΓΑΦΟΜ (Πάκων). The difference which had established itself between the Eastern and Western alphabets is shown by comparing the letters on this vase with those on the earliest inscribed coin, which was struck at Halicar-

may not be older than the 7th century, to which Kirchhoff refers them, they seem to be survivals from a stage of the Semitic alphabet earlier than that represented by any of the Phœnician inscriptions, going back possibly to the 12th century, when the Phœnicians first reached the shores of Greece. These Corinthian letters, which seem to be transitional between the oldest known forms of the Semitic letters and their Egyptian prototypes, are *beta* β, which approaches the Hieratic  *b*,¹ and *epsilon* ε, which retains the closed form of the Hieratic character .

The ancient alphabets of Attica and Argos have also preserved older forms of *lamed* λ, which is λ at Athens, λ at Argos, and λ at Thera. Our own L retains the Semitic form, and is actually older than the Greek Λ, which departed from the Semitic type at some time earlier than the earliest of the inscriptions of Thera.

nassus about the end of the 7th century. The legend, which runs from right to left, reads ΑΜΕΒΙ ΙΜΕ ΙΟΝΝΑΘ (Φάννος εἰμι σῆμα).

¹ The letter *beta* does not happen to occur in any of the Thera inscriptions; but at Melos, an island which preserved a very archaic type of the primitive alphabet, the oldest form of *beta* is β. In the neighbouring islands of Paros and Siphnos, and at Thasos, one of the primitive Phœnician settlements, the form is β, which if reversed can easily be obtained from the Phœnician β, but not from the Greek β.

² It may be a question whether the closed *e* was not derived from *cheth*.

§ 5. THE DATED MONUMENTS.

The formation of the Greek alphabet out of the Phœnician has necessarily been investigated by the aid of monuments to which only approximate dates, relative rather than positive, are assigned.

The Abu Simbel record, written at the end of the 7th century, affords the first absolutely firm standing ground. During the next two centuries, up to the end of the 5th century, when the Greek alphabet had assumed its final form, its history can be traced by means of dated inscriptions, scanty indeed in number, but sufficient for the purpose,

Without attempting any systematic account of Greek inscriptions, it may nevertheless be possible, within reasonable limits of space, to give some brief notice of certain selected monuments which may be regarded as the corner-stones of the structure of Greek epigraphic science.

The oldest dated inscriptions which have been found on Hellenic soil belong, like the Abu Simbel records, to the Ionian type of the Greek alphabet. They come from the neighbourhood of Miletus, a city which during the 7th and 6th centuries was the most opulent and powerful of Greek communities.¹ Unrivalled in her manufactures and her commerce, Miletus had encircled the Euxine with a girdle of prosperous

¹ See Bunbury, *Ancient Geography*, vol. i., p. 103.

colonies; she possessed a factory in Egypt; and the proverbial luxury of her Italian allies the Sybarites was a reproduction of the mode of life which prevailed in the Asiatic city. The wealth of the Milesians was freely lavished on the shrine of the Didymean Apollo, which crowned the headland of Branchidæ, some ten miles south of Miletus. Of this vast temple, "the mighty ruins lie as they originally fell, piled up like shattered icebergs."¹ Two majestic columns, more than 60 feet in height, with the connecting architrave, alone remain erect, and serve as landmarks for passing mariners. An avenue of statues bordered the Sacred Way which led up to the temple from the sea. The chairs occupied by these seated figures, several of which are now in the British Museum, bore inscriptions, which are necessarily anterior to the beginning of the Persian war, when, in revenge for the revolt of Miletus, the temple was destroyed by the Persians (494 B.C.).

These inscriptions are of various dates, ranging over a considerable portion of the 6th century. One of the more recent, which was found built up into the walls of a modern house, bears the name of Histiaëus, who was tyrant of Miletus at the time of the expedition of Darius against the Scythians,² and may be assigned with considerable probability to the year

¹ Newton, *Travels and Discoveries in the Levant*, vol. ii., p. 147.

² Herodotus, iv., c. 137.

520 B.C., or thereabouts. It is a mutilated inscription¹ in three boustrophedon lines, and reads as follows:—

[ΞΟΙ]ΑΙΤΞΙ
[ΑΝΕΘ]ΗΚΕΤΩ
[ΙΜ]ΩΛΛΟΓ

(Ἰστιαῖος ἀνέθηκε τῷ Ἀπόλλωνι)

Somewhat earlier, probably about 550-530 B.C., is the votive inscription on the chair of the statue of Chares, son of Klesis, tyrant of Teichiousa, a fortress near Miletus. It was found by Mr. Newton *in situ*, beside the Sacred Way, and has been removed to the British Museum. It is a late example of the boustrophedon writing, as is shown by the occurrence of the open *eta*, and is the earliest known inscription in which the new letter *omega* appears. The facsimile below is on a scale of one-seventh of the original.²

ΚΑΡΗΞΕΜΙΟΚΤΕΒΟΞΟΙΧΙΞΕΤΞΟΒΞΙΧΟΙΜΙΞΞΗΡΑΧ
ΑΓΑΓΓΕΙΟΑΓΟΡΓΩΝΟΣ

Χάρης εἰμι ὁ Κλέσιος, Τειχιούσης ἀρχὸς
Ἄγαλμα τοῦ Ἀπόλλωνος.

These two inscriptions, which are boustrophedon in

¹ See the woodcut in Newton, *History of Discoveries at Halicarnassus*, &c., vol. ii., part 2, p. 787.

² See the phototype published by the Palæographical Society, plate 76; Newton, *History of Discoveries*, vol. ii., p. 784, plate 74, and plate 97, No 72; Kirchhoff, *Studien*, p. 17; Cf. Thucydides, viii. 26, 28.

direction, are of importance as recording the progress in the evolution of the Ionian alphabet during the century which followed the expedition of Psammetichus. They are the first inscriptions of definite date in which the new letter *omega*, Ω, is found. They also differ from the records at Abu Simbel in exhibiting the later form of *sigma*, ξ instead of Σ. In the earlier inscriptions from Branchidæ, *eta* is closed as at Abu Simbel, in the later ones it is open. The Didymean inscriptions belong, according to Mr. Newton, to the years 580–520 B.C., a computation which does not differ materially from that of Kirchhoff, who assigns them to the period 540–500 B.C.¹

To the 6th century must also be assigned the celebrated duplex Sigeian inscription, which was brought to England from the Troad in the last century, and is now in the British Museum. It has been the subject of much controversy from the time of Bentley to our own days, but is now universally admitted to be genuine, and not, as was maintained by Böckh, a pseudo-archaic fabrication belonging to a much later period.² On palæographical grounds the upper inscription must be pronounced to be somewhat older than the Statues of Histiaëus and Chares, but contemporaneous with the earlier records from Branchidæ. It is boustrophedon in direction, it contains the new

¹ Newton, *Essays*, pp. 77, 102; Kirchhoff, *Studien*, pp. 15 to 25.

² Newton, *Essays*, p. 102; Hicks, *Manual*, p. 6; Kirchhoff, *Studien*, p. 19; Böckh, *Corpus*, No. 8.

letter *omega*, and is noteworthy as exhibiting *phi* in the archaic form Φ , which is transitional between the old form of *theta*, Θ , from which it was derived, and the forms Θ and Φ , which the letter afterwards assumed.

Our next monument brings us down to the middle of the 5th century, and is not without historical interest.

We learn from Suidas that Herodotus fled from his native city of Halicarnassus in order to escape from Lygdamis, the local dynast, and that he afterwards returned and took an active part in the expulsion of the tyrant. These facts fix within narrow limits the date of an inscription brought by Mr. Newton from Budrum, which records a convention made between Lygdamis and the people of Halicarnassus.¹ This inscription, which we may place between the years 460 and 445 B.C., completes the history of the Ionian alphabet, and shows that by the middle of the 5th century it had practically attained its final form, with the exception of some trifling changes which took place in the 104th Olympiad. About half a century after it had been

¹ Newton, *History of Discoveries*, plate 85; Kirchhoff, *Studien*, pp. 4 to 11. The changes in the primitive Greek alphabet which are exhibited in the Lygdamis inscription are shown in col. viii. of the Table on p. 59. We note the disappearance of Φ and Θ , and the presence of the new letters Φ , χ , ψ , ω . The sound *ks* is represented by ξ , and η denotes the vowel only. The writing is regular and square, the older forms of α ϵ θ λ ξ have disappeared, and all the letters have assumed their final classical forms with the exceptions of κ for \mathbf{K} , μ for \mathbf{M} , and ν for \mathbf{N} .

perfected in Ionia it became the common alphabet of Greece, being formally adopted as the official alphabet of Athens by a decree of the people passed in the archonship of Euclid, 403 B.C. (Ol. 94. 2), and soon it replaced the various local alphabets which had hitherto prevailed throughout the rest of Hellas.¹

For the history of these local alphabets the materials are less complete than for the alphabet of Ionia. The dated monuments belonging to the 7th and 6th centuries are exclusively of Ionian origin. It is not till the middle of the 5th century, when the Ionian

¹ The stages in the evolution of the Ionian alphabet, as disclosed by the monuments which have now been discussed, were as follows:—

In the 7th century the writing is either boustrophedon, or from left to right. The six vowels **Α Ε Β Ι Ο Υ** and the new consonants **Φ Χ Ψ** are found; the letters *vau* and *san* have disappeared; and the use of *koppa* is exceptional. *Omega* is still absent; **Ο** has three values, *o*, *ou*, *ω*; *sigma* has the forms **Σ Ϻ Ξ**; *eta* is closed, and represents sometimes *h* and sometimes *ē*, but the aspirate is not invariably expressed. *Iota* is reduced to a vertical stroke. The absence of *zeta* must be regarded as accidental.

The sixth century is characterized by the partial continuance of boustrophedon writing, by the final disuse of *koppa*, by the appearance of *omega*, and by the adoption of the four-barred form of *sigma* **Ξ**. At the beginning of the century *eta* is closed, afterwards it is open.

By the middle of the 5th century the Ionian alphabet practically attained its final development. *Eta* is now used exclusively as a vowel. *Theta* has only an interior point instead of a cross, the cross-bars of **Α** and **Ε** are horizontal, and the two legs of **Λ** are of equal length. The only remaining archaisms are in the forms of **Κ Μ Ν** and **Σ**, which are **Κ Μ Ν Ξ**.



alphabet had already reached its final development, and was about to be adopted as the definitive alphabet of Greece, that we have dated monuments belonging to any of the western types.¹

The first of these inscriptions which claims notice bears a very precise date, and in itself is of singular historic interest. When the terror of the Persian domination was at last ended by the crowning victory at Plataeæ, the allied States of Hellas, in gratitude for their deliverance, dedicated to the Delphian Apollo a tenth part of the Persian spoil.² The offering took

¹ Some of the inscriptions from Corcyra already mentioned (p. 42, note), though without absolute dates, undoubtedly belong to the 7th century.

² See Herodotus, ix., 81; Thucydides, i., 132; Pausanias, x., c. 13, § 9.

the form of a golden tripod, supported by a three-headed serpent of bronze, on the coils of which the Lacedæmonians inscribed the names of those Hellenic States which had shared the glory of repelling the invader. The golden tripod disappeared in 357 B.C., when Delphi was plundered by the Phocæans at the beginning of the 'Sacred War;' but the bronze serpent remained, and fortunately escaping the greed of Sulla and Nero, was to be seen at Delphi in the time of Pausanias. With other spoils of Hellas, it was removed to Byzantium by Constantine, to adorn his new seat of empire, and still stands in the Hippodrome (Atmeidan), where it was placed by Constantine. In 1675 the venerable trophy was nearly perfect. The heads of the serpent have now disappeared, but the accumulation of soil has preserved the lower coils from serious injury. During the occupation of Constantinople by the Western Powers at the time of the Crimean war, excavations were undertaken by Mr. Newton, then Vice-Consul at Mytilene, which disclosed the inscriptions on the lower coils. The battle of Platææ was fought in 479 B.C., so that the date of the monument can hardly be later than 476. A facsimile of this most interesting record,¹

¹ The alphabet of this inscription, which forms the cardinal example of the Peloponnesian script, is given in column x. of the Table on page 59. It differs from the contemporary alphabet of Ionia in the retention of the digamma **F**, the use of **X** instead of **Ξ** for *ks*, and of **V** instead of **X** for *ch*. The letters *psi* and *omega* are

which has hitherto been practically inaccessible to English students, is appended. It is so easy to decipher that no transliteration is needed.¹

Of almost precisely contemporaneous date is another record of great historic interest and considerable epigraphic importance. This is the dedication stamped upon an Etruscan helmet of bronze, now in the British Museum, which was found at Olympia in 1817. This helmet, as we gather from the inscription, was a trophy dedicated to the Olympian Zeus by Hiero I., son of Deinomenes, king of Syracuse, after his great victory off Cumæ, in which he finally shattered the naval supremacy of the Etruscans. The battle, which was celebrated by an ode of Pindar, was fought in the year 474 B.C. The inscription being in bronze has special palæographic value, the forms of the letters having none of the indefiniteness which is so often a

wanting, but *phi* is present, and *gamma* has the crescent form **C**. As to these three letters, **F X C**, the Peloponnesian alphabet agrees with the alphabet of Italy. A facsimile of the inscription is given by Dethier and Mordtmann, *Epigraphik von Byzantion*, in vol. xiii. of the Vienna Transactions (1864); and another, somewhat clearer, by Flick, in Fleckeisen's *Jahrbücher für Philologie*, Suppl. iii., part 4 (1859). Flick, however, wrongly reads **MEVKADIOI** for **ΛΕΥΚΑΔΙΟΙ**, and gives the form of *theta* incorrectly in **ΚΥΘΝΙΟΙ**. The reading of line 2 is uncertain. Cf. Hicks, *Manual*, p. 11.

¹ On each coil three names are normally inscribed. On the 7th the name *Τήνιοι* has been squeezed in. Being more deeply engraved than the rest, and in Ionic instead of Doric, it seems to have been a subsequent addition made by the Tenians themselves. See Herodotus viii., 82.

source of uncertainty in lapidary records. A reduced facsimile,¹ with a transliteration into classic Greek, is given below.

ΗΙΑΡΩΝΟΔΕΙΝΟΜΕΝΕΟΣ
 ΚΑΙΤΟΙΣΥΡΑΚΟΣΙΟΙ
 ΤΟΙΔΙΤΥΡΑΝΑΠΟΚΥΜΑΣ

ΗΙΑΡΩΝ Ο ΔΕΙΝΟΜΕΝΕΟΣ
 ΚΑΙ ΤΟΙ ΣΥΡΑΚΟΣΙΟΙ
 ΤΟΙ ΔΙ ΤΥΡΑΝ ΑΠΟ ΚΥΜΑΣ

(*Ἱέρων ὁ Δεινομένους καὶ οἱ Συρακούσιοι, τῷ Διὶ,
 Τύρρανᾳ, ἀπὸ Κύμης.*)

Syracuse being a colony of Corinth, the inscription is in a Doric dialect, and in a form of the Western alphabet.²

The dates of the inscriptions on the helmet of Hiero and on the Plataean trophy being so exactly fixed (Olym. 76), they are used as epigraphic standards, by comparison with which the approximate age of a considerable number of undated records may be determined.

¹ Reduced by photography from the excellent phototype published by the Palæographical Society, plate 77 B. Cf. Böckh, *Corpus*, No. 16; Kirchhoff, *Studien*, p. 95; Rose, *Inscriptiones*, plate 7; Newton, *Essays*, p. 106.

² It will be noticed that the closed *eta*, which had disappeared for more than a century from the Ionian alphabet, retains its ancient power as an aspirate. The **R** is tailed, and the long *o* is differentiated by a subscript dash.

As an instance of the way in which the method of comparative epigraphy can be applied, we may take a document of some historical importance, the well-known treaty between the Eleans and the Heræans, which is interesting as being the most ancient diplomatic document in existence. The letters are stamped on an oblong bronze tablet which was brought from Olympia by Sir William Gell, and is now in the British Museum. The tablet is provided with two loops, by means of which it must have been originally affixed to the walls of one of the temples at Olympia, thus providing in a simple manner for the safe custody of the document, and for easy reference to its contents. This inscription is so accessible, and has been so repeatedly engraved,¹ that it is hardly necessary here to reproduce it in facsimile, but the free translation given by Mr. Newton may be of interest:—

“The treaty between the Eleans and the Heræans. Let there be an alliance for one hundred years, commencing from this year. If there be need of conference or action, let the two States unite, both for war and all other matters. Those who will not join shall pay a fine of a silver talent to the Olympian Zeus. If any, whether citizen, or magistrate, or deme, destroy what is here inscribed, the offending party shall be subjected to the fine here specified.”

In seeking to determine the date of this treaty, it is to be observed that the alphabet is Peloponnesian, and

¹ The best facsimile is that of the Palæographical Society, plate 78. Cf. Böckh, *Corpus*, No. 11; *Encyclopædia Britannica*, vol. xiii., pl. 1; Rose, *Inscriptiones*, p. 29; Hicks, *Manual*, p. 7; Newton, *Essays*, p. 104.

may therefore be brought into comparison with that of the Plataean trophy. The two alphabets are given side by side in the Table on p. 59. As a criterion of date we may note the forms of the letters $\gamma \delta \epsilon \zeta \lambda \omicron \rho \sigma$. In each of these instances the merest tyro can see that the Elean forms are decisively more archaic. How much older they may be is a matter for the trained instinct of epigraphists to decide. Half a century, or a little more, an estimate intermediate between those of Kirchhoff and Böckh, might probably suffice to effect the changes in question.¹

Before the adoption of the Ionian alphabet at Athens in 403 B.C. a local alphabet of the Eubœan type prevailed in Attica. Its history is chronicled by a considerable number of dated records, several of which are not devoid of historical interest, though none are of any great antiquity.² The old Attic alphabet, in its

¹ The Plataean trophy belonging to the 76th Olympiad, the Elean treaty is assigned by Kirchhoff to the 70th Olympiad (500 B.C.), and to the 50th (580 B.C.) by Franz and Böckh. There are later treaties which bear definite dates, e.g., one between Athens and Chalcis, B.C. 445; between Athens and Rhegium, and between Athens and Leontini, both executed in 433 B.C.; between Athens and Bœotia, 395 B.C.; and between Athens and Sparta, 271 B.C. Among the dated monuments in the Lacedæmonian alphabet we may note the archaic inscription on the base of a statue of Zeus recently discovered at Olympia. It seems to have been dedicated at the time of the revolt of the Helots, 464, in order to secure the favour of Zeus. There is also the list of the contributions of the allies of Sparta towards the prosecution of the Peloponnesian war, 431 B.C.

² They are given by Kirchhoff, *Corpus Inscriptionum Atticarum*,

primitive form, is exhibited in inscriptions which have been already given (p. 35). Of the dated records, one of the earliest is the monument which was erected to the memory of the Athenians who perished in the expedition against Thasos (B.C. 465-464), when 10,000 citizens and allies were killed by the Thracians at Drabescos.¹ Just twenty years later comes a treaty between the Athenians and the Chalcidians of Eubœa, which dates from 445 B.C., while from the year 454 we have the lists of the tribute paid by the Athenian allies, and from 434 onwards the quadrennial registers of the treasures deposited in the Parthenon. Of much greater interest is a tablet which ranks among the choicest treasures of the British Museum.² This is a fragment of the monument erected in memory of Callias and the 150 Athenians who fell at Potidæa in 432 B.C. The upper part of the epitaph, on which the names of the slain were inscribed, has unfortunately perished, but the lower portion, which is in a fairly perfect state, contains twelve elegiac verses commemorating the "deathless glory of these sons of Athens who left their bodies before the gates of Potidæa."³

and by Hicks, *Manual of Greek Historical Inscriptions*, and several are described in Newton's *Essays*.

¹ Kirchoff, *C. I. A.*, No. 432. Cf. Thucydides, i., 100; Pausanias, i., c. xxix, § 4.

² Attic Room, Inscription xxxvii. An excellent phototype has been published by the Palæographical Society, plate 79.

³ Cf. Thucydides, i., 63.

Among the last of the documents written in the old Attic alphabet, which was superseded for official purposes by the Ionian alphabet in 403 B.C., is an inscription, now in the British Museum, relating to the reconstruction of the Erechtheum, which had been destroyed by the Persians. It is dated in the archonship of Diocles, B.C. 409-8, and contains the report of a special commission, appointed by a decree of the people, to make a survey of the progress of the works. In this elaborate document the exact state of the building is minutely described; account is taken of every block of marble, whether finished or unfinished, whether in position or not. A second inscription records the exact sums which had been paid to the various artists and masons.¹

The old and the new Attic belong to two separate types of the Greek alphabet, the Western and the Eastern. The chief differences are—

	<i>g</i>	<i>l</i>	<i>ks</i>	<i>ps</i>	<i>ē</i>	<i>ō</i>	<i>h</i>
Old Attic,	Λ	↳	ΧΞ	ΦΞ	Ε	Ο	Η
New Attic,	Γ	Λ	Ξ	Ψ	Η	Ω	

The foregoing examination of the cardinal monuments of Greek epigraphy leads to two conclusions. It is manifest, in the first place, that the dated Ionian inscriptions, namely those from Abu Simbel, Miletus, and Halicarnassus, arrange themselves in an orderly

¹ The old Attic alphabet in its final form, as shown in the Potidæan and Erechthean inscriptions, is given in col. xii. of the Table on p. 59.

sequence of chronological development, and lead up to the standard Greek alphabet. It is also plain that the non-Ionian inscriptions find no place in any such sequence. They evidently belong to a separate alphabetic type, in many respects the more archaic of the two, and which, though displaced in Hellas, survived in the alphabet of Italy, and thus became the parent of the existing alphabets of Western Europe.

In addition to those cardinal monuments which have been described, there are a vast number of inscriptions from all parts of Greece, which, though undated, are plainly later than the Abu Simbel records, but earlier than the time when the Ionian alphabet was adopted throughout Greece. They may therefore be assigned to the 6th and 5th centuries B.C. They have been fully discussed by Kirchhoff, to whose book the student must be referred. The results of his exhaustive discussion of the local alphabets of this period may, however, be conveniently exhibited in a tabular form.

The first table exhibits the chronological development of the Greek alphabet, from the earliest times down to the close of the 5th century. The first four columns give the primitive alphabets of Greece, derived from monuments which, though undated, are admittedly older than the 6th century B.C. In the next four columns the development of the Eastern alphabet is shown by means of the dated monuments which form the corner-stones of the structure of Greek epigraphy.

CHRONOLOGICAL DEVELOPMENT OF GREEK ALPHABET.

	CADMEAN.				IONIAN.				HELLENIC.			
	Thera.	Melos.	Athens.	Corinth.	Abu-Simbel. c. 620 B.C.	c. 560. Miletus.	c. 520. Miletus.	Halicarnassus. c. 460 B.C.	Elis. c. 520 B.C.	Sparta. 476 B.C.	Syracuse. 476 B.C.	Athens. c. 409 B.C.
α	Α	Α	Α	Α	Α	Α	Α	Α	Α	Α	Α	Α
β		Υ	Β	ΒΥ	Β			Β		Β		Β
γ	Γ Γ Γ	Γ	Λ Λ	Γ Κ C	Γ	Γ	Γ	Γ	Κ	С		Λ
δ	Δ	Δ	▷ Δ	▷ Δ	▷	Δ	Δ	Δ	▷	С	Δ	Δ
ε	Ε	Ε Ε	Ε	Β Β Χ	Ε Ε	Ε Ε	Ε	Ε	Ε	Ε	Ε	Ε
ϕ				ϕ ϕ					ϕ	ϕ	ϕ	
ζ			Η					Η		Η		Η
η	Θ	Η	Θ	Θ	Θ	Θ	Η	Η			Θ	Η
θ	⊗ ⊕	⊙	⊕ ⊙	⊗ ⊕	⊗	⊗ ⊕		⊙		⊗		⊙
ι	Σ Ζ	Υ	Ι	Σ Ε Ξ	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι
κ	Κ Κ	Κ	Κ	Κ	Κ	Κ	Κ	Κ	Κ	Κ	Κ	Κ
λ	Λ	Λ	Λ	Λ	Λ	Λ Λ	Λ	Λ	Λ	Λ		Λ
μ	Μ	Μ	Μ Μ	Μ	Μ	Μ	Μ	Μ	Μ Μ	Μ	Μ	Μ
ν	Ν	Ν	Ν	Ν	Ν Ν	Ν Ν	Ν	Ν	Ν	Ν	Ν	Ν
ξ	Κ Μ	Κ Μ		Ξ Ε		Ξ Ε		Ξ	Χ	Χ		Χ Ξ
ο	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
π	Π	Π	Π	Π	Π Π	Π	Π Π	Π	Π	Π	Π	Π
ρ	Ρ Ϛ		ρ	ρ	ρ			ρ		ρ		ρ
σ	Μ	Μ	Σ	Μ	Σ Ξ	Ξ	Ξ	Ξ	Σ Ξ	Ξ	Ξ	Σ Ξ
τ	Τ	Τ	Τ	Τ	Τ	Τ	Τ	Τ	Τ	Τ	Τ	Τ
υ	Υ Υ	Υ	Υ	Υ Υ Υ	Υ Υ Υ			Υ	Υ	Υ	Υ	Υ
φ	ϕ Θ	ϕ Η	⊙	⊙ ϕ	ϕ			ϕ	⊙	⊙		ϕ
χ	ϕ Θ Κ Θ	Κ Η	Χ	Χ	† Χ	Χ	Χ	Χ	Υ	Υ		Χ
ψ	Μ				Υ	Υ Υ		Ψ				ϕ Σ
ω	⊙			⊙		Ω	Ω	Ω			ρ	
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.

GEOGRAPHICAL DISTRIBUTION OF GREEK ALPHABETS.

	Ionia.	Ægean.	Corinth and Corinthian Colonies.	Argos.	Athens.	Eubœa and Chalcidian Colonies.	Bœotia.	Peloponnese.	Achaean Colonies.
α	ΑΑ	ΑΑ	Α	ΑΑ	ΑΑ	ΑΑΑ	ΔΑΠΑ	ΔΑΑ	Δ Α
β	Β	ΥC	ΥΜΒ	Β	ΒΒ	ΒΒ	ΒΒ	Β	Β
γ	Γ	ΓΛ	ΚC	Γ	ΛΛ	ΓΛC	ΛΓ	ΚCΓ	Ι
δ	Δ	Δ	ΔΔ	D	DΔ	ΔΔD	ΔDΔ	ΔDΔ	ΔDΔ
ε	ΕΕ	ΕΕ	ΒBE	ΕΕ	ΕΕ	ΕΕ	ΕΕΕ	ΕΕ	ΕΕΕ
Ϝ			FC	F		Ɔ	FC	ƆF	FC
ζ	Ζ				Ζ	Ζ	Ζ	Ζ	
η	Η	Η	Θ	Θ	ΘΗ	ΘΗ	ΘΗ	Θ	Η
θ	⊗⊕⊙	⊕⊙	⊗⊕	⊗	⊕⊙	⊗⊙	⊕⊗⊙	⊗⊕	⊗⊙
ι	Ι	Ι	ΣΙ	Ι	Ι	Ι	Ι	Ι	ΣΙ
κ	ΚΚ	ΚΚ	Κ	Κ	Κ	Κ	Κ	Κ	Κ
λ	Λ	ΠΛΛ	ΠΛ	ΠΠ	Π	Π	Π	ΛΛ	ΛΛ
μ	ΜΜ	ΜΜ	ΜΜ	Μ	Μ	ΜΜ	ΜΜ	Μ	Μ
ν	ΝΝ	ΝΝ	Ν	ΜΝ	Ν	ΝΝ	ΝΝ	ΝΝ	Ν
ξ	Ξ		Ξ	Η		+X	+	+X	+
ο	Ο	OCΩ	Ο	OO	Ο	Ο	OO	Ο	Ο
π	ΠΠ	Π	ΠΠ	Π	Π	ΠΠ	Π	Π	ΠΛ
ρ		Ϝ	Ϝ	Ϝ	Ϝ	Ϝ		Ϝ	Ϝ
ρ	Ρ	ΠΡΡ	ΠΡΡ	ΠΡ	ΠΡ	ΠΡΡ	ΠΡΡΡ	ΠΡΡΡ	ΠΡ
σ	ΣΣ	ΣΣΜ	ΜΣ	ΜΣ	Σ	ΣΣ	ΣΣ	ΣΣΣ	Μ
τ	Τ	Τ	Τ	Τ	Τ	Τ	Τ	Τ	Τ
υ	ΥΥ	ΥΥ	ΥΥ	Υ	Υ	ΥΥ	ΥΥ	ΥΥ	ΥΥΥ
φ	⊙⊙⊙	⊙⊙	⊙⊙⊙	⊙	⊙⊙	⊙⊙	⊙⊙	⊙	⊙
χ	Χ	Χ	Χ+	Χ	Χ	ΥΥ	ΥΥ	Υ	Υ↓
ψ	ΥΥ								
ω	Ω	OO							
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.

The three last columns contain the dated alphabets belonging to the Western type.¹ The second table exhibits the geographical distribution of the principal alphabetic types which prevailed during the two centuries of transition, between the 45th and the 95th Olympiads. The succeeding section will be devoted to an attempt to classify these local alphabets.

§ 6. CLASSIFICATION OF THE GREEK ALPHABETS.

The selected monuments discussed in the preceding pages may suffice to show that the classification of the Greek alphabets cannot be effected by means of any single method of arrangement. The principle of geographical distribution must be used in combination with that of chronological evolution.

Chronologically there are three epochs. In the first we have a primitive alphabet of the Phœnician type, which may be conveniently designated as the 'Cadmean.' The second epoch is marked by the rise of numerous local varieties, the germs of which can be detected even in the oldest monuments. New letters were evolved, old letters fell into disuse, forms were

¹ In this Table, for convenience of comparison, letters from the retrograde and boustrophedon inscriptions have been turned round. The principal points to which the attention of the student should be directed have already been noted. The references are, Inscriptions of Thera, p. 30; Melos, p. 37; Athens, p. 35; Corinth, p. 42; Abu Simbel, pp. 11 to 17; Miletus, p. 45; Halicarnassus, p. 48; Elis, p. 54; Sparta, p. 50; Syracuse, p. 53; Athens, p. 56.

simplified, and phonetic powers changed. During this second period, which may be designated as the Epoch of Transition, the confusion is great; the alphabet of almost every island, state, or city, being distinguished by local peculiarities. The epoch of transition began in the 7th century, and lasted to the close of the 5th. The third epoch, which dates from the year 400, B.C., witnessed the emergence of the two classical alphabets of European culture; the Italic, which became the parent of the modern alphabets of Western Europe; and the Ionian, which was the source of the Romaic, Coptic, Slavonic, and other eastern scripts.

These evolutions were largely determined by commercial, political, and social conditions. Civilization and centralization counteract the tendency to multiply dialects and alphabets. Through the wide extension of Phœnician commerce a nearly uniform alphabet was first transmitted to the semi-barbarous tribes of Greece. After the Phœnicians had been driven out of the Ægean, the isolation, the jealousies, and the commercial rivalries of the petty Hellenic states made possible, for a time, the growth and co-existence of numerous scripts. Finally, the common effort to repel the Persian invasion, followed by the rise of the Athenian empire, led to a perception of Hellenic unity and to the beginnings of a national existence, thus preparing the way for the extinction of local peculiarities and the ultimate adoption throughout Hellas of a single alphabetic type. A common government,

a common history, and a common law require a common language and a common alphabet. Just as Islam, introducing uniformity in religion, law, literature, and government, spread the local dialect and alphabet of Mecca from Samarkhand to Seville, so the Macedonian conquest carried the language of Athens and the alphabet of Ionia over a great part of Asia; and Rome, in like manner, effectually stamped out the local idioms and scripts of the subject nations throughout the West.

The alphabets of the first and third epochs present no great perplexities, as they are comparatively definite and uniform. The real difficulty arises when we come to deal with the multitudinous alphabets of the three centuries of transition, during which the primitive writing was being gradually transformed and remodelled into the classical alphabets of Italy and of Greece.

By a laborious analysis of the inscriptions of this epoch, Kirchhoff has catalogued and determined as many as forty local alphabets. In attempting their further classification the first step must be to group them into a few leading divisions. The forty local types are thus reducible to about half a dozen generic groups, each of which is characterized by certain common features, and also, as a rule, either by local proximity or by political connection.

The typical alphabets, as obtained from inscriptions of the 6th and 5th centuries, are tabulated on p. 60.

They may be grouped as follows :—

I. The IONIAN ; consisting of the local alphabets of Miletus, Ephesus, Halicarnassus, Samos, Teos, and the colonies of these states on the shores of Thrace, the Propontis, and the Euxine.

II. The ÆGEAN ; comprising the alphabets of the islands of Thera, Melos, Siphnos, Paros, Naxos, Ceos, and Thasos.¹

III. The CORINTHIAN ; which contains the alphabets of Corinth, Megara, Ægina, and their colonies, namely Corcyra, Anactorium, and Leucas in Western Greece, with Syracuse, Selinus, Gela and Agrigentum on the southern coast of Sicily.

IV. The ARGIVE.

V. The ATTIC.

VI. The EUBŒAN ; comprising the alphabets of Thebes, Orchomenos, Tanagra, and Plataæ in Bœotia, and of Chalcis, Eretria, Styra, and other cities in Eubœa, together with those of the numerous Chalcidian colonies in Sicily, Magna Græcia, and Campania, of which Catana, Himera, Messana, Naxos, Leontini, Rhegium, Neapolis, and Cumæ are the most important.

VII. The PELOPONNESIAN ; including the alphabets of Elis, Sparta, Arcadia, and Achæa, as well as of Croton, Siris, Poseidonia, and the other Peloponnesian colonies in Italy.

¹ The very archaic alphabet of Crete is intermediate between the alphabets of Thera and of Corinth.

The further arrangement of these groups has been much debated, almost every successive writer having brought forward a scheme of his own.¹ These classifications are mainly empirical, and it may perhaps be doubted whether the time has arrived for a really scientific arrangement, which must be based on the actual facts of evolution, so as to exhibit the historical affiliations of the various types. As a preparation for such a scheme it will be convenient to compare the 6th century forms of the test letters in the several groups.²

¹ According to the system of Franz there were three Greek alphabets, (1) the Ionian, (2) the Attic, (3) the Æolo-Dorian.

Mommsen's classification is essentially chronological. He distinguishes two successive alphabets, (1) a Primitive alphabet, of which (*a*) the Ionian and (*b*) the Attic were varieties. (2) A Secondary alphabet, which has two divisions, (*c*) the Corcyrean and (*d*) the Doro-Chalcidian. He considers (*e*) the Argive, and (*f*) the Æolo-Arcadian as derived from combinations of his Primitive and Secondary alphabets.

Kirchhoff also makes two main alphabets, but his arrangement is fundamentally geographical. He distinguishes (1) the Eastern alphabet, which he arranges in three divisions, (*a*) Asia Minor, (*b*) the Islands, (*c*) the Mainland of Hellas; (2) the Western alphabet, which he divides into two divisions, (*d*) the Mainland of Greece, (*e*) the Western Colonies.

Lenormant adheres essentially to the classification of Franz. He considers that the primitive Cadmean alphabet branched into four, (1) the Ionian, (2) the alphabet of the Isles, (3) the Attic, (4) the Æolo-Dorian, which has two subdivisions (*a*) the Corinthian, (*b*) the Argive.

² In this Table, only the normal forms in each group are inserted. The more complete Table on p. 60 includes a few exceptional or intrusive forms.

	<i>ch</i>	<i>x</i>	<i>F</i>	<i>q</i>	<i>H</i>	<i>ō</i>	<i>ps</i>	<i>l</i>	<i>d</i>	<i>s</i>
I. Ionian . . .	X	Ξ	...	...	<i>ē</i>	Ω	Ψ	Λ	Δ	Ξ
II. Ægean . . .	X	...	...	...	<i>ē, h</i>	...	...	Λ	Δ	Μ Σ Ξ
III. Corinthian .	X	Ξ	F	φ	<i>h</i>	...	...	Λ Λ	Δ	Μ
IV. Argive . . .	X	Η	F	φ	<i>h</i>	...	...	†	D	Μ
V. Attic	X	...	...	φ	<i>h</i>	...	...	‡	D	Σ
VI. Eubœan . . .	Υ	†	F	φ	<i>h</i>	...	...	‡	▷	Σ
VII. Peloponnesian	V	X	F	φ	<i>h</i>	...	...	Λ Λ	▷	Σ Ξ

This Table suggests a few obvious remarks. The Ionian alphabet, of which the Ægean may be regarded as a less developed form, departed most widely from the Phœnician type. It lost three of the primitive letters, *vau*, *koppa*, and *san*, while two new vowels *η* and *ω*, and a new consonant, *ψ*, were added to the letters employed elsewhere. It is easy to understand why alphabetic development should have been retarded in the isolated islands of the Ægean, and also should have been more rapid and complete among the cultured inhabitants of the wealthy commercial cities on the Ionian coast, than among the conservative Dorians, a ruder race of highlanders and agriculturists.

The Eubœan alphabet differs more radically from the Ionian type. It has special forms for *lambda* and *xi*, and represents *chi* by a symbol of independent origin, obtained from *koppa*, a letter disused by the

Ionians. The Eubœan cannot, like the Ægean, be regarded merely as an archaic form of the Ionian alphabet; it apparently represents a separate type of great antiquity. This need be no matter for surprise. When, in the 10th century, the Phœnician merchants had retired from the Ægean, the cities of Chalcis in Eubœa and of Miletus in Ionia were left to contend for commercial and colonial supremacy. The struggle may be not inaptly paralleled by the mediæval rivalries in the Levant of the Italian republics of Venice and Genoa. Chalcis, which was the first to rise to greatness, occupied Thrace and Italy, while Miletus took possession of the Euxine. Hence to the commercial enterprise of the 9th and 8th centuries B.C. we may trace the fact that the modern scripts of Western Europe belong to the Chalcidian type of the Greek alphabet, while those of Eastern Europe are Ionian.

The Corinthian is a very distinct and archaic alphabet, but belonging fundamentally to the Ionian rather than to the Eubœan type. The remaining alphabets, the Argive, the Attic, and the Peloponnesian are of an intermediate character.¹

The Greek alphabets may thus be reduced to three

¹ Thus Athens has the Eubœan *lambda* but the Corinthian *chi*. Argos naturally approaches nearer to the Corinthian forms than Athens. The Peloponnesian has the Eubœan *chi* and *xi*, with the Corinthian *lambda*. The epigraphic evidence proves that the divergence in the forms of *lambda* dates from an earlier period than the evolution of *chi*. Possibly in Argos and Attica an alphabet funda-

primitive types, the Corinthian, the Eubœan, and the Ionian,¹ which correspond to the three chief centres of Semitic influence. The origin of the Corinthian alphabet may be referred to the Phœnician colony at Corinth. The Eubœan or Bœotian alphabet may have originated in the rival Phœnician colony at Thebes, while the Ionian or Ægean alphabet may be traced to the Phœnician trading posts in the islands of Thera, Melos, Rhodes, or Samos. The Aramean names may either have been introduced into the Ionian alphabet from Pamphylia, or they may have come from Sardis to Chalcis together with the Euboic metrical standards.²

The Greek alphabet of the third epoch was obtained, not by a fusion of local types, but by the survival of the fittest and the extinction of the rest. At the close of the Peloponnesian war there were practically only three Greek alphabets, the Dorian or Spartan, the

mentally Eubœan was modified by Corinthian influences, while in the Peloponnesian a primitive Corinthian or Achæan alphabet was assimilated to the Eubœan.

¹ This result practically agrees with the classification of Franz, who, more than forty years ago, empirically divided the Greek alphabets into three primitive types, the Ionian, the Attic, and the Æolo-Dorian.

² The name of *koppa* has the Aramean form while *san* has not. Now since *san* is the only letter absent from both the Chalcidian and Ionian alphabets we may infer that it was through one of these alphabets that the Aramean names were transmitted. But the Aramean name of *koppa*, a Chalcidian letter not found in the Ionian alphabet, indicates that an independent Aramean influence affected the Chalcidian alphabet.

Attic, and the Ionian. After the expulsion of the thirty Tyrants and the return of Thucydides and the other exiles from Ionia, the Athenians, by a decree passed under the archonship of Euclid (Ol. 94, 2) ordained that the old Attic alphabet should be replaced in all public documents by the Ionian, which was already in literary use in many parts of Hellas. Archinus had introduced it into Bœotia; it is employed in an Argive decree dated fourteen years before the archonship of Euclid, and in an inscription from Orchomenos, which is anterior to the close of the Peloponnesian war. Probably the formal adoption of the Ionian alphabet at Athens only gave the finishing stroke to a movement which had been for some time in progress. Athens, though vanquished in war, was still supreme in literature and the arts, and her example was rapidly followed by the neighbouring states, so that in about fifteen years after the Euclidian decree the use of the Ionian alphabet became general throughout Hellas.

It was much the same in Italy, where local alphabets, Etruscan, Umbrian, Oscan, Messapian, and Faliscan, survived till the time of the empire, when they were replaced by the alphabet of Rome.

§ 7. THE ABECEDARIA.

The Greeks supposed that their alphabet originally consisted of sixteen letters, brought from Tyre by

Cadmus, to which four θ , ϕ , χ , ξ , were added by Palamedes, a hero of the Trojan war, while four, ζ , η , ψ , ω , were invented by the poets Epicharmus and Simonides of Ceos (c. 556-467, B.C.). This legend,¹ apparently arising out of phonological speculations, is plainly valueless, since *upsilon*, a non-Phœnician letter, is attributed to Cadmus, the obsolete letters *vau*, *koppa*, and *san* being unaccounted for, while of the characters attributed to Palamedes² two, θ and ξ , are Phœnician, and two, ϕ and χ , being later than the inscriptions of Thera, must be long posterior to the Dorian conquest. Nor can the additions assigned to Simonides be reconciled with the epigraphic evidence, ζ and η being of Phœnician origin, while ψ appears at Abu Simbel towards the end of the 7th century. It is, however, not improbable that the poems of Simonides may have helped to familiarize the Athenians with the Ionian letters η , ψ , ω .

It is not difficult to construct a more correct account of the relations of the Greek to the Phœnician alphabet, and of the nature and sequence of the changes which took place.

¹ Pliny, *N.H.*, vii., § 56. Diodorus Siculus, Stesichorus, Euripides, Suidas, and other writers have preserved variant forms of the legend, which is fully discussed by Lenormant, in Daremberg and Saglio's *Dictionnaire*, vol. i., p. 206.

² The very name of Palamedes, 'the crafty,' is of the same legendary order as those of Myles, Pyrodes, and Closter, to whom the invention of the mill, the tinder box, and the spindle, were respectively ascribed.

There were, as we have seen, numerous local Hellenic alphabets, in some of which the amount of innovation was greater than in others. The Ionian, which became the standard alphabet of Greece, exhibits the maximum of change. Three of the twenty-two Phœnician letters, *vau*, *koppa*, and *san*, proving superfluous, fell into disuse, while five new characters, one by one, make their appearance in the records. The Eubœan and Peloponnesian alphabets, on the other hand, were more conservative, all the twenty-two Phœnician letters being retained, while only three additional letters were introduced.¹

Hence there is a kernel of truth in the legend which designated certain letters as later additions to the primitive alphabet. The new letters added by the Greeks are the five which come at the end of the alphabet after τ , and these are proved by the epigraphic evidence to have been added in the order in which they stand, *v*, ϕ , χ , ψ , ω . Their alphabetic position is due to the employment of the letters as numerals, which made it needful not to disturb the old alphabetic order. For the same reason *vau* and *koppa*, though disused as phonetic symbols, retained their stations in the alphabet as numerals. No better proof could be desired of the fact that no formal reconstruction of the

¹ In the Ægean alphabet there are 18 Phœnician letters out of 21; in the Attic 20 out of 23; in the Phrygian 17 out of 19; in the Lycian 17 out of 28; in the Umbrian 16 out of 18; in the Etruscan 16 out of 20; in the Oscan 16 out of 17; in the Latin 20 out of 23.

alphabet took place, but that the changes were gradually effected by a process of insensible evolution. The history of these changes has to be spelt out, inductively, from the scanty epigraphic record of the earlier periods, with the aid of such analogies as may be furnished by similar developments in other alphabets.¹

In the endeavour to trace the history of the individual letters, the old have to be separated from the new. The normal retention by the Greeks of the primitive alphabetic order, vouched for by the transmission of the numerical values of the characters, together with the correspondence of the names, forms, and phonetic powers, renders easy the identification of the Greek letters with their Phœnician prototypes. Such obscurities as remain can be cleared up by means

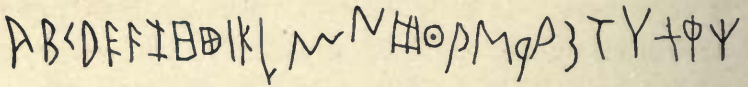
¹ In our own alphabet, for instance, the great abundance of epigraphic material makes it easy to trace the exact steps by which the two characters *i* and *j* were slowly differentiated out of one primitive symbol, *u* and *v* out of another, and then specialized by natural selection so as to denote the vocalic and consonantal sounds. The process is instructive, throwing considerable light on parallel developments in the Greek alphabet. As a mere matter of graphic convenience the signs *v* and *u* began to vary till, in the 10th century, the form *v* came to be used by preference as the initial and *u* as the medial letter. Similarly, in the 15th century, *i* was lengthened and turned to the left at the beginning of words, as a sort of ornamental initial. The consonantal sound usually occurring at the beginning, and the vocalic in the middle of words, the two initial forms *v* and *j* at last became conveniently but undesignedly specialized to denote the consonants, and the two medial forms *u* and *i* to represent the vowels.

of abecedaria, Oscan, Etruscan, Greek, and Latin, which, owing to a series of fortunate chances, have been preserved in Italy. Several are alphabets, more or less complete, scribbled, apparently by schoolboys, on Pompeian walls. Of these, six are Greek, four are Oscan, and four Latin. Others are scratched on children's cups, which were buried with them in their graves; and others seem to have been cut or painted by artificers, apparently for practice in the graphic art, on unused portions of slabs containing mortuary records.

The graffiti of Pompeii, although dating only from the 1st century, A.D., supply the oldest complete abecedaria of the classical Greek and Latin alphabets. Much more ancient are some of the alphabets scratched on ink-bottles, bowls, and drinking-cups. Of these, five are Etruscan, and three exhibit early forms of the western type of the Greek alphabet.

At the beginning of the present year (1882) a plain vase of black ware, in the shape of an amphora, and about $6\frac{1}{2}$ inches in height, was discovered in a tomb opened at Formello, near Veii, by Prince Chigi. It bears an Etruscan inscription of ownership, legibly scratched with a point, together with a syllabary or spelling exercise, as well as the Greek alphabet twice repeated. These two alphabets are of unique interest, as they contain archaic forms of every one of the twenty-two primitive Phœnician letters, arranged precisely in the order in which they stand in the Semitic

alphabet, while at the end, after *tau*, are added four additional signs of Greek origin.



THE FORMELLO ALPHABET.¹

The letters are :—

α β γ δ ε^F ζ η θ ι κ λ μ ν ξ ο π ρ ρ σ τ υ x φ χ

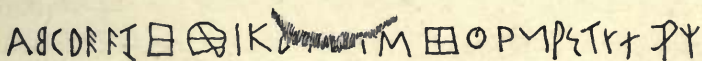
The discovery of this little vase, by making possible the identification of each of the Greek letters with its Phœnician prototype, has finally settled a prolonged controversy as to the origin of certain letters. It places the sibilant **M**, which we call *san*, in the 18th station, thereby establishing its descent from *tsade*, and not from *shin* as hitherto supposed; while **Ξ**, which we call *sigma*, occupies the 21st station, and must therefore be connected with *shin*, and not, as its name suggests, with *samekh*, the 15th letter.

Before the discovery of the Formello vase the most complete abecedarium was one found (1836) at Cervetri, a small village about six miles from the coast, and nearly midway between Rome and Civita Vecchia. Cervetri preserves the name, and marks the site of Cære,² a

¹ The other alphabet on the vase is practically the same as that given above, but *pi* and *koppa* approach more closely to the usual forms, and the letters **E** and **F** have been interchanged, doubtless by mistake.

² The primitive name of Cære was Agylla, the 'round town,' which indicates that it was originally a Phœnician settlement. An ancient

primitive seat of Italic civilization, which has yielded painted tombs and sarcophagi more archaic in style than any that have been found elsewhere, some apparently, being of pre-Etruscan date. One of these ancient tombs contained a small cruet-like vase of plain black ware, 5½ inches in height, which is now in the Museo Gregoriano at Rome. It is usually called the Galassi vase, from the name of its former possessor. A Greek abecedarium is engraved round the base, while a syllabary is rudely scratched, with blunders and erasures, on the body of the vase. Few more curious relics have come down to us from the ancient world than this insignificant 'Pelasgic' ink-pot, which probably formed the alphabet and primer of a child, in whose tomb it must have lain for some five and twenty centuries.



THE CÆRE ALPHABET.

The syllabary, which has formed the subject of prolonged discussion, need not detain us. The abecedarium is not quite perfect or complete, two letters, *l* and *m*, being injured by an unfortunate fracture, and the letter *koppa* being omitted, probably by accident, as it appears in the syllabary. With these

tradition, preserved by Dionysius of Halicarnassus, Strabo, and Pliny, affirmed that Agylla was a 'Pelasgian' city prior to the Etruscan conquest.

exceptions we have the Formello letters in the same order, and nearly in the same forms. The Cære abecedarium is of special value on account of its exhibiting the letter *san* in an archaic form \blacktriangledown , which occurs in no other epigraphic record, and is almost identical with the primitive outline of *tsade* which occupies the corresponding station in the Phœnician alphabet.

Both at Cære and at Formello the same four non-Phœnician characters \blacktriangledown \times Φ Ψ appear, and in the same order. The first is undoubtedly *upsilon*, and the third *phi*; but as to the others there has been considerable difference of opinion. In the Eastern alphabet \times and Ψ represent *ch* and *ps*; in the Western they stand for *x* and *ch*. Now if Ψ denote *ps* the alphabet could only be the Ionian or standard Greek alphabet, but this it cannot be, not only on account of the absence of *omega*, but because of the presence of the letters *van*, *koppa*, and *san*, which are absent from the Ionian alphabet. The sign Ψ must therefore denote *ch*, but in every alphabet in which this is the case \times stands for *x*. Since then $\times = x$, and $\Psi = ch$, the alphabet must be either the Peloponnesian or the Chalcidian (see p. 67), but since *l* is represented by \blacktriangledown and not by \blacktriangle or \blacktriangle it can only be the latter.¹ But if \times stands

¹ If any doubt remained it would be settled by the order in which the characters occur. The Greek alphabet of Cære indubitably represents the prototype of the other Italic alphabets, and the Latin and Etruscan abecedaria prove that in Italy the non-Phœnician

for *x* and not for *ch*, what are we to make of the strange character \boxplus which occupies the position held by *xi* in the Ionian alphabet? Since this character is not used in inscriptions, it was probably, like *vau* and *koppa* in the Eastern alphabet, an obsolete letter which retained its position in the alphabet solely as a numeral. Here we may be guided by analogy. The sixth Semitic letter, *vau*, was differentiated into two characters Φ (*w*) and Ψ (*u*), the first of which retained the old position while the other was relegated to the end of the alphabet. In the Western alphabets both signs retained their phonetic powers, but in the East Φ was disused as a letter, retaining its place only as a numeral. Much the same seems to have occurred with the fifteenth letter, *samekh* \boxplus . In the East it retained its form, but changed its power from *s* to *x*, while in the West it seems to have been differentiated into \boxplus (*s*) and \boxplus (*x*), the first of which being needless, since the hard sibilant was already denoted by \mathbf{M} and \boxplus , was retained in the old station as a numeral, while the new character \boxplus , representing the new sound, was removed to the end of the alphabet. That \boxplus or \mathbf{X} was a derivative of \boxplus , the fifteenth letter, appears also from a mutilated and corrupt abecedarium from Calabria¹ in which \mathbf{X} seems to have occupied the

characters were arranged in the order $\Psi \mathbf{X} \Phi \Psi$, instead of $\Psi \Phi \mathbf{X} \Psi$ as in Greece.

¹ This was found by Mommsen among the alleged Messapian inscriptions copied in 1805 by Cepolla in the neighbourhood of

position held by the Phœnician *samekh* and the Greek *xi*.

The Formello and Cære abecedaria represent practically the same alphabet, and hence they cannot be very remote from each other in their date. The direction of the writing, from left to right, the forms of the letters, the presence of the four non-Phœnician characters, and the retention of Phœnician letters afterwards disused, lead to the conclusion that these abecedaria cannot be earlier than the 7th century B.C. or later than the 6th. I should be inclined to name the middle of the 6th century as the date on the whole least open to objection.

So long ago as 1698 another syllabary and abecedarium, in the same alphabet, was found painted in large letters on the rock wall of an Etruscan tomb at Colle, near Sienna. Only the first sixteen letters

Basta in Calabria. The transcript of Cepolla, who took it for an inscription, runs as follows :—

Λ Β Ι Δ F F I . Η . Κ Λ Μ
 Ν Ο Χ . ϑ . Ρ Η Ϛ . Τ Ρ Ψ Ψ

The first letter is doubtless **A**, the fifth **E**, the seventh **Ι**, and the three last **Υ Φ Ψ**. On account of the notorious untrustworthiness of Cepolla's transcriptions a further conjectural restoration may perhaps be allowable, which would give a complete abecedarium as follows :—

Α Β Γ Δ Ε F Γ Η [Θ Ι] Κ Λ Μ Ν Χ Ο [Π] ϑ Ρ Ϛ ϛ Τ Υ Φ Ψ

See Mommsen, *Die Unteritalischen Dialekten*, p. 49; Kirchhoff, *Studien*, p. 148.

could be deciphered, the rest having faded away. Below is a facsimile of the transcript taken at the time.

A B C D E C I □ ⊙ I K L M N O

THE COLLE ALPHABET.

The Etruscan abecedaria exhibit an alphabet manifestly derived from the Italic form of the Greek alphabet. The best known was found in 1845 in a tomb at Bomarzo, near Viterbo, and is now in the collection of Prince Borghese. It is inscribed on the foot of a little vessel of ordinary ware which was probably the drinking-cup of a child. It contains the twenty letters of the standard Etruscan alphabet. The forms of the characters resemble those on the Cære ink-bottle, but the non-Etruscan letters **B D K O X** are omitted, and the Etruscan character **8** (*f*) is added at the end.

A similar cup is in the local museum at Grosseto. The letters, which are merely scratched on the clay, are the same as those on the Bomarzo cup, with the addition of **K** and **9**, which do not properly belong to the Etruscan alphabet.

8 9 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

THE GROSSETO ALPHABET.

In the neighbouring museum at Chiusi there are two slabs of soft tufa, found in adjoining tombs, on which three Etruscan alphabets, somewhat imperfect

and illegible, are chiselled. They have apparently been cut by unskilful masons for practice in their art.

From Nola, near Naples, come two bowls inscribed with abecedaria in the Campanian or South Etruscan alphabet, which resembles somewhat the Oscan alphabet used in Pompeian graffiti.¹

§ 8.—THE LETTERS.

A Semitic alphabet transmitted to a non-Semitic people would in some respects be redundant, in others defective. Unconscious adaptation would therefore inevitably ensue. The symbols of identical sounds might be transmitted without change, but superfluous

¹ The abecedaria have been the subjects of a copious literature, references to which will be mostly found in Fabretti, *Corpus Inscriptio-
nium Italicarum*, No. 2403 for Cære, No. 450 for Colle, No. 2436 for Bomarzo, Nos. 2766 and 2767 for Nola, and 1st. Supp. Nos. 163 to 166 for Chiusi. See also Dennis, *Cities and Cemeteries of Etruria*, 2nd Edition, vol. i., pp. 172, 271, vol. ii., pp. 133, 224, 306. Mommsen, *Die Unteritalischen Dialekten*, pp. 5 to 8, and plate i; Müller's *Etrusker*, by Deecke, vol. ii., pp. 526 to 528; Kirchhoff, *Studien*, pp. 122 to 129; Wimmer, *Runeskriptens Oprindelse og Udvikling*, pp. 25 to 28; Garrucci, *Graffiti di Pompéi*, plate 1; Zangemeister, *C. I. L.*, plate 40; Ritschl, *Priscæ Lat. Mon.*, plate 17, and the convenient comparative tables of fifty-three ancient abecedaria in Fabretti's *Osservazioni Faleografiche*, *C. I. I.*, pp. 148 to 152. The Formello alphabet is engraved in the *Mélanges de l'École Française de Rome*, vol. ii., plate 6. It has been discussed by Mommsen and Bréal in papers read before the *Instituto di Correspondenza Archeologica di Roma*, and the *Académie des Inscriptions* at Paris. Cf. *Academy*, April 15 and 29, 1882, and *Revue Critique*, April 4.

characters would either disappear or become the symbols of cognate sounds, and new letters would be evolved by differentiation.

In the Greek alphabet the Semitic semi-consonants and guttural breaths became vowels ; aspirated mutes and additional vowels were evolved ; and the sibilants underwent transformation. The remaining letters were improved in form, but otherwise correspond with tolerable exactitude to their Phœnician prototypes.

The process of evolution extended over several centuries. The most needful and obvious adaptations were the first to be effected, further changes following by degrees. The most urgent necessity was a notation for the vowels. Before the date of the oldest inscriptions this had been in great part attained, five out of the seven vowels appearing in the Thera epitaphs.

The Primitive Vowels.—The five primitive vowels were formed out of the Phœnician breaths and semi-consonants, letters which even in Semitic languages tend to lapse into the cognate vowel sounds. The three breaths, *aleph*, *he*, and *'ayin*, lent themselves readily to this process, losing altogether their character of gutturals, and sinking into the fundamental vowels, *alpha*, *e-psi-lon*, and *o-micron*.

The semi-consonant *yod*, which had the sound of the English *y* or the German *j*, lapsed easily into the cognate vowel sound of *iota*. Analogy would lead us to expect that *vau*, the other semi-consonant, would similarly weaken into the vowel *u*. The Greek *u-psi-lon*

does not, however, occupy the alphabetical position of the Phœnician *vau*, but comes among the new letters at the end of the alphabet.¹

As to its origin, three theories have been advanced: the first deriving it from **O**, the second from **Ϝ**, and the third from **Υ**, which represents *u* in the Cypriote syllabary.

The presumption is against the Cypriote hypothesis. If the origin of *upsilon* can be explained by the normal process of differentiation, to which the other new letters, ϕ , χ , and ω are due, it would be unscientific to refer it, without positive evidence, to an exceptional and conjectural source. Of the two remaining theories, the probabilities are in favour of a derivation from *vau*. No reason can be assigned why *vau* should be the sole exception to the law which evolved vowels out of those Phœnician letters which approached the vocalic character. The epigraphist will also attach weight to the minute size of the Phœnician **o**,² a characteristic faithfully reproduced in the *omicron* of early Greek inscriptions, whereas *upsilon* is as large as the adjacent letters. But putting such probabilities aside, the epigraphic evidence seems to be decisive. There are

¹ Its position as the first of the five new letters is an indication that it was the earliest addition to the primitive alphabet, an inference confirmed by the fact that it is the only one of the new letters which makes its appearance in the oldest inscriptions from Thera.

² The open forms of 'ayin, which have been adduced as prototypes of **V**, are mostly Aramean, and of comparatively late date.

two early types of *upsilon*, **V** and **Y**. If the character arose by opening the loop of **O**, then **V** would be the primitive, and **Y** only a secondary form. But if the source was *vau*, a letter of which the tail is the most conspicuous feature, then a tailed form would be the oldest. Reference to the Thera inscriptions¹ proves that the earliest form was **V**, which approximates to **F**, and might easily develop into either **Y** or **V**.

Hence, though the characters **F** and **V** are apparently so unlike, the differentiation, morphologic as well as phonetic, can be readily explained. Assuming, as we are entitled to do,² that in the primitive alphabet **F** represented *w* lapsing into *u*,³ the character **F**, assimilated in form to the contiguous letter **E**, would naturally retain the original station and the primitive consonantal sound, while **V**, specialized to denote the cognate vowel sound, would be relegated to the end of the alphabet, so as not to disturb the accepted notation for the numerals.

In the Eastern alphabet **F** became obsolete as a letter before the date of the oldest inscriptions, though,

¹ See pp. 30 and 35.

² The early Semitic forms of *vau* (see vol. i., pp. 99, 227, 213, 208, 243) would yield **F** almost as readily as **Y**. The Baal Lebanon *vau* is nearer to **F**, the Moabite to **Y**, while the Siloam inscription exhibits an ancient form, from which either could be obtained with almost equal ease.

³ The sounds are closely allied, *w* being the consonantal *u*, and *u* being simply *w* vocalized by a slight widening of the lip passage.

as Bentley proved, it was in use at the time when most of the Homeric poems were composed. It retained, however, its alphabetic position, serving as the numeral for 6. The later lapidary form Σ seems to have been the source of the cursive numeral ϵ , which in minuscule scripts is assimilated to ϵ and σ , and other forms of the ligature for $\sigma\tau$, called the stigma or stau.

In the Western alphabets **F** continued to be used as a letter. In Peloponnesian inscriptions it is found up to the close of the 5th century, being employed both in the Elean treaty and on the Plataean trophy. Through the Chalcidian alphabet it was transmitted to Italy, occupying the sixth station in the abecedaria, and acquiring in Latin the power of *f*, instead of *w* which it possessed in Greek.¹

The Greek name of the letter **F** was originally *faû*, but from a fancied resemblance to a doubled *gamma* it was called by the grammarians, somewhat absurdly, the *digamma*. The name ψ ψιλόν, meaning "bare vau" or "mere *u*," is also due to the grammarians, the earlier name, as we learn from a fragment of the "Gram-

¹ The sound of our *w*, which was denoted in Greek by **F**, was retained in Latin by **V**. The sound of *v*, which is the dental equivalent of the guttural *w*, seems to have been wanting in Greek and Latin, as in many other languages. If the Latin **V** had been pronounced as *v* its name would have been *ev*, as in the case of *ef* and the other continuants. The name *ve* shows that it was a stopped consonant, and hence the sound must have been *w*.

matical Tragedy" of Callias,¹ having been \eth , evidently an abraded form of $Fa\hat{v}$.

Eta. Since the evolution of *eta* comes within the period covered by the epigraphic record, the mode in which it was effected is a matter of evidence, and not of mere inference as in the case of *upsilon*.

The Latin **H** and the Greek *eta* are identical in form and in alphabetic position, though not in value. They occupy the station of *cheth*, the eighth Phœnician letter, which was a hard continuous guttural, like *ch* in the Scotch *loch* or the German *lachen*. In Greek this difficult sound readily weakened into the rough breathing *h*, thus forming a substitute for *he*, the fifth Phœnician letter, which had lost its aspiration, and had lapsed into the vowel **E**, originally called $\epsilon\grave{\iota}$, and afterwards $\epsilon\acute{\iota}$ ψιλόν.

The history of *eta* begins with the inscriptions of Thera. In the oldest of them it retains the Phœnician form **ETH**, with the value of the aspirate only, as in No. 2, ΚΡΙΤΟΠΗΝΛΟ (κριτοφύλου), \bar{e} being denoted by **E**, as in No. 6, ΡΕΚΣΑΝΟΡ (Ρηξάνωρ). In later inscriptions, such as No. 8, ΟΡΘΟΚΛΗΣ ('Ορθοκλής), it stands for \bar{e} . At the beginning of the 6th century, when the Abu Simbel records were written, **ETH** is still closed, and is used normally for \bar{e} , and permissively for *h*.

Polyphonic characters tend towards specialization. In the Western alphabets **H** was appropriated as the

¹ Athenæus, x. § 79. Cf. Plato *Cratylus*, 393 D.

symbol of the aspirate, while in the East it came to be used exclusively as a vowel. A notation for the aspirate being required it was obtained in the usual way by morphological differentiation. Just as Ξ was simplified into H , so † , the symbol for the aspirate, was obtained from H by further curtailment. The process of formation can be conveniently traced on the coins of Heraclea, an Ionian colony in Lucania, which supply an instructive chronological series of legends, extending from the close of the 5th century B.C. to the beginning of the 3rd.

We have four successive types,—

- | | | |
|-----|-------------------|-------------------|
| (1) | HE | prior to 400 B.C. |
| (2) | HPAKΛEIOΩN | 400—350 B.C. |
| (3) | HPAKΛHIOΩN | 350—300 B.C. |
| (4) | HPAKΛEIOΩN | after 300 B.C. |

At first H is a mere guttural breath, E representing the long vowel \bar{e} . In the next stage H denotes the aspirated vowel $h\bar{e}$ (= English *hay*). The forms are then differentiated and the sounds specialized, giving $\text{†} = h$, and $H = \bar{e}$.

The character † easily passed through L to ´ , which is the form of the rough breathing usual in minuscule MSS. Down to the 8th century the rough and smooth breathings are generally denoted by † and ‡ ; in the 9th century the three forms † L ´ are used for the rough breath, and ‡ ┘ for the smooth, after which time the square forms go out of use.²

² Whether, as usually asserted, the *spiritus lenis*, ‡ , represents the

Omega. With the evolution of *omega*, which took place nearly a century later than that of *eta*, the formation of the Greek alphabet was at last completed. At Abu Simbel, where ē and ē̄ are already denoted by distinct symbols, the three sounds subsequently represented by O , OV , and ω , are all expressed by the same character, O . It was derived from the Phœnician letter 'ayin, and it was called $\text{o}\bar{\upsilon}$,¹ the name *o micron* being afterwards bestowed by the grammarians to distinguish it from *o mega*, which at first went by the name $\hat{\omega}$.

Owing to the late development of *omega* its history can be more distinctly traced than that of any other letter, and it is instructive to note the tentative way in which it was brought about. In early Dorian inscriptions a difference is made in the size of the character, O and o denoting ō and ō̄ . At Argos the corresponding symbols are O and O , while in Melos another device was adopted, and we have the two characters C and O . In other islands, Paros, Siphnos, and Thasos, the opening is at the bottom instead of at the side, O and O representing ō and ō̄ . In Ionia the usage was reversed, O standing for the short, and Ω for the long vowel.

other half of H , or whether it is merely an assimilated sign, suggested by h , is a doubtful point. In the older Greek MSS., the breathings, especially the smooth, are commonly omitted. In the most ancient of all, the Harris and Bankes Papyri, the breathings are added by a later hand. See Wattenbach, *Anleitung z. Gr. Pal.*, p. 27, as corrected by Mr. E. M. Thompson, *Cat. of MSS. in B. M.*, i. pp. 1, 6.

¹ The final *n* of 'ayin would disappear in Greek, just as *nu* comes from *nun*.

The inscription on the pedestal of the statue of Chares at Branchidæ, of which a facsimile is given on p. 46, is the earliest dated example of the Ionian notation, which became universal on the final prevalence of the Ionian alphabet.¹

The destruction of very early MSS. makes it impossible to trace the actual transition from the lapidary *omega*, Ω or Ω, to the uncial ω.² The numismatic W, which is not uncommon on the coins of Thrace,³ and the capital W of early MSS., though somewhat later than the uncial type, may however be regarded as survivals of the lost transitional form.

Phi. In Greek, as in Sanskrit, characters were needed to express the sound of the tenuis followed by an aspiration. In the Thera inscriptions of the first epoch

¹ At Athens down to the archonship of Euclid (B.C. 403) both sounds are expressed by O.

² The common assertion, which is repeated by a writer so careful as Wattenbach, that the minuscule ω grew out of OO, cannot be admitted. Not to speak of the improbability of a minuscule letter having originated otherwise than from the majuscule character, the question seems to be settled by the chronological sequence of the forms, OO being later than ω, and not earlier, as the theory demands.

³ As on the coins of Perinthus and Mesymbria, struck in the reigns of Geta, Severus Alexander, Philip and Otacilia, 211—249 A.D. This form W, which seems to be confined to Thrace, where many archaic types were conserved, may be regarded as a survival of the unknown prototype of ω, which occurs in inscriptions of Augustus, on coins of Nero, Trajan, and Hadrian, and in the Bankesian Homer.

the combinations Θ Η, Π Η, Κ Η, denote the sounds for which the letters θ , ϕ , χ were subsequently used.¹ The development of *theta*, the oldest of these characters, has already been explained (p. 31). It is plain that the Phœnician *teth* (𐤔), which expressed a sound unknown in Greek, was appropriated at an early period as the symbol for *t'h*.² Out of this a character for *p'h* was next evolved. The possibility of such a development is explained by the well-known tendency to substitute for *th* the easier sound of *ph*.³ The primitive symbol retained as usual the primitive alphabetic station and the primitive sound, while the differentiated character was removed to the end of the alphabet as the second of the new letters.

The oldest form of *phi*, which is Φ ,⁴ is an

¹ It is believed that these letters were not originally continuous consonants, like *th* and *f* in English and *ch* in German, but represented the complete tenuis followed by a distinct aspiration, like the aspirated mutes in Sanskrit, or like *kh*, *ph*, and *th* in the words *inkhorn*, *uphill*, and *boathouse*.

² Compare the Thera inscriptions, No. 4 and No. 8 on pp. 31, 33.

³ Children often use the easier sound instead of the more difficult, saying *bof*, *erf*, *fink*, for *both*, *earth*, and *think*. The Russians change Theodore into Feodor. The same tendency shows itself in Greek, where we have the dialectic form $\phi\eta\rho$ for $\theta\eta\rho$, and Homer uses $\phi\lambda\acute{\iota}\psi\epsilon\tau\alpha\iota$ for $\theta\lambda\acute{\iota}\psi\epsilon\tau\alpha\iota$. So again we find a primitive *th* represented by *f* in Latin and by θ in Greek. Compare *fumus* and $\theta\upsilon\mu\acute{o}\varsigma$, *fingo* and $\theta\iota\gamma\gamma\acute{\alpha}\nu\omega$, *rufus* and $\acute{\epsilon}\rho\upsilon\theta\text{-}\rho\acute{o}\varsigma$, *fe-mina* and $\theta\eta\text{-}\lambda\upsilon\varsigma$.

⁴ As on the earliest coins of Phœæ.—Head, *Coinage of Bœotia*, pp. 15, 16. The usage at first was tentative, as in the case of *omega*. In an inscription from Naxos we find $\Phi = th$ in the name

indication that the new letter originated in the usual way out of a simplification of the parent character Θ . At Abu Simbel we find Θ and Φ used for *th* and *ph*. After the disuse of *koppa* other forms became available, and we get Ψ , Φ , Φ , Φ , and Φ . At the beginning of the 5th century Θ was replaced by Θ as the lapidary *theta*, but in the oldest existing MSS., such as the Bankesian Iliad, and the Herculaneum rolls, the final form Θ already appears.

The reader will not fail to observe that the epigraphic history of the formation of θ and ϕ out of *teth* illustrates and confirms the explanation which has been given of the parallel development of *f* and *v* out of *vau*.

Chi. The Greeks, as we have seen, appropriated the Phœnician *tau* and *teth* as the symbols of *t* and *t'h*. The letters *kaph* and *goph* could not be similarly specialized to denote *k* and *k'h* on account of the prolonged retention of *koppa* as well as *kappa* in the early alphabet. Hence a notation for *k'h* had to be obtained by differentiation. Two distinct symbols for this sound were evolved, χ in the East, and ψ in the West. The source of these two characters is indicated by the two notations, $\chi\eta$ and $\psi\eta$, by which the sound of *chi* is expressed in the inscriptions of Thera.¹ The parent characters χ and ψ were differentiated to avoid con-

$\Delta\omega\rho\theta\acute{\iota}\alpha$. Kirchhoff, *Studien*, p. 77. The Sigeian inscription indicates that *phi* originated, as might be expected, in an Æolic region.

¹ See Nos. 4 and 6 on pp. 31, 33.

fusion, and instead of KH or K¹ we find the characters² κ \times \dagger employed in the Eastern alphabet, while in the West the loop of Φ is opened so as to give the successive forms Ψ ∇ \downarrow .

Psi. The last new consonant to be evolved was the symbol Ψ , representing ψ , which is confined to the Ionian alphabet. In early inscriptions this sound is expressed either by $\Gamma\Sigma$ or $\Phi\Sigma$. Just as the primitive notation $\Phi\Theta$ for kh suggests the derivation of the Western symbol $\Psi = kh$ from $\Phi = q$, so the notation $\Phi\Sigma$ for ψ leads to the conjecture³ that the Eastern symbol $\Psi = \psi$ was obtained from $\Phi = \phi$.

Xi. The most obvious test distinguishing the Eastern and Western alphabets is the symbol for ξ . In the East it is Ξ , in the West χ . The source of the Eastern

¹ *Chi* is denoted by a character indistinguishable from **K** in the oldest inscriptions of Crete. See Kirchhoff, *Studien*, p. 63.

² See Rose, *Inscr. Gr. Vet.*, plate 4, fig. 2 (Agrigentine Vase), and the lower Sigeian inscription for examples of the transition forms.

³ The origin of ψ has been much disputed. It is contrary to analogy and probability to suppose, as is usually done, that the Ionians appropriated the Dorian character $\Psi = kh$, and arbitrarily assigned to it the wholly unconnected value of ψ . Insuperable difficulties, chronological, geographical, and phonological, forbid the supposition that ψ was obtained from ∇ , a Sidonian form of *shin* of comparatively late date. It is hardly less difficult to refer it to the characters Ψ , Υ , or Υ , which appear in the scripts of Pamphylia, Caria, and Cilicia, and also in the Cypriote syllabary, with the values *ss* or *se*. I venture to think that the source suggested in the text is more probable, since it conforms to the analogies supplied by other additions to the Greek alphabet.

form is manifest. In early inscriptions¹ the fifteenth Greek letter *xi*, ξ , is identical in form with the fifteenth Phœnician letter *samekh*.² The origin of the Western character, χ , is more doubtful. On the grounds of identity of form, and of the use, in some early inscriptions, of $\chi\Sigma$ as well as $\kappa\Sigma$ for *x*, it has been supposed that the Latin letter χ was obtained from the Greek *chi*. But throughout the regions where $\chi = x$, the character Ψ denotes *chi*, and *x* can hardly have been derived from a symbol locally unknown. It seems more probable that both characters for *x*, the Western as well as the Eastern, were obtained, as Franz contends, from *samekh*. The earlier form ξ would yield \dagger or χ almost as readily as it yielded Ξ , while the evidence afforded by the abecedaria tends to identify χ with the fifteenth Phœnician letter, and also accounts for its position at the end of the Latin and Chalcidian alphabets.³

So much confusion exists as to the new consonants

¹ In inscriptions from Branchidæ of the 6th century the primitive form ξ begins to pass into Ξ , which, as well as Ξ , appears on coins bearing the name of Alexander the Great. From Ξ , which is found in the oldest MSS. (2nd century B.C.), arose the uncial forms $\overline{\Xi}$ and $\overline{\chi}$, from which the transition is easy to the minuscule ξ .

² The difficulty with regard to the names and powers will be presently discussed. See p. 97.

³ See pp. 77, 78, *supra*. The interchange and equivalence of the forms χ and Ξ on the 5th century coins of Naxos in Sicily supports the view that they were local variants from the earlier type.

that it may perhaps be permissible to repeat, in brief summary, the conclusions reached in the preceding pages. The Greek alphabets in which $\Psi = ps$, have $\chi = ch$. Those in which $\Upsilon = ch$, have $\chi = x$. These symbols, though identical in form, are independent in origin. Probably $\Upsilon = ps$ comes from *phi*, Φ , while $\Upsilon = ch$ comes from *koppa*, Φ . Again $\chi = ch$ comes from *kappa*, \mathbf{K} , while $\chi = x$ comes from *xi*, Ξ . The common assertion that the characters Υ and χ of one alphabet were adopted in another as symbols of totally different sounds is contrary to sound scientific principle. It cannot be repeated too often that in palæographic, no less than in linguistic or zoologic science, the laws of evolution are supreme, leaving no room for arbitrary invention or intention.

San. The identification of the sibilants is the most difficult problem connected with the transmission of the Phœnician alphabet to the Greeks. There were four Semitic sibilants, the hard, *samekh*; the soft, *zayin*; the lingual, *tsade*; and the palatal, *shin*. The Greeks required only three, the hard, *sigma*; the dental, *zeta*; and the guttural, *xi*. There are, however, indications that the Greek alphabet originally possessed a fourth sibilant, which was ultimately lost. Its name, its form, and its alphabetic station can be recovered. We know its name from an allusion of Herodotus, its form from early inscriptions, and its place in the alphabet from the abecedaria. In attempting to identify the Greek sibilants with their Phœnician prototypes it is needful

to begin by restoring the lost letter to its place in the primitive alphabet.

In the 5th century B.C. the fourth sibilant still survived in dialectic use. Herodotus informs us (i. 139) that the names of the Persians "all end with the same letter—the letter which is called San by the Dorians and Sigma by the Ionians." At this time there was apparently no conspicuous distinction between the sounds represented by *san* and *sigma*,¹ but the survival of the two names indicates the existence of two primitive letters whose sounds had become assimilated.

Herodotus supplies no hint that these letters differed except in their names, but his statement as to a distinctive Dorian and Ionian usage makes it possible to discover and identify their respective forms. In early Greek inscriptions the hard sibilant is expressed by two distinct characters, one employed almost exclusively by Ionians, and the other by Dorians, but without any appreciable distinction in the phonetic values. In Dorian inscriptions, as at Thera, Crete, Corinth, and Argos, *s* is denoted by the symbol **M**, while in Ionian records, as at Miletus, Naxos, Samos, and Athens, it is expressed by **Σ**, and afterwards by **Ξ**. Obviously

¹ We learn from Athenæus (xi. § 30) that in the time of Pindar, and even of Aristoxenes, a certain distinction in the sounds still existed, *sigma* being apparently the harder of the two. The Etruscans used both letters; **Σ** (*sigma*), employed preferentially as an initial and medial, representing a stronger sound than **M** (*san*), which is used chiefly as a final. Corssen, *Sprache der Etrusker*, i. pp. 14—16.

these must be the two characters corresponding to the two names. The Dorian character as well as the Dorian name went out of use, while the Ionian name and character survived. The Dorian character **M** is therefore to be identified with the Dorian name *san*.

This identification is confirmed by the name and form of the numeral *sampi*. After the new letters had been evolved, the Greek numeral notation went up to 800, and another sign being required to complete the scheme, the nearly obsolete letter *san* was revived and employed to denote 900. The modern name *sampi* ($\sigma\alpha\nu+\pi\iota$) seems to have been suggested by the resemblance to π of the 15th century form ϑ , which, however, can be connected with the primitive *san* by a series of intermediate types.¹ From the lapidary type, **M**, which is found in the inscriptions of Thera and Corinth, we get the numismatic type **Ϟ** (*s*), found on coins struck at Mesymbria in Thrace from the 5th to the 2nd century B.C. This obviously supplies the transition² to the uncial type **ϡ**, which denotes 900 in a Greek papyrus of the 2nd century B.C., and from this is easily obtained the minuscule numeral ρ which appears in a 9th century MS., and was the parent of the modern numeral ϑ .

The form of the character which went by the name of *san* having been determined, it has to be seen

¹ See Wattenbach, *Anleitung z. Gr. Pal.*, p. 24; Gardthausen, *Gr. Pal.*, p. 266; and *Cat. of B. M. Coins, Thrace*.

² Compare the evolution of the uncial **ϡ** (*m*) from the capital **M**.

whether it can be identified with any of the four Phœnician sibilants. Of the Semitic letters only one was wholly lost in the European alphabets.¹ In the Greek alphabet there is manifestly a lacuna in the place which was occupied by the eighteenth Phœnician letter. Up to this point the numerical powers of the Greek and Semitic letters correspond; after it they have been disarranged. The seventeenth letter, *ϕ*, represents 80 in both alphabets; but the nineteenth, *ϗ*, stands for 100 in the one, and for 90 in the other.² Plainly, the eighteenth Phœnician letter, a sibilant, which stood for 90, disappeared from the Greek alphabet, and may therefore be identified with *san*, the letter which the Greeks lost.

It is only a matter of inference that the one vacant place in the Greek alphabet was originally occupied by the one letter which we know to have been lost; but the ancient abecedaria from Italy afford positive evidence of the correctness of the surmise, the place next after *ϕ*, which corresponds to the eighteenth station, being occupied by a character which, in the alphabets of Formello, Bomarzo, and Grosseto appears as **M**, and in the older Cære alphabet as **Ϸ**, which if turned round, **Ϸ**, so as to correspond with the direction of the

¹ The sixth and nineteenth Phœnician letters retained their places in Greece as the numerals *vau* and *koppa*, and in Italy as the letters **F** and **Q**.

² See the comparative tables of the Phœnician and Greek alphabets, vol. i. pp. 99, 75.

Semitic writing, exhibits a form which is nearly identical with that of the eighteenth Phœnician letter, μ .

It may therefore be considered as certain that the name of the lost sibilant was *san*, that in the primitive Greek alphabet it occupied the eighteenth station, between *pi* and *koppa*, the successive forms being $\mathbf{M} \mathbf{M} \mathbf{T} \mathbf{O} \mathfrak{z} \mathfrak{z}$.

The Sibilants.—Comparing the places, forms, values, and names of the Greek and Phœnician sibilants, we obtain the following results :—

PHŒNICIAN.				GREEK.			
No. 7	\mathbf{Z}	<i>z</i>	Zayin	No. 7	\mathbf{Z}	<i>sd(z)</i>	Zeta
„ 15	\mathbf{S}	<i>s</i>	Samekh	„ 15	\mathbf{S}	<i>ss(x)</i>	Xi
„ 18	μ	<i>ts</i>	Tsade	„ 18	\mathbf{M}	<i>s'</i>	San
„ 21	\mathbf{W}	<i>sh</i>	Shin	„ 21	\mathbf{S}	<i>s</i>	Sigma

It will be seen that the places of the four Semitic sibilants were also occupied by sibilants in the primitive Greek alphabet, that the forms of the characters have been transmitted with less than the ordinary amount of variation, whilst the phonetic powers can be easily deduced from those of the Semitic prototypes.*

* The Phœnician soft sibilant *z* became the Greek dental sibilant ζ , this being the nearest Greek sound. The forms $\sigma\upsilon\rho\acute{\iota}\sigma\delta\omega$ for $\sigma\upsilon\rho\acute{\iota}\zeta\omega$, and $\text{'Αθ}\acute{\eta}\nu\alpha\zeta\epsilon$ for $\text{'Αθ}\acute{\eta}\nu\alpha\varsigma \delta\epsilon$, are held to prove that the Greek ζ had the power of $\sigma\delta$ or $\delta\varsigma$. The Phœnician lingual sibilant \mathfrak{z} , *ts*, a sound peculiar to the Semites, became the hard sibilant *s* among

The seventh letter, *zeta*, has the form and place of *zayin*; the eighteenth, *san*, has the form and place of *tsade*; the fifteenth, *xi*, has the form and place of *samekh*; and the twenty-first, *sigma*, has the form and place of *shin*. Thus, although the forms and the alphabetic stations of the sibilants correspond, there is in every case a perplexing want of correspondence between the names. The Phœnician names, so far as they reappear in the Greek alphabet, are not appended to the corresponding characters.¹ The name

the Dorians, while the palatal sibilant Ψ , *sh*, which also represented a sound which the Greeks did not possess, was used for the hard sibilant among the Ionians. The Phœnician hard sibilant Δ , *s*, denoted the Greek sound $\sigma\sigma$, afterwards becoming the guttural sibilant ξ , as is indicated by the variants $\delta\iota\xi\acute{o}\varsigma$ and $\delta\iota\sigma\sigma\acute{o}\varsigma$, $\tau\rho\iota\xi\acute{o}\varsigma$ and $\tau\rho\iota\sigma\sigma\acute{o}\varsigma$, $\acute{\alpha}\nu\acute{\alpha}\xi\omega$ and $\acute{\alpha}\nu\acute{\alpha}\sigma\sigma\omega$, Οὐλίξῆς and Ὀδοσσεύς , $\xi\acute{\upsilon}\nu$ and $\sigma\acute{\iota}\nu$. The use of ξ is most frequent in Doric and old Attic. It is usually assumed that the difference was dialectic, but in some cases an easier explanation seems to be that in the more archaic alphabets the symbol Ξ retained its primitive power of *s* or *ss*.

¹ The name *samekh*, with the normal addition of the emphatic *aleph*, would become *samekha* or *samega*, and then *sigma* by metathesis of the labial and the guttural. The equivalence of the names *tsade* and *zeta* is explained by the similar changes of *yod* and *iota*, and *daleth* and *delta*. There is more difficulty in obtaining *san* from *zayin*, and it seems possible that *shin* might become *ssī* or *xī*, just as *nun* became *nu* by the disappearance of the final *n*. These identifications of the names are accepted by Dr. Aldis Wright, *Dict. of Bible*, III. p. 1797; and Mure, *Gr. Lit.*, I. p. 82. Otherwise we must derive *san*, which in Ionic would be $\sigma\acute{\eta}\nu$, from *shin*, and *zeta* from *zayin* by assonance with the contiguous names *eta* and *theta*, making *xi* a new name invented by the Greeks on the model of *phi* and *chi*, just as *phi* was itself formed on the model of *pi*.

sigma may confidently be identified with *samekh*; *zeta* probably with *tsade*; leaving *zayin* and *shin* as the prototypes of *san* and *xi*.

No satisfactory solution of the problem has hitherto been offered. The conjectures formerly advanced by eminent scholars,¹ and repeated by subsequent compilers, are now proved by the evidence of the abecedaria recently discovered to be no longer tenable. These elaborate explanations may, I venture to think,

¹ The explanations proposed by Gesenius, Lepsius, Böckh, Mommsen, Franz, Mure, and Lenormant are for the most part mutually destructive. The hypothesis usually accepted is to the following effect. Originally the 21st Greek letter was *san*, the name and form being obtained from *shin*; the 15th was *sigma*, derived from *samekh*; while *zeta* came from *zayin*. When *san* was disused *sigma* took the 21st station, leaving the 15th station vacant, which was filled by *xi*, a letter reborrowed from *samekh* with a new name. To any form of this hypothesis the epigraphic evidence seems fatal. In the abecedaria Σ (*sigma*) invariably occupies the 21st station and not the 15th, and M (*san*) the 18th instead of the 21st as the theory requires. *San* is therefore identified by its form and place with *tsade*, and not with *shin*. Nor can Σ be obtained from *samekh* as supposed. The zigzag prototype to which it is referred was a late Sidonian form (see vol. i. p. 227) evolved at a time when Phœnician influences in Greece had come to an end; while the older form of *samekh* to which *xi* is referred had disappeared from the Phœnician alphabet before place was made for it by the disuse of *san*. That the Greeks, remodelling their alphabet at a time long after the Phœnicians had finally retired from the Ægean, obtained from them the archaic form of a letter which had already been transmitted in a much later form, is an hypothesis which may well stagger M. Lenormant, who, however, accepts it "as a fact extraordinary but nevertheless certain."

be replaced by a very simple hypothesis. The whole difficulty will disappear if we assume that a confusion and exchange of names took place between the two dental sibilants, *zayin* and *tsade*, which represented approximate sounds, and also between the two open sibilants *samekh* and *shin*.¹

To account for this interchange of names it is not necessary to suppose that it was effected intentionally or directly. It may be more easily explained as the result of the amalgamation of contiguous local alphabets, in which the primitive characters had acquired different powers.² The literature of the more cultured but less numerous people becoming known to the other race, they would employ the characters of the literary alphabet, designating them however by the familiar names of the characters expressing the same sounds in their own alphabet.³ If, for instance, the *s* in one alphabet had been originally obtained from *samekh*, and in the other from *shin*, those who had

¹ Thus in Hebrew *tsade* weakens into *zayin*, and *samekh* interchanges dialectically with *shin*. Ewald, *Heb. Gram.*, p. 55.

² Thus the Latin *c*, transmitted to European alphabets, has come to denote such diverse sounds as *k* in Irish, *s* in English, *ts* in Polish, and *ch* in Italian.

³ This has repeatedly occurred. The names of the ancient runes were transferred by the Goths to the Greek uncials introduced by Ulphilas, and the names of the Irish Oghams were given to the Latin uncials of equivalent value. In both cases a rude people, adopting a literary alphabet, transferred to the new characters the corresponding names with which they were familiar.

been accustomed to call the hard sibilant *sigma*¹ would continue to apply this name to the character which expressed the same sound in the supplanting alphabet.

That the difficulty as to the affiliation of the sibilants can be solved by some such hypothesis will hardly be denied, though how the changes were actually effected can only be a matter for conjecture.²

¹ The possibility of such a confusion is proved by the fact that it has actually been committed by certain modern scholars, who have insisted that **M**, whose real name was *san*, ought to be designated by the name *sigma*, which belongs to the character **Σ**.

² To show that the actual changes can thus be explained, let it be assumed that there were three competing alphabets, say the Dorian, the Eubœan, and the Ionian. Suppose *zayin*, **⚭**, had come to denote *s'* in the Dorian alphabet, with the name *s'an*, and *z* in the Eubœan; while *tsade*, **M**, denoted *z* in Dorian with the name *zeta*, and *s'* in Eubœan. The Eubœan literature, with its vehicle the Eubœan alphabet, becoming known to the Dorians, they would retain for *z* their own name *zeta*, while adopting for it the Eubœan symbol **⚭**. Similarly they would take for *s'* its Eubœan symbol **M**, calling it by the Dorian name *s'an*: The same process would be repeated with the other sibilants; *samekh*, **⚮**, becoming *s* in the Dorian alphabet with the name *sigma*, and *x* in the Eubœan, while *shin*, **⚰**, would be *x* in the Dorian alphabet with the name *xi*, and *s* in Eubœa. On the amalgamation of the alphabets the Dorians would use for *x* the Eubœan sign **⚮** with the Dorian name *xi*, and for *s* the Eubœan sign **⚰** with the Dorian name *sigma*. The Dorians would thus have the signs **⚰** and **M** for the approximate sounds *s* and *s'*, one of which, say **⚰**, would disappear. Their use as numerals would, however, cause the characters to retain their alphabetic stations, so that the resulting Dorian alphabet would have **⚭**, *z*, called *zeta*, for the 7th letter; **⚮**, *x*, called *xi*, for the 15th; and **M**, *s'*, called *s'an*, for the 18th. A similar

The changes which affected the remaining characters need not be discussed at any length, as they are merely morphologic, and do not interfere with the names, values, or alphabetic order of the letters.

Lambda. The forms assumed by this letter are of special value for purposes of classification. Only the Eubœan and Old Attic alphabets retained the earlier type, λ , which was normally replaced by λ Λ or Λ . The newer form, with the bars united at the top, is of great antiquity, having established itself before the Thera inscriptions were engraved, while the older type exhibits singular persistency, as is shown by its survival in the L of our own alphabet.

The transformations of this letter are noteworthy. The Phœnician character λ has been reversed in all the derived scripts, apparently on account of the inconvenience of a formation running counter to the direction of the writing. In scripts of Aramean origin, such as the Syriac, Arabic, and Pehlevi, the Phœnician λ has become λ by passing through the intermediate form λ , the lower stroke being turned backward on itself so as to facilitate a junction with the succeeding letter. In the Greek alphabets a similar result was obtained by a different process. The character λ ,

interchange taking place between the Eubœan and Ionian alphabets we should have, in the ultimate Ionian alphabet, λ , z , called *zeta*, for the 7th letter; λ , x , called *xi*, for the 15th; and λ , s , called *sigma*, for the 21st. The Dorian alphabet being finally replaced by the Ionian, *san* would disappear, leaving the sibilants of the resulting Greek alphabet precisely as we have them.

written from right to left, if reversed so as to correspond with the changed direction of the Greek writing, would give √ in scripts written from left to right. Instead of this, we get two leading types, √ in the Eubœan and Old Attic, and † (afterwards ^ and ^) in the Dorian and Ionian alphabets. How the change from √ to √ was effected is a question to which no answer has hitherto been given. The early inscriptions from Athens furnish the clue, indicating that the primitive form √ having been inclined, √, the relative length of the two strokes was altered¹ as a matter of graphic convenience, so as to give √, from which we easily obtain the normal √ and L of the Old Attic and Italic alphabets.

The early Argive and Samian² form †, succeeded by †, is valuable as exhibiting the genesis of the Corinthian forms † and ^, from which the transition is easy to the Ionian ^ and the subsequent minuscule λ.³

¹ The coins of Populonia, which exhibit an archaic type of the Chalcidian alphabet, afford good examples of the transitional form, the two strokes being of nearly equal length, √. Cf. pp. 35, 36, *supra*.

² Kirchhoff, *Studien*, p. 28; Böckh, *C. I. G.*, No. 6. This isolated Samian type was either due to Argive influence, or may be a survival from a still earlier period; Samos, whose Semitic name testifies to Phœnician colonization, lying at the outlet of the Chalcidian trade route with Lydia, and her metrical standard agreeing with that of Chalcis.—Head, *Coinage of Lydia*, p. 13.

³ Thus we see that the longer vertical stroke of the Phœnician √ must be identified with the short horizontal bar in the Western L and l, and also with the shorter stroke of the Greek forms √ and †, and again with the longer stroke of λ.

Koppa. The archaic nature of the Latin alphabet is shown not only by the use of the older form of *lambda*, but by the retention of *vau* and *koppa*, **F** and **Q**, which kept their places in Greece only as the numeral signs for 6 and 90. *Koppa*, which preceded *o* just as the Latin **Q** precedes *u*, has been found in a few of the earliest Greek inscriptions,¹ but is more common as a numismatic than as a lapidary character.² The primitive type, ϙ, appears in one of the Formello alphabets, the other exhibiting the later form Ϟ, which denotes 90 in the Codex Sinaiticus. In minuscule MSS. we have ϙ. The modern form ϙ, now usual in printed books, is hardly older than the 13th century.

Sigma. The Abu Simbel inscriptions retain the primitive form of *sigma*,³ Ϻ, which, with other archaisms, was transmitted through the Chalcidian alphabet to Italy, where it became **S**. In Greece, possibly to distinguish it from the angular *iota*, Ϻ acquired a

¹ It occurs twice at Thera and twice at Athens, and also at Argos, Paros, Abu Simbel (Rhodes), and Locris. See Kirchhoff, *Studien*, pp. 36, 69, 82, 136.

² It is found on the coins of Corinth, Coronea, Cos, Croton, and Syracuse. At Syracuse the transition from *koppa* to *kappa* dates from the reign of Gelon, 485—478 B.C.

³ The priority of Ϻ is shown by the fact that Ϻ does not occur in any retrograde inscription, and only once in a boustrophedon inscription (*C. I. G.*, No. 39), while it is common in inscriptions written from left to right. On the other hand, Ϻ is used in retrograde inscriptions, and in inscriptions written from left to right up to the 84th Olympiad, when it disappears.

fourth bar and became ξ , and afterwards Σ , and ultimately gave place to the more symmetrical lapidary type Σ , which has not as yet been discovered in any MS. Out of the transitional form \square arose the ordinary lunar form C, which appears on coins as early as the time of Pyrrhus,¹ and is universal in early MSS. The closed type σ only dates from about the 8th century A.D.

Zeta. The primitive Greek form, 𐀀 , which is identical with the Baal Lebanon *zavin*,² is found in both of the Formello abecedaria, and was the parent of the Etruscan 𐀁 . The usual lapidary and numismatic type, which exhibits great persistency and uniformity, is 𐀂 . The manuscript form **Z** is found in the oldest existing MSS. The letters *zeta* and *xi* have been affected by assimilation in their successive stages. The Cadmean forms are 𐀃 and 𐀄 , the usual lapidary types are 𐀅 and 𐀆 , the uncials ζ and Ξ , and the minuscules ζ and ξ . The Bomarzo *zeta* has however been assimilated to *sigma*.

Epsilon. The early form of *epsilon* is 𐀇 at Corinth and Corcyra. Elsewhere we have the successive types 𐀈 , 𐀉 , 𐀊 , **E**. The subsequent crescent shape,

¹ It must, however, have been introduced somewhat earlier as a MS. form, as appears from a fragment of Æschryon, a pupil of Aristotle and contemporary of Alexander, who alludes to the new moon as *το καλὸν οὐρανοῦ νέον σῆγμα*. Later writers call the orchestra the *sigma* of the theatre, and Martial applies the term to a semicircular couch.

² See vol. i. p. 215.

€, is first found in the 3rd century B.C., and may have arisen from assimilation to the lunar *sigma*, with which it is nearly contemporaneous.

Iota. Before the date of the oldest Greek inscriptions, the Phœnician *yod* ז had lost one bar and had become י. The angles opened out, seemingly because of the inconvenient resemblance to *sigma*, giving ι, through which the subsequent linear form Ι was attained. The last stage of simplicity having thus been reached, no further modifications of the lapidary type were possible.

Tau. The same cause accounts for the persistency in the shape of *tau*, which varies less than any other letter, our modern capital T hardly differing from the Baal Lebanon form.

Rho.¹ The Phœnician letters ש א ז ר, whose resemblance causes much ambiguity in Semitic scripts,² were conveniently differentiated in the Western alphabet into B D P R and into Β Δ Π Ρ in the Eastern. Even before the transmission of the alphabet to Italy the primitive Greek *rho*, ϱ, which at Thera is hardly distinguishable from *delta*,³ began to be differentiated by a short tail, ϱ. This feature was perpetuated in

¹ The name ϱω is anomalous. The Semitic *resh* or *rhos* would by analogy become *rhosa* in Greek, but since *s* normally disappears between two vowels, this would give *rhoa*, and the vowels finally coalescing, we should have *rho*.


² See vol. i., p. 164.

³ See the Thera inscriptions, Nos. 1, 2, 6, on pp. 30, 33.

the Latin R, thus discriminating *r* from *p*, which in Italy took the forms Γ and P , instead of Γ and Π . The tailed form of *r* did not permanently establish itself in Greece, where *delta* and *pi* had assumed the convenient types Δ and Π . The forms R and R disappear about the middle of the 5th century B.C., when the classical type P was generally adopted. In the oldest MSS. the loop, apparently for the sake of symmetry, had already been lowered to the line, giving P , whence arose the minuscule *p*.

Beta. The early forms of *beta* exhibit great diversity. Unfortunately this letter does not occur in any of the inscriptions from Thera, the oldest known forms being the 7th century L and Z from Corinth and Corcyra. We have C at Paros, Ceos, and Thasos, and M at Melos, Anactorium, and Selinus.¹ Elsewhere the early form is B , afterwards replaced by B , as at Abu Simbel, and in an inscription at Ephesus attributed to Cræsus.

Gamma. In the earliest inscriptions it is sometimes difficult to distinguish between γ , f , λ , π , all of which approximate to the form t . A differentiation

¹ Kirchhoff's contention that the Corinthian and Melian letters were derived from B is plainly inadmissible, although all the forms, including the Etruscan B (*f*), may, as has been already suggested, be obtained from the Hieratic . But as we have $\text{C} = p$ in Crete, it is possible that the Parian $\text{C} = b$ may have been derived from *pi*; and, since β sometimes represents a primitive digamma (cf. Belleophon = vellerophon, and barbaros = varvara), the Melian form M may perhaps have been obtained from *vau*, J .

was soon established, *pi* and *lambda* taking the forms Γ and Λ in the East, and P and v in the West, while the Corinthian *gamma* c connects the Ionian Γ and the Chalcidian c , which became the source of the Italic C .

Mu and *Nu*. The assimilation of the contiguous letters F and E helps to explain that of *mu* and *nu*. The primitive forms are M and N , which became M and N , and afterwards, on the disappearance of *san*, M and N , and μ and ν in the minuscule. The names seem also to have been affected by assonance, as has probably been the case with *zeta* and *eta*.

§ 9. THE ASIATIC SCRIPTS.

While the classical Greek alphabet was being evolved in the Ionian cities of the Asiatic coast, numerous scripts, more or less closely related to the Greek, prevailed among the non-Hellenic races. Setting aside the Aramean of the Satrapies, which has been already discussed,¹ it is possible to recognize five distinct alphabets—the Lycian, the Carian, the Cappadocian, the Phrygian, and the Pamphylian; to which the Lydian,² the Mysian, and the Cilician may probably

¹ See vol. i., p. 258.

² To the Lydian alphabet has been assigned a fragmentary inscription of five letters found on the base of a column, probably given by Cræsus to the earlier temple of Artemis at Ephesus. See *Trans. Soc. Bibl. Arch*, vol. iv., p. 334, and vol. vii., p. 279, note.

be added. Some of these alphabets are simply archaic Greek; others appear to be unrelated either to the Greek or to the Phœnician, while the remainder contain both Hellenic and non-Hellenic elements.

The Phrygian alphabet was determined by Lassen¹ from the inscriptions on seven rock-cut tombs at Prynnessus, one of which was the sepulchre of a king who bore the name of Midas. It seems to be only an archaic type of the Greek alphabet. Thus for *u*, *p*, and *g*, we have the Thera forms Ϛ ϓ ϔ. The use of **F** in an eastern alphabet is also a token of early date, this letter having already disappeared from the Ionian alphabet in the 7th century B.C.

The scanty remains of the Mysian and Cilician scripts² are of a wholly different order, the characters having no recognizable relations to either the Greek or the Phœnician letters. The other alphabets of Asia Minor present a curious problem, some characters being plainly of Greek origin, and others of an unknown and mysterious type. These mixed alphabets are the Carian, the Cappadocian, the Pamphylian, and the Lycian.

On the knees of the colossus at Abu Simbel in

¹ *Z. D. M. G.*, vol. x.

² For the Cilician script we have inscriptions found by von Hammer, and a coin with seven characters neither Greek nor Aramaic. See Gesenius, *Monumenta*, p. 287, and plate 37, v. The characters on the whorls found at Hissarlik represent the Mysian alphabet. They are engraved in the 3rd Appendix to Schliemann's *Ilios*.

Nubia, on which the Ionian mercenaries of Psammetichus engraved the cardinal monument of the early Ionian alphabet, are four records in an unknown script. It has been supposed to be Carian, since we learn from Herodotus that Carians as well as Ionians took service with Psammetichus.¹ Four similar inscriptions have been found at Abydos, and others on the sites of Memphis and Bubastis (Zagazig). From Caria itself we have a single short inscription discovered by Forbes on a tomb at Krya on the Gulf of Scopea. The nature of the Carian language being unknown, these records have hitherto defied the efforts of decipherers. Apparently between thirty and forty distinct characters are employed, about half of which seem to be of the Greek type.²

The alphabet of Cappadocia is probably represented by two short inscriptions discovered at Eyuk on the Halys, which have only been conjecturally deciphered. There are Greek letters of the Phrygian type, such as Ϝ (ϕ) and Ϟ, together with non-Hellenic characters.

The alphabet of the later Pamphylian inscriptions and coins is Greek of the western type, and is doubtless to be referred to Peloponnesian colonists. In the earlier records non-Hellenic characters are found.

These alphabets are as yet very imperfectly known, the inscriptions being few, brief, and practically

¹ See p. 13, *supra*.

² The Carian inscriptions have been discussed by Prof. Sayce in *Trans. Royal Soc. Lit.*, N. S., vol. x.

undecipherable. The case is different with the Lycian. Though the language is plainly non-Aryan, it has been possible to determine with certainty the values of all the characters except two. This result is due to the fact that among the numerous inscriptions discovered in Lycia by Sir Charles Fellowes, there are three bilinguals in Greek and Lycian, together with a long record containing 250 lines, engraved on the obelisk from Xanthus, now in the British Museum. From a Greek inscription it appears to have been erected by a Lycian satrap during the reign of Artaxerxes Longimanus (465-425 B.C.). Taking this record as an epigraphic standard, the oldest of the Lycian inscriptions have been assigned to the 6th century B.C., and the latest to the 4th, when, owing to the conquests of Alexander, the Lycian alphabet was finally replaced by the Greek.

The Lycian characters were mostly deciphered by Sharpe, whose labours were completed by Schmidt. There are twenty-eight letters, about half of which are Greek, the rest being curious and complicated forms found in no Greek alphabet. The fourteen consonants, with two exceptions, $\text{+ } h$ and $\text{X } th$, are archaic Greek of the Phrygian type. Of the fourteen vowels, four, **A E I O**, are also Greek, the others, which constitute an elaborate and delicate system of vocalic notation, being non-Hellenic. The Greek letters do not appear to have been obtained, as might have been expected, from the contiguous alphabet of Ionia, but, as is shown

by the forms $\langle \text{F} \text{r} \text{Y} \rangle$, are of the Phrygian or the Pamphylian type. The absence of *upsilon* may also be taken as an indication of the extremely early date at which the Greek letters were obtained.

For nearly forty years after the recovery of the Lycian alphabet the nondescript characters, amounting to about half of the whole number, were supposed¹ to be merely fantastic and arbitrary inventions, based possibly on Greek forms. It is only within the last two or three years that the origin and true nature of these signs has been made clear. The explanation, now that it has been found, illustrates strikingly the axiom that abnormal forms are of supreme epigraphic significance, constantly affording the clue to great discoveries. The light came at last from an unexpected source. In 1852 the duc de Luynes² published certain coins and inscriptions from Cyprus in an unknown character, to which the name of Cypriote was given. In 1868 de Vogüé added others, among which was a short bilingual in Greek and Cypriote.³ This might easily have led to the decipherment of the character, but no results were obtained, owing, as it now appears, to the incorrectness of the transcription. In the next year, however, Mr. Hamilton Lang discovered at Dali,

¹ See Kirchhoff, *Studien*, p. 47 (1877). Lenormant, *Alphabetum*, p. 209, (1873), pronounces them to be '*combinaisons purement artificielles.*'

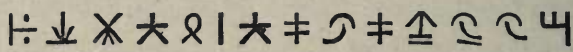
² De Luynes, *Numismatique et Inscriptions Cypriotes*, Paris, 1852.

³ *Journal Asiatique*, vol. xi.

on the site of the ancient Idalion, a longer bilingual, containing no less than one hundred Cypriote characters, with a Phœnician translation dated in the 4th year of Melekiathon, about 375 B.C.¹ The tablet having been deposited in the British Museum, was submitted to the examination of the late George Smith. By means of the Phœnician version, and skilfully availing himself of the aid of Cypriote coins, he succeeded in identifying the proper names in the two records, and in determining the phonetic values of several of the mysterious characters which had for nearly twenty years defied the efforts of decipherers. The title of the Cypriote monarch, corresponding to the word *Melek* in the Phœnician version, proved to be *Ba-si-le-u-se*, whence it followed that the unknown Cypriote language, which had excited so much curiosity, was neither more nor less than Greek! The clue thus happily discovered was at once followed up by an eager band of scholars, chief among whom the names of Birch, Brandis, Schmidt, Ahrens, Deecke, and Siegismund deserve honourable mention, who soon placed on a firm foundation the interpretation of the Cypriote texts, now amounting to a considerable number. The numerous variant forms were reduced to between fifty and sixty types, which were shown to constitute not an alphabet, but a syllabary. As an example of the Cypriote script, we may take the inscrip-

¹ See vol. i., p. 224; *Trans. Soc. Bibl. Arch.*, vol. i., 1872; *Corpus Inscriptionum Semiticarum*, p. 104, and plate xiii.

tion of ownership on some gold armlets from Kurion, which must have belonged to Ithyandros, the king of Paphos who rendered homage to Assurbanipal when that monarch marched on Egypt, B.C. 620 :¹


 e - te - va - do - ro to pa - vo pa - si - le - vo - se.

Ἐτεάνδρου τοῦ Πάφου Βασιλέως.

There could be little doubt that the Cypriote syllabary, thus curiously recovered, was no arbitrary invention, but the survival of an extremely ancient script, which must have prevailed in Cyprus prior to the introduction of alphabetic writing. The origin of this syllabary, and its relation to other scripts, remained for some time without any satisfactory explanation. The first attempt was made by Dr. Deecke,² who, following up a hint thrown out by Brandis, endeavoured to show that the Cypriote characters were obtained from the Assyrian Cuneiform, which, he suggested, might have been introduced in the reign of Sargon, 710 B.C., when the island was conquered by the Assyrians.

This explanation was received with hesitating, but general acquiescence, till the publication of Schliemann's *Ilios* in 1880. In an Appendix to this work Professor Sayce discussed the characters inscribed on the Trojan

¹ *Trans. Soc. Bibl. Arch.*, vol. v., p. 88.

² Deecke, *Der Ursprung der Kyprischen Sylbenschrift*, Strassburg, 1877.

whorls found in the lower stratum at Hissarlik, some of them at a depth of more than thirty feet below the surface, and succeeded in showing that they must be regarded as archaic forms of Cypriote characters.¹ The chronological and geographical inferences drawn from this startling discovery were not only fatal to Dr. Deecke's proposed derivation of the Cypriote from the Cuneiform in the 8th century B.C.,² but suggested the true solution of this and other problems not less perplexing.

It was manifest not only that writing was practised in the Troad before the introduction of either the Phœnician or the Greek alphabet, but that the non-Hellenic characters in the Lycian, Carian, and Cappadocian alphabets, as well as the Cypriote syllabics, were all derived from a common source,³ a syllabic writing, evidently of immense antiquity, which prevailed

¹ In 1874 Professors Haug and Gomperz had abortively attempted a similar solution.


² Other insuperable objections to Dr. Deecke's theory have also been brought forward. See *Trans. Soc. Bibl. Arch.*, vol. vii., p. 280.

³ As early as 1872 Lenormant (*L'Alphabet Phénicien*, vol. i., p. 107) had sagaciously suggested that the Cypriote syllabary and the non-Hellenic elements in the Lycian and Carian alphabets would ultimately prove to be derived from an ancient graphic system common to the peoples of Cyprus and Asia Minor. In 1877 this suggestion was followed up by Deecke, who explained the connection of some of the Lycian and Cypriote characters, but without perceiving that this discovery was fatal to his theory of the Cuneiform origin of the Cypriote.—Deecke, Beilage to Müller's *Etrusker*, vol. ii., p. 524.

throughout the whole of Asia Minor, and which has been designated by Professor Sayce as the Asianic syllabary. It must have been owing to the insulation of Cyprus that this primitive script lingered there down to historic times, elsewhere giving place to the Greek alphabet, which, however, incorporated certain signs from the older script.

The mysterious characters in the alphabets of Asia Minor now receive a very easy explanation. We have for example:—

CYPRIOTE.		LYCIAN.	
✱	<i>a</i>	{ ✱ ✱	<i>a</i>
		↑	<i>e</i>
)|(	<i>va</i>	{ )|(	<i>o</i>
		)|( ≡	<i>w</i>
∨	<i>o</i>	∨	<i>u</i>
○	<i>ya</i>	⊞	<i>a</i>
ϣ	<i>e</i>	⊞	<i>i</i>
λ	<i>to</i>	)	<i>th</i>
✱	<i>ku</i>	✱ +	<i>h</i>

The Cypriote signs also explain many of the unknown characters in other Asianic alphabets. Thus the Cypriote  *ko*, appears in Carian and Pamphy-

lian; ① *mo*, in Carian; ㄣ *se*, in Cilician; ㄣ *ri* and ㄣ *ma*, in Cappadocian.¹

To the student of Alphabets the Cypriote syllabary is of great interest as an example of an independent graphic system, unrelated to the Semitic alphabet, which was rapidly advancing on the path of alphabetic evolution at the time when it became extinct. Its further development was arrested by the competition of an alphabet which having already reached a more advanced stage, proved successful in the struggle for existence. If it had not been thus superseded, it would doubtless have gradually lost its syllabic character, and have become the definitive alphabet of Greece, and therefore of civilized Europe and of the western world.²

The Lycian alphabet claims attention chiefly as an abortive attempt to solve the problem of vocalic notation. This was effected by the Greeks by the process of internal evolution, symbols for the vowels being developed out of the Semitic breaths and semi-

¹ See Sayce, in Schliemann's *Ilios*, p. 699.

² It has been maintained by Dr. Deecke and Professor Sayce that some of the additions to the Greek alphabet, notably *upsilon*, and the western *chi* ㄣ, which became the parent of the Roman numeral L, 50, were actually obtained from the Cypriote syllabary. To the reasons already urged (pp. 82, 91) against this opinion, may be added the fact that the Cypriote *u* took an entirely different form in the Lycian alphabet, and that the form of *chi* in question being distinctly western, is more likely to have arisen out of the western letter *koppa* than from a foreign character peculiar to Asia and Cyprus.

consonants, while the Lycians attained the same end by the incorporation of characters derived from another graphic system.¹

Certain chronological inferences are suggested by the fact that while the consonants of the Lycian alphabet are, as a rule, of Greek origin, the non-Hellenic characters represent vowels. It would seem that in Lycia the Greek alphabet came into competition with the Asianic syllabary before the Cypriote syllabics had become consonants, and before the Greek vowels had been fully developed. The best elements of each system were taken. Greek letters representing pure consonants replaced the clumsier syllabics, and were combined with the elaborate and delicate notation for the vowels which was possessed by the rival script. It is especially worthy of note, as an indication of date, that *upsilon*, which already appears in the earliest of the Thera records, is not found in the Lycian alphabet, which only possesses the four oldest of the Greek vowels, **A E I O**. Hence it may be concluded that the formation of the Lycian alphabet belongs to a period more remote than any of which we possess direct epigraphic knowledge.

This conclusion agrees with all the other available evidence. Dr. Schliemann's whorls from Hissarlik tend to prove that at the time of the destruction of

¹ The Karshuni, the Mongol Galik, the Coptic, and the Mæso-Gothic scripts also show how alphabets may be supplemented by the incorporation of alien characters.

Troy the only graphic signs used in Mysia were the Asianic syllabics, which may probably be identified with the *σήματα λυγρά* of Homer (*Il.* vi. 168). As we shall presently see, the Asianic syllabary must have been employed throughout Asia Minor long before the arrival of the Phœnician colonists in the Ægean in the 12th century B.C. In the 7th century the Cypriote writing was already obsolescent in Cyprus, and yet the Cypriote syllabary was plainly only a late survival of the more comprehensive¹ and more archaic syllabary of Asia Minor.

To complete the solution of the problem offered by the Asianic alphabets one step only was required, namely, the discovery of the source from which the Cypriote syllabary was itself obtained. It had no recognizable affinities with the graphic systems of the Greeks, the Phœnicians, the Egyptians, or the Assyrians, but the analogy of other scripts made it probable that it was the ultimate survival of some extremely ancient mode of picture-writing.

The recent discovery of the so-called "Hittite" hieroglyphs has cast a flood of fresh light upon the question. In 1871, Mr. Tyrwhitt Drake obtained copies of five inscriptions in an unknown hieroglyphic character from Hamath on the Orontes, and others of a similar nature have recently been excavated from a

¹ Professor Sayce considers that the Asianic syllabary must have comprised about 100 characters, whereas the cursive and conventionalized Cypriote signs amount only to 55.

mound at Jerabis, on the upper Euphrates, which has been identified with the site of Carchemish, the northern capital of the Hittites. That their empire extended as far as the Euxine and the Ægean is shown by hieroglyphs and sculptures in the unmistakable style of Hittite art, which are scattered over Asia Minor, more especially in Lydia, Lycaonia, Cappadocia, and Cilicia.¹

These monuments are those of a people who have been identified with the Hittites (Khittim) of the Old Testament, the Kheta of the Egyptian monuments, the Khattai of the Assyrian records, and the *Κήτιοι* of Homer (*Od.* xi. 521). They were one of the most powerful peoples of the primæval world, their empire extending from the frontier of Egypt to the shores of the Ægean, and, like the Babylonians and the Egyptians, they possessed a culture, an art, and a script peculiar to themselves, and plainly of indigenous origin.

Scholars are only just beginning to realize the vast

¹ The chief Hittite monuments hitherto discovered are at Ibreez in the ancient Lycaonia, at Eyuk and Boghaz Keuī in Cappadocia, and in Lydia at Karabel near Smyrna, on the ancient high road between Ephesus and Sardis. Eight seals with Hittite characters, probably once attached to treaties, were found by Layard in the record chamber of the palace of Sennacherib at Kouyunjik. These seals and the inscribed stones from Carchemish are now in the British Museum. The Hamath inscriptions were first published in Burton and Drake's *Unexplored Syria*. Most of the Hittite inscriptions as yet known are engraved in *Trans. Soc. Bibl. Arch.*, vol. vii., part 3.

extent of the dominion of the Hittites, and their important place in primitive history. Till the rise of Assyria they were the most powerful nation of North Western Asia; after that event they held the balance of power between Egypt and Assyria. Dr. Schliemann's discoveries at Troy and the Hittite monuments scattered over Asia Minor, as far west as the neighbourhood of Smyrna, prove the extent of their empire to the west,¹ while to the south, at a time prior to the Exodus of the Hebrews, their dominion extended as far as Hebron, and, if Mariette is right in his belief that one of the Hyksos dynasties was Hittite, they must have established their rule over Egypt itself. In the 17th century Thothmes III., the greatest of Egyptian conquerors, claims to have exacted tribute from the Kheta as well as from Nineveh and Babylon. In the 14th century they contended against Egypt on equal terms. The most important event in the reign of Rameses II., sculptured on a host of temples and celebrated in the epic poem of Pentaour, is his campaign against the Kheta, terminated by the indecisive battle of Kadesh, resulting in a treaty in which both parties pledged themselves not to invade the dominions of the other.

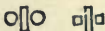






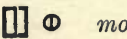








In the 12th century, when the Phœnicians advanced

¹ When attacked by Rameses in the 14th century they were able to summon as allies the Derdeni of Iluna and the Masu of Pidasas, in whom we may perhaps recognize the Dardanians of Ilion and the Mysians of Pedasos.

to the Ægean, the Hittite power had begun to decline, and by the time of Solomon their empire was broken up into separate kingdoms by internal divisions, and weakened by the encroachments of neighbouring Semitic nations, and was finally brought to an end in 717 B.C. by the capture of Carchemish by the Assyrians under Sargon. Their speech was clearly neither Aryan nor Semitic, and seems to have belonged to the great Alarodian family which was spoken in Cilicia, Cappadocia, Lycaonia, and Armenia, and whose nearest living representative is believed to be the language of the modern Georgians.

This powerful Hittite empire, stretching from the Euphrates to the Ægean, from Syria to the Euxine, attained its greatest extension between the 17th and 14th centuries, long before these regions were affected by either Phœnician or Assyrian influences. It is now admitted that the primitive art, the mythology, and the metrical standards of Asia Minor were to a great extent obtained from the Hittites, and the independent system of picture-writing which they possessed offers an obvious source from which the Asianic syllabary might have been obtained. That this was actually the case there is every reason to believe. Professor Sayce has succeeded in assigning phonetic values to several of the Hittite hieroglyphics; and these, with hardly an exception, explain the origin of homophonic characters in the Asianic and Cypriote scripts. Some of these identifications are set forth in the following

Table. In the present state of Hittite decipherment they can only claim to be provisional, but they may perhaps suffice to show that the true origin of the Cypriote syllabary has at last been discovered.

HITTITE.	CYPRIOTE.
 <i>i, e</i>	 <i>yi</i>
 <i>ka, ku</i>	 <i>ka</i>
 <i>te, to</i>	 <i>to</i>
 <i>me, mo</i>	 <i>mo</i>
 <i>se</i>	 <i>se</i>
 <i>si</i>	 <i>si</i>
 <i>ti, di</i>	 <i>ti, di</i>
 <i>u</i>	 <i>o</i>

CHAPTER VIII.

ALPHABETS OF HELLENIC ORIGIN.

- § 1. *The Italic Alphabets.* § 2. *Latin.* § 3. *Greek Uncial and Minuscule.* § 4. *Latin Uncial and Minuscule.*
§ 5. *Coptic.* § 6. *The Slavonic Alphabets.* § 7. *Albanian.*
§ 8. *The Runes.* § 9. *The Oghams.*

§ 1. THE ITALIC ALPHABETS.

IF Phœnician commerce was the earliest factor in the civilization of Europe, Greek colonization was the second. During the 8th and following centuries a girdle of Hellenic settlements was stretched round the Mediterranean shores. The narrow area of Great Britain is a mere speck on the map compared with the vast regions to which the name of Greater Britain has been happily applied; and, in like manner, Hellas itself was dwarfed by the great colonial realm whose outposts were nearly 3000 miles apart, extending from the neighbourhood of Barcelona and Marseilles, by Naples, Syracuse, and Tripoli, as far as Odessa, Trebizond, and Kertch. The spread of the English language and the English alphabet over half the

civilized globe may be compared, not inaptly, with the diffusion of Hellenic culture and Hellenic scripts throughout the Mediterranean region, originating in the pre-Christian centuries various derived alphabets, Iberian, Gaulish,¹ Etruscan, Latin, and Runic, followed at a later time by the Mæso-Gothic, Glagolitic, Cyrillic, Coptic, and Albanian.

The great extension of Greek colonization was contemporaneous with the transitional epoch of the Greek alphabet, during which diverse scripts prevailed in the Greek republics. The colonial alphabets naturally conformed to the types prevailing in the parent states. Rival colonies were planted side by side in close proximity, as in the case of the Oriental and Levantine factories of mediæval Europe. Thus Syracuse and Corcyra were Dorian colonies from Corinth; Gela and Agrigentum in Sicily, and Rhoda in Spain, were also Dorian, but from Rhodes and Crete; Tarentum was Spartan; Crotona, Metapontum and Pæstum were Achæan; Cyrene in Africa was a Dorian colony from Thera; Emporiæ in Spain, Massilia and Nicæa in Gaul were from the Asiatic Phocæa; Naxos, Leontini, Câtana, Messana, Mylæ, and Himera in Sicily, Cumæ and Neapolis in Campania, and Chalcidice in Thrace were founded by the Eubœan cities of

¹ The Iberian and Gaulish alphabets are very imperfectly known. They were probably derived from the Greek alphabets of Emporiæ and Massilia. See Sayce, in *Trans. Royal Soc. Lit.*, N. S., vol. x.; and Faulmann, *Buch der Schrift*, p. 168.

THE ITALIC ALPHABETS.

	Pelagic.	Latin.	Faliscan.	Etruscan.	Umbrian.	Oscan.	Messapian.
<i>a</i>	AA	AAA	Я	AA	AA	Π	AA
<i>b</i>	B	BB			B	B	B
<i>g, c</i>	<C	<CC	С	)С		>	Г
<i>d</i>	D	DD	D		Ϙ	Я	Δ
<i>e</i>	EE	EII	III	Ϟϙϙϙ	ϙϙ	Э	E
<i>w, f</i>	F	FII	↑	ϙϙϙ	ϙϙ	□	FC
<i>z</i>	II		‡	‡‡‡	‡ϙ	И	IZ
<i>h</i>	Θ	H	ΘH	ϙΘ	⊙	Θ	HX
<i>th</i>	⊕⊙			⊕⊙⊙	⊙		⊙
<i>i</i>	I	I	I	I	I	II	I
<i>k</i>	K	K		K	K	K	K
<i>l</i>	Λ	ΛL	ΛΛΛ	Λ	Λ	Λ	Λ
<i>m</i>	M	M	M	MM	MA	MI	M
<i>n</i>	N	MN	N	MA	MA	N	N
<i>o</i>	⊙	O	O				⊙
<i>p</i>	PP	PP	PP	1	1	Π	Γ
<i>s'</i>	MM			MM	M		
<i>q</i>	Ϙϙ	Ϙϙ					
<i>r</i>	P	RRR	Я	DDϘ	D	D	PR
<i>s</i>	EE	SS	ZZ	ZZ	Z	Z	SS
<i>t</i>	TT	T	†Y	††YT	†	T	T
<i>u, v</i>	Y	VV	V	YV	V	V	
<i>x</i>	††	X	†				X
<i>ph</i>	Ϙ			⊕Ϙ			
<i>ch</i>	Y			↓			
<i>f</i>				88	8	8	
	I.	II.	III.	IV.	V.	VI.	VII.

Chalcis and Eretria; while Olbia, Sinope, Trapezus, and other Euxine colonies were from Miletus.

Some apparent anomalies in the irregular distribution of Hellenic alphabets can thus be explained. To take a single instance, the diversities of the numismatic alphabets of the adjacent cities of Syracuse and Naxos offer no difficulty if we remember that one was a colony of Corinth and the other of Chalcis. Down to the time of the Roman conquest the alphabets of the cities of Magna Græcia and Campania were the Greek alphabets of the parent states. These cities continued to be Greek cities, inhabited by Greek colonists. The case is different when we come to consider what may more properly be called the ITALIC Alphabets, the national alphabets of the Etruscans, Umbrians, Oscans, and Latins, which, though ultimately of Greek derivation, were profoundly modified in accordance with the phonetic necessities of races speaking Italic dialects.

The distinct Italic alphabets are five: the Umbrian, which prevailed to the east of the Apennines; the Etruscan, north of the Tiber; the Oscan in Campania; the Faliscan and the Latin, wedged in between the Etruscan and the Oscan. The Volscian and the Samnite are little more than early forms of the Latin, and the Campanian or South Etruscan of the Oscan. The Messapian alphabet, used in inscriptions from Calabria, may be left out of account, being Hellenic rather than Italic.

Of the others, the Etruscan and the Latin have the

least in common. The Umbrian belongs to the Etruscan type, and the Faliscan to the Latin. The Oscan is intermediate between Latin and Etruscan. Hence it is evident that the characteristic peculiarities of these alphabets are largely due merely to local proximity. The differences, however, are considerable. Latin is written from left to right, while all the rest are retrograde. The Etruscan rejects the soft mutes, *b*, *g*, *d*, and retains the aspirated mutes *th*, *kh*, *ph*, while in Latin the rule is reversed, the aspirated mutes being rejected and the soft mutes retained. The Umbrian and Etruscan use both *san* and *sigma*, the rest have *sigma* only. The Etruscan, Umbrian, and Oscan have a new letter **ϑ** (*f*), and discard both **Ο** and **Χ**, which the Latin and Faliscan retain. In Latin alone, **Ϟ** is retained and **Η** is open.

The affiliation of the various Italic alphabets has now to be determined. As to the source of the Latin alphabet, all scholars are now agreed. Its Chalcidian affinities were pointed out by Otfried Müller, recognized by Mommsen, and finally established by Kirchhoff. It is characterized by the test forms **ϸ Ϲ ϻ ϼ Ͻ Ͼ Ͽ** instead of **Γ Λ Ξ Σ Π Δ Ρ**, and by the retention of **Ϟ** and **Ϲ**. The use of **Χ** shows that it was neither Ionian, Ægean, Corinthian, Attic, or Argive; **ϻ** that it was not Peloponnesian or Achæan; **ϸ** and **Ϲ** that it was not Bœotian. Only the Eubœan alphabet is left, an origin which accords with all the other tests.¹ For

¹ See the Tables on pp. 60, 66.

the same reasons the Chalcidian origin of the Faliscan alphabet must also be admitted.

Opinion has been more divided as to the source of the Etruscan alphabet. Its peculiarities have been referred to the influences either of Athenian or of Corinthian potters, while a direct derivation from the Phœnician alphabet on the one hand, or from the Chalcidian on the other has been asserted.

Putting aside the inscriptions on vases found in Etruscan tombs, which were doubtless extensively imported both from Corinth and from Athens, and confining ourselves to the lapidary alphabet, it must be acknowledged that the presence of the non-Phœnician letters **V** **Φ**, and of the vowels **A** **E** **I**, is inconsistent with a direct Phœnician derivation, the suggested Corinthian or Athenian origin being also excluded by the use of the character \downarrow (*ch*), while the form \downarrow (*l*) establishes the Chalcidian derivation of the Etruscan alphabet, as well as of the Umbrian and Oscan.

Since all the Italic alphabets, with the exception of the Messapian, belong to the Chalcidian type, it may be asked whether they were separately derived from Eubœa, or whether they are merely varieties of a single primitive alphabet which prevailed throughout central Italy.

The abecedaria of Formello, Cære, and Colle (see p. 74), supply an answer, singularly conclusive, to this question. They exhibit authentic examples of the

alphabet which must have been used by the first Greek settlers in Italy, and which, for want of a better designation may be conveniently called "Pelasgic." A reference to the preceding Table will suffice to show that all the national Italic alphabets, Umbrian, Oscan, Etruscan, Faliscan, and Latin, great as are their apparent diversities, can be readily explained by taking this Pelasgic alphabet as the common prototype. It contains all the exceptional letters and exhibits all the test forms of the various Italic alphabets. The variations are merely variations by defect. It is only needful to assume that each of the national alphabets dropped certain letters which were not required in the language of which it was the vehicle. Thus the Etruscans rejected the letters **B D O Q X**, retaining **M** (*san*) and the aspirated mutes **⊗ ⊙ V**, which were disused by the Latins. The Umbrians kept **K** and **⊗** but dropped **C O Q X ⊙ V**. The Oscans discarded **⊗ ⊙ V X O Q M**, retaining **C** and **K**. In Faliscan the letters **C D O X** were kept, while **B K M Q ⊗ ⊙ V** disappeared.

Hence the mere omission of unnecessary letters sufficiently accounts for the differences of alphabets which seem at first sight to have so little in common. In no case does any letter exhibit a form which the Pelasgic alphabet will not sufficiently explain.¹

¹ The character **8** *f*, used in Etruscan, Umbrian, and Oscan, but found in no Greek alphabet, does not constitute any real exception to this statement. Its place at the end of the Etruscan abecedaria

The direction of the writing is a matter of no great significance. The earliest Latin records read from left to right, but in the other Italic scripts and on the oldest coins of Chalcis the writing is from right to left. Hence we conclude that the Chalcidian alphabet was transmitted to Italy at a time when the writing was still retrograde. In the abecedaria of Cære and Formello the new direction had already established itself, but two boustrophedon inscriptions from Cumæ are sufficient to prove that the reversal of the primitive direction was independently effected in Italy by the same process as in Greece.

It appears therefore that all the Italic alphabets were developed on Italian soil out of a single primitive type, of which the abecedaria exhibit a comparatively late survival. The inquiry only requires to be completed by investigating the history of the Pelasgic alphabet itself. That it was of Chalcidian origin there can be no reasonable doubt. It is unfortunate that so few early Eubœan inscriptions have survived the accidents of time, while those of later date are rendered nearly worthless for our purpose owing to the influences of contiguous alphabets. The deficiencies of the epigraphic record can, however, be sufficiently

(see p. 79) proves that it was an additional letter obtained by differentiation from the primitive stock. In Latin, **V** had the sound of *w*, and **F** acquired that of *f*, but **F** retaining in Etruscan the sound of *v* or *w*, a new symbol was required for *f*, which was obtained by the differentiation of **8** from **B**, or as is usually supposed from **Ⓞ**.

supplemented by means of the coins of the Chalcidian colonies, which retain the distinctive features which must have characterized the alphabet of the parent state. The Chalcidian alphabet thus reconstructed is practically identical with the Pelasgic alphabet of the abecedaria.¹ The test letters \downarrow X Y C D are by themselves decisive. Thus the evidence proves, first, that all the national alphabets of Italy were obtained from the Pelasgic alphabet, and, secondly, that this Pelasgic alphabet was derived from the primitive alphabet of Chalcis.

This conclusion, founded only on epigraphic considerations, conforms to the historic probabilities. The only Greek colony to which the geographical and chronological conditions make it possible to assign the parentage of the Pelasgic alphabet was a colony of Chalcis. The Greek colonies of Sicily and Magna Græcia, several of which were Chalcidian, were not

¹ Compare the Pelasgic alphabet in col. i. on page 126 with the Chalcidian alphabet in col. vi. on page 60, which has been compiled from the following materials. The coins of Chalcis have the legend Y A \downarrow , and the inscriptions give the letters \downarrow ζ Ξ . Later Eubœan inscriptions from Styra and Eretria give \dagger \downarrow S O R. The coins of the Chalcidian colonies of Zancle, Leontini, Naxos, Rhegium, and Neapolis give \downarrow X ζ R C; and the two short boustrophedon inscriptions from Cumæ yield D \mathfrak{M} R \downarrow \downarrow S. See Kirchhoff, *Studien*, p. 107. It must be assumed that *san*, which has not yet been discovered in any Chalcidian inscription, had not disappeared from the Chalcidian alphabet at the time of the foundation of Cumæ. It occurs on the coins of the neighbouring colony of Posidonia (Pæstum), which however was Achæan.

founded before 735 B.C.¹ The date is too recent, and the locality is too remote, to render such a source admissible. The objection does not, however, apply to the Chalcidian colony of Cumæ, of which Neapolis was an offshoot. The unrivaled natural advantages of this region, with its fertile soil, its perfect climate, its safe harbours, and its defensible position, might well commend the promontory which commands the Bay of Naples as the site of the oldest Greek settlement in the western Mediterranean, and also make it the focus from which Greek culture radiated among the aboriginal races of Italy. The very precise statement of Eusebius, who assigns the foundation of Cumæ to the year 1050 B.C., cannot perhaps be accepted as historical, but there is no reason for distrusting the tradition recorded by Strabo that Cumæ was the earliest Greek settlement in either Sicily or Italy. It can therefore hardly be placed later than the 9th century B.C., a date which would suffice to explain the extremely archaic character of the Pelasgic alphabet.

The Eubœan cities of Chalcis and Eretria, by which the colony of Cumæ² was founded, had sunk to a subordinate position at the familiar epoch of Greek history; but at an earlier period, before the rise to

¹ Professor Mahaffy has shown that there are grounds for believing that this traditional date may be too early by more than a century.

² The Æolic form of the name (Κύμη, 'the villages') lends countenance to the tradition that it was a joint colony of Æolians and Chalcidians.

power of Athens and Sparta, or even of Corinth and Miletus, they were among the most opulent of Hellenic states, possessing an extensive commerce with Lydia, and powerful colonies in Macædonia, Sicily, and Italy. The colonies of Rhegium and Zancle (Messana) commanded, like the parent cities,¹ an important channel of early commerce, while Cumæ and Neapolis in Campania, Naxos, Catana, Leontini, and Himera in Sicily, occupied regions of great natural wealth and fertility. Hence the later insignificance of Chalcis is no reason why we should hesitate to assign the primitive culture of Italy to a Chalcidian source.²

The date at which the art of writing was introduced

¹ The site of Chalcis, commanding the navigation between the north and south of Greece, was marked out by its natural advantages for a Phœnician settlement. That it was so occupied we learn from Strabo (x, p. 447). Cothus, to whom the foundation of Chalcis is ascribed, is evidently a mere eponymus, like the Saxon leader Port, who is said in the Saxon Chronicle to have landed at Portsmouth (Portus Magnus). The old harbour of Carthage bore the name of the Cothon, from a little island of that name (cf. Hebrew כֶּתֶן, 'to be small'). Doubtless the Phœnician settlement of Chalcis had also its Cothon, the name referring either to the channel of the Euripus, which here narrows to a width of only 40 yards, or designating a rocky islet, like that at Carthage, which divides the channel into two parts.

² That Hellenic culture reached the northern as well as the central regions of Italy from Chalcis is indicated by the significant fact that the coins of Populonia, which constituted the earliest Etruscan currency, follow the Euboic weight-standard, and imitate the numismatic types and devices of Eubœan cities, their legends also being in the Chalcidian alphabet. See Head, *Guide to Select Coins*, p. 13.

into Italy can only be determined approximately. Since the various Italic scripts were developed, on Italian soil, out of a single primitive type, it follows that between the introduction of this alphabet and the date of the oldest Etruscan or Latin inscriptions a considerable period, which cannot be less than two or three centuries, must be allowed for the diffusion of the primitive alphabet and the gradual formation of the national scripts.

Taking in conjunction the indications of date afforded by the Pelasgic abecedaria and by the survivals of archaic features in the separate Italic alphabets, it may be concluded that the introduction of the alphabet into Italy was decisively earlier than the inscriptions of Abu Simbel, but later than those of Thera.¹ The end of the 9th century B.C., to which the foundation of Cumæ has already been assigned, would thus appear to be a probable date. This would allow sufficient time for the diffusion of the Pelasgic alphabet in Italy, and the development of the various national Italic scripts.²

¹ The primitive alphabet of Italy retained all the twenty-two Phœnician letters. The forms of *san*, *lambda*, and *zeta*, M V Z , are older than any found at Thera, and are nearly identical with the Baal Lebanon forms. The Etruscan texts show that the primitive Italic script was retrograde, whereas at Abu Simbel the direction had been changed. On the other hand, the non-Phœnician letters *phi*, *chi*, and *xi*, which do not occur in the oldest of the Thera records, had been evolved.

² This conclusion agrees substantially with that of Helbig, who,

§ 2. LATIN.

The Latin alphabet, owing to political causes, finally displaced the other national scripts of Italy. As the alphabet of Rome, it became the alphabet of Latin Christendom, and the literary alphabet of Europe and America. It is now, with the single exception of the Arabic, the only alphabet possessing any claim to cosmopolitan extension. Its great historical importance may therefore justify a more minute examination of its peculiarities¹ than is necessary in the case of the Etruscan and other defunct sister alphabets, which have now only an historic interest.

Although the most familiar, and in a sense the most modern of all alphabets, the Latin, owing to a remarkable chain of causes, has adhered, more closely than any existing vernacular alphabet, to the oldest Phœnician type. The early date of its transmission to Italy accounts for the existence of its archaic

arguing from the length of the Etruscan *sæcula*, places the introduction of alphabetic writing among the Etruscans between the years 750 and 644 B.C. The Etruscan script would necessarily be less ancient than the Pelagic, from which it was derived. Dennis, *Cities and Cemeteries of Etruria*, vol. i., p. xlix, note.

¹ It has not seemed necessary to occupy space with an account of recent researches into the powers of the letters, the subject of Latin phonology being adequately discussed in Corssen's *Aussprache*, as well as in a book so generally accessible as Roby's *Latin Grammar*.

features, while Roman conservatism, lapidary use, and imperial extension, and, not least, its singular alphabetic excellence, have aided in preserving it from the deformation to which alphabets are liable.

The progressive instincts of the Ionians rapidly modified the Greek alphabet, which finally retained only nineteen of the twenty-two Phœnician letters, and added five, whereas the Latin alphabet possesses twenty of the Phœnician characters and only three new signs. And even of the two letters which were lost, one, *teth*, survived as the numeral sign for 100; and of the other, *tsade*, the name, curiously enough, has been preserved by the letter *zed*, though the character itself has disappeared.

The Latin alphabet is, however, essentially identical with the Greek. Seven letters, **C D L P R S X**, differ more or less in their forms; three, **C H V**, in their values; three, **X Y Z**, in position; two, **F Q**, which became obsolete in Greek, were retained in Latin, and one new letter, **G**, was evolved.

The forms of the Latin letters having been explained in the last chapter¹ by reference to the common parent types from which both the Greek and Latin diverged, it may here suffice to recapitulate the results. In the annexed Table the final Latin and Greek forms are placed side by side with their prototypes in the older alphabets.

¹ See pp. 80 to 108, *supra*.

Classical Latin.	Old Latin.	Old Greek.	Classical Greek.
C	<	< Ϛ	Γ
D	▷	▷ ▷	Δ
L	↳	↳ † † † † †	Λ
P	ρ	ρ ϖ	Π
R	ϛ	ϛ ϙ	Ρ
S	ς	ς ξ ζ	Σ
X	χ	χ † Ϟ	Ξ

The development of the Latin alphabet can best be studied by comparing it, not with the sister alphabet of Ionia, but with its direct progenitor, the 'Pelasgic' alphabet of Italy, as it appears on the Formello vase (see p. 74). Here we find all the twenty-two Phœnician characters, with the addition, at the end of the alphabet, of four letters of Hellenic origin, $\Psi \chi \Phi \Upsilon$.

The letters *van* and *koppa*, which were discarded in the Eastern alphabets except as numerals, were retained in Latin. The digamma, **F**, kept its form and its primitive station, but changed its value from *w* to *f*; *koppa* also was retained, but the vertical tail of the primitive letter ϙ became oblique ϙ, and the character was appropriated as the symbol of a favourite Latin sound, the velar guttural *kw*. *San*, which was retained

in Etruscan, disappeared in Latin as well as in Greek, probably because it had become a mere homophone of *sigma*, and because its form **M** bore an inconvenient resemblance to that of **Μ**. The aspirated mutes, *phi*, *chi*, *theta*, were also retained in Etruscan, but not being required in Latin as phonetic symbols were utilized as numerals. For 50 the Romans used the Chalcidian *chi* \downarrow , which assumed the less difficult lapidary type **L**, and was then easily assimilated to **L**; while *theta* **Θ**, which was employed to denote 100, was assimilated to **C**, doubtless because this letter was the initial of *centum*. For 1000 they used *phi* **Φ**, which was written **CIO**, a sign afterwards confounded with **Ϟ** or **Ϟ**, the initial of *mille*; and the half of the primitive symbol **Ϟ**, also assimilated to a familiar form **D**, was employed to denote 500.¹

The Latin symbols for *g*, *x*, and *z* do not occupy the same positions as the corresponding symbols in the Greek and Semitic alphabets; **X** and **Z**, which are descended from *samekh* and *zayin*, having been transferred from their original stations to the end of the alphabet, while **G** replaces **Z** in the seventh station.

When we first become acquainted with the Latin alphabet it ended with **X**, a letter which Quintilian

¹ On the Roman numerals consult the paper by Ritschl in the *Rheinisches Museum* for 1869. For reasons already assigned (see vol. i., p. 6) it is impossible that **X** can have been derived from *theta* **Θ**, but there is no valid reason why it should not be identified with **Ϟ**. See p. 77, *supra*.

calls *ultima nostrarum*. The abecedaria of Cære and Formello suggest an explanation of the way in which this letter came to be removed from the fifteenth station. It would seem that when Ξ (*s*) acquired its new value of *x* it was differentiated, as is the rule with polyphonic characters, into two forms, \boxplus (*s*) and \boxplus (*x*), the first of which retained the old place, but, as it denoted a sound sufficiently expressed by **S**, was ultimately disused; while the new symbol, representing the new sound, was relegated to the end of the alphabet. This explanation is confirmed by the parallel case of the evolution of **F** and **V** out of *vau*, and the transference of **V** to the end of the alphabet.

The chief innovation in the Latin alphabet was the development of **G**. How this was effected is curious and instructive. In the Chalcidian alphabet *g* was expressed by **C**, as is shown by the early coins of Rhegium, which bear the legend HONICER . The Etruscan language possessing no soft mutes, it hardened into *c*, and the characters **C** and **K** becoming homophones, the more troublesome sign, **K**, fell into disuse. This could hardly have occurred in Latin, which must always have possessed both the sounds. Hence the corresponding Latin usage¹ must be attributed to

¹ The letter **K** must, however, have originally existed in the Latin alphabet, since it occurs in a few early inscriptions, as in the words **KASTORVS** for Castoris, **KORANO.** for Coranorum, **KAEL.** for Cælius, **DEKEM.** for Decembres; and was long retained in certain conventional archaic abbreviations (**KAL.** for Calendæ, **K.**

Etruscan influences. Till the middle of the 3rd century B.C. the letter **C** is employed in Latin inscriptions to denote both *c* and *g*, the old usage surviving in the established abbreviations of **C.** and **CN.** for Gaius and Gnæus. But on account of the inconvenience of not being able to distinguish between the two sounds expressed by **C**, a slight differentiation gradually established itself in the form of the letter, **G** being used for *g*, and **C** for *c*. The new character first occurs in the well-known epitaph on Scipio Barbatus,¹ a monument which, to the visitor who unexpectedly comes upon it in the Vatican, brings home more vividly than anything else in Rome, the stately speech and the noble simplicity of the heroic age of the republic.

· · · · · CORNELIVS · LVCIVS · SCIPIO ·
 BARBATVS · GNAIVOD · PATRE | PROGNAVVS ·
 FORTIS · VIR · SAPIENSQVE — QVOIVS · FORMA ·
 VIRTUTEI · PARIVMA | FVIT — CONSOI ·
 CENSOR · AIDIIVS · QVEI · FVIT · APVD · VOS —
 TAVRASIA · CISAVNA · SAMNIO · CEPIT —
 SVBIGIT · OMNE · LOVCANAM · OPSIDESQVE ·
 ABDOVCIT ·

The use of the new letter was doubtless well

for Cæso, **MERK.** for Mercatus), very much as **Q** survived in Greece till a late period as a numismatic character on the coins of Corinth.

¹ Scipio Barbatus was consul in 298 B.C., but the epitaph cannot be contemporaneous, being somewhat less archaic in style than the epitaph on his son, who was consul in 259 B.C. According to Ritschl, the date cannot be later than 234 B.C.

established before it was thought necessary to find a place for it in the alphabet. This was probably effected in the school of Spurius Carvilius, a grammarian who is supposed to have lived at the close of the 3rd century B.C. The seventh letter of the old alphabet, **Ϛ**, not being needed for any Latin word, was at this time obsolescent,¹ and the new letter **C** was foisted into its place.

In the 1st century B.C. the discarded letter **Z** was restored to the Latin alphabet, being required for the transliteration of Greek words.² The date of its reintroduction is shown by its position as the last of the letters, by the exceptional character of the name it bears, and by the adoption of the later Greek form, **Ζ** instead of **Ϛ**.

The alphabetic position of **Y** shows that its introduction into the Latin alphabet was prior to that of **Z**. It was borrowed from the Greek alphabet in the time

¹ It must have originally existed in the Latin alphabet, though there is hardly any actual evidence of the fact. It occurs in an extract given by Varro from the Salian Song, and in a Latin transcription of an Oscan law of the time of the Gracchi. But it must plainly have retained its place in the alphabet, otherwise the new letter **C** would, like **X**, have been placed at the end of the alphabet instead of in the seventh station.

² It has been similarly introduced into the English alphabet, to which it did not originally belong. In the 15th century it crept in from the French, and its use is even now pretty nearly restricted to foreign loan words, as Zebulon, Zedekiah, zigzag, zest, zoology, azure, gauze, magazine, gazelle, zebra, zero.

of Cicero in order to express more precisely the sound of *upsilon*. This letter had previously been transliterated by **V**, which in Latin corresponded more exactly to the Greek *ou*.

It thus appears that the chronological successions of the innovations in the Latin alphabet are chronicled in the arrangement of its final letters **V X Y Z**.¹

An obvious distinction between the Greek and Latin alphabets consists in the names borne by the letters. We learn from a line of Juvenal, "Hoc discunt omnes ante alpha et beta puellæ," that the Greek names were taught in Roman schools, even to girls; but for ordinary use there was another system of nomenclature, which has descended to ourselves. The vowels were designated by their sounds, and the consonants by the sound of the letter combined with a vowel in such a way as to conform to the law of least effort. The easiest vowel preceded the continuants and followed the explosives.² Thus we have *ef*, *el*, *em*, *en*,

¹ In the Pelasgic abecedaria the five last letters are **T V X Θ Y**. In our own alphabet we have **T U V W X Y Z**. The numerals **M** and **L** testify to the former presence of **Θ** and **Y** in the Latin alphabet, from which, however, they disappeared before the date of the oldest extant inscriptions. The evolution of **V** is not later than the 9th century B.C., **X** must be as early as the 7th, **Y** and **Z** were successively borrowed from the Greek in the course of the 1st century B.C., while **U** and **V** were differentiated about the 10th century A.D., and **W** appears as early as the 11th.

² The rule is determined by physiological causes. It is easier to say *be* than *eb*, and *ef* than *fe*, the reason being that in pronouncing

er, es; and be, ce, de, ge, pe, te. The principle of least effort requiring a change of vowel for the letters *k, h, q, x*, they were called *ka, ha, qu, ix*.

The only exception to the rule is in the case of **Z**, which retains its Greek name *zed*. If this letter had continuously kept its place in the Latin alphabet its name would have been *ez*. It disappeared, as we have seen, at some time not later than the 3rd century B.C., and was reintroduced from the Greek alphabet in the time of Cicero. Its foreign origin is thus shown, not only by its form and its alphabetic position, but by its foreign name. It is curious that *zed (tsade)*, which is the only one of the Phœnician names which has passed into our English alphabet, belonged to the only Phœnician letter which has disappeared from every one of the alphabets of Europe.

the continuants the vocal organs are not completely closed, and the breath is escaping, so that a vowel sound is involuntarily produced before the consonantal sound can be heard, and hence we actually get *ef* before we come to *fe*. With the explosives, on the other hand, the contact being complete, the vowel sound is produced without conscious effort when the contact is relaxed, while a distinct effort is required to pronounce a precedent vowel; *eb* cannot be pronounced without being followed by *be* when the lips are opened. Hence the law of least effort requires that the vowel should precede the continuants and follow the explosives. The same law of least effort governs the formation of those names in which the vowel is other than *e*. For the back consonants *k* and *h* the vocal organs are in the position for pronouncing the back vowel *a*, and for *q*, which is pronounced still further back, the position is that required for *u*.

§ 3. GREEK UNCIALS AND MINUSCULES.

The early history of the Greek alphabet is based on inscriptions and coins. Lapidary forms are comparatively stable, but the use of more facile materials—parchment or papyrus—permitting graphic speed and facilitating ligatures, accentuated the tendencies in the direction of variation and deformation, and ultimately transformed the lapidary types.

The history of the formation of the lapidary character discloses a progressive improvement in the forms of the letters. The history of the formation of the modern minuscules begins with an epoch of deformation, succeeded by a period of regeneration.

The processes of phonetic decay and regeneration by which the Romance languages arose out of Latin are analogous to the processes by which the Romaic and Romance alphabets arose out of the alphabets of Greece and Rome.

With the decline of the empire the lapidary alphabets degenerated into irregular and formless scripts. Then, with the revival of culture, came the demand for a new book-hand, and out of the old elements arose the minuscule, a nearly perfect book-hand, cursive and rapid, but at the same time legible, regular, and beautiful. Thus two opposite principles are seen in operation; the law of least effort, by which legibility is sacrificed to ease and speed, and the effort after distinctness by

which the regeneration of the cursive scripts was effected.

Within the limits necessarily assigned to the present work it would be manifestly impossible to enter on any adequate discussion of Greek and Latin Palæography. The vast departments of knowledge which deal with the formation of modern scripts are the subjects of a copious literature, which by itself would suffice to constitute a considerable library. All that can be here attempted is briefly to epitomize the history of mediæval alphabets, to point out the landmarks of palæographic science, and to refer the student to trustworthy and accessible authorities.¹

¹ The invaluable autotype reproductions published by the Palæographical Society provide unimpeachable materials for the study of the science. The student who is unable to obtain access to these costly publications must content himself with the well-chosen series of photolithographic facsimiles contained in the *Schrift-Tafeln* published by Wattenbach for Greek (1876-77,) and by Arndt for Latin (1874, 1878). The best modern manuals are Gardthausen, *Griechische Palæographie* (1879); Wattenbach, *Anleitung zur griechischen Palæographie* (second edition, 1877); Wattenbach, *Anleitung zur lateinischen Palæographie* (third edition, 1878). In these indispensable and scholarly works the bibliography of the subject is adequately discussed. A good estimate of the relative merits of books on Western Palæography will also be found in Birch, *The Utrecht Psalter*, pp. 44 to 62. Of the earlier works, Montfaucon, *Palæographia Græca* (1708); Mabillon, *De re diplomatica* (1709); and the great work of the Benedictines, Toustain and Tassin, *Nouveau Traité de Diplomatique* (1750 to 1765), still retain their value; while among more modern works may be named the splendid volumes of Silvestre, *Paléographie Universelle*; Wailly, *Éléments de Paléographie*,

The Greek and Latin alphabets passed through parallel stages of development. At a very early time we find in contemporaneous existence three distinct scripts, the Capital, the Uncial, and the Cursive.¹ ←

The lapidary alphabet, used for inscriptions and coins, is square and angular, the letters being of equal height, and composed largely of vertical and horizontal lines. }
 Nearly the same letters, under the name of Capitals, are employed in early manuscripts, and continued to be used for titles and superscriptions. }
 Secondly, there is the Uncial, a formal book-hand, clear and legible, used by professional scribes for rolls and codices. The term Uncial, which dates from the time of St. Jerome,

a book useful and generally sound; Sabas, *Specimena Palaeographica*; the valuable *Catalogue of Ancient Manuscripts in the British Museum*. Among the host of writers who have devoted themselves to the investigation of special departments of the subject, the chief are Tischendorf, Zangemeister, Westwood, Letronne, Bast, Sickel, Pertz, Delisle, Jaffé, Marini, Champoleon-Figeac, Garrucci, and Gregorio. Chassant, *Paléographie des Chartes et des Manuscrits* (seventh edition, 1876), and Leist, *Urkundenlehre*, are inexpensive little books which the beginner will find useful. A sound elementary English manual of Palæography does not exist, neither Astle's *History of Writing* nor Humphrey's *Origin and Progress of the Art of Writing* coming up to the requirements of modern science.

¹ We also use three different alphabets: capitals, for superscriptions and initials; cursive characters for correspondence; and the ordinary book alphabet. Familiarity prevents us from noticing the wide diversity of such forms as A a α or B b β, which are fossils, so to speak, derived from different formations, namely, from the lapidary type of the Augustan age, from the French book-hand of the 11th century, and from the Italian cursive of the 15th.

is in universal use and cannot now be displaced, but it arose out of a misconception, uncial letters not being necessarily so very large, and rarely an inch in height, as the name implies. It denotes a majuscule script in which the letters are not so square or so upright as in the lapidary alphabets. The forms are somewhat rounded, and have usually a slight inclination of the vertical strokes, the differences being mainly due to the nature of the writing material—papyrus or parchment instead of stone or metal.¹ Thus **€**, both in Greek and Latin, is an uncial form of the capital **E**. The third script, of which specimens exist nearly as ancient as the oldest uncials, was a careless and somewhat irregular cursive character, loose and straggling, employed for private letters, contracts, and accounts. A Tachygraphy or shorthand was also used from a very early period for notes and memoranda.

The development of the uncial and cursive alphabets proceeded independently till the 8th or 9th century, which was a period of graphic revolution both in the

¹ The distinction between capitals and uncials is sharper in Latin than in Greek. No Greek books are written in capitals, the manuscript capitals used for superscriptions being apparently a later introduction, while even in inscriptions uncial forms such as **€ C W** begin to replace the lapidary prototypes **E Σ Ω** nearly a century before the date of the oldest extant MSS. In Latin no such very early uncial tendencies can be detected, and even after the uncials arose capitals continued to be used for books till both were replaced by minuscules.

East and in the West. A new book-hand was then evolved out of the cursive, incorporating, however, sundry forms from the contemporary uncial. By reason of its smaller size the new script goes by the name of minuscule, its chief characteristic being an increased tendency to pass above or below the two parallel lines which limit the body of the letter, as may be seen by comparing the letters $\Delta H \Lambda M P$ with $\delta \eta \lambda \mu \rho$, or $B D H L P Q$ with $b d h l p q$. The old majuscule cursive, which had become formless and illegible, was afterwards replaced by a new cursive developed out of the minuscule. The minuscule reached its perfection as a book-hand in the 11th or 12th century, after which time it continually degenerated till the invention of printing. The early printers adopted at first the corrupted forms of the contemporary book-hand, but ultimately reverted to the older character, which still maintains its place in printed books.

Thus, broadly speaking, the alphabetic developments were parallel and nearly synchronous in the East and in the West, so that the terms Capitals, Cursives, Uncials, and Minuscles can be correctly applied to corresponding types of the Latin and Greek alphabets. The developments of the Eastern and Western scripts were, however, independent, so that the history of each must be separately epitomized.

The oldest extant specimens of Greek manuscripts have been obtained from Egypt. This is explained

by the Hellenization of that country under the Ptolemies, and by the continuance of the ancient Egyptian practice of burying documents in tombs, their subsequent preservation being aided by the dryness of the climate. Among the uncial manuscripts the Homeric papyri rank first. The oldest, probably, are two fragments of the 17th book of the Iliad, containing altogether about 500 lines, which were obtained by Mr. Harris in 1849 and 1850 from a tomb known as the Crocodile Pit, at Menfalut in Upper Egypt. These fragments, which must have belonged to the same roll, are written in slender uncials, well formed, but somewhat difficult to read, owing to the discoloration of the papyrus. They cannot be later than the 1st century B.C., and may very possibly belong to the 2nd. More legible is the beautiful specimen of early Alexandrian calligraphy which is known as the Bankes papyrus. This is a roll containing the greater part of the last book of the Iliad, bought at Elephantine in 1821 by Mr. Bankes for £300. It has been conjectured that it was a *chef d'œuvre* executed by some grammarian for his own use, and buried with him in his tomb. It is assigned to the 1st century A.D., but may very possibly be older. Less careful in execution are three Orations of Hyperides, in slender uncials, obtained in 1847 by Messrs. Arden and Harris from the neighbourhood of Thebes.¹ Their age has been

¹ All these papyri are now in the British Museum. For facsimiles,

disputed, but the best judges assign the earliest to the middle of the 2nd century B.C.

The Egyptian papyri are succeeded by the Herculaneum rolls,¹ which are certainly older than the year 79 A.D., when the city was destroyed by a stream of lava from Vesuvius. These rolls (*volumina*), 1803 in number, are supposed to have constituted the library of Lucius Piso Cæsoninus, in whose sumptuous villa, outside the walls, they were found inclosed in a wooden cabinet, which, as well as the papyri, was charred by heat. The papyrus is nearly black, the writing being of a grey colour. The letters are small uncials, rapidly written and somewhat roughly formed. The papyrus being excessively tender, the process of unrolling, which may be watched any day in the Museum at Naples, is necessarily tedious, requiring the utmost skill and patience, so that not quite 400 of the rolls have as yet been unrolled and deciphered. The expectations which were at first entertained of recovering lost treasures of classical literature from the only ancient library which has come down to us have not been fulfilled, the rolls hitherto deciphered being mainly worthless treatises on physics, music, rhetoric, and kindred subjects by Philodemus and other third rate philosophers of the Epicurean school. The most

see *Cat. of MSS. in British Museum*, pl. 1 to 6; Wattenbach, *Schrift-Tafeln*, pl. 1, 2; *Pal. Soc.*, pl. 153, 126.

¹ For facsimiles, see Wattenbach, *Schrift-Tafeln*, pl. 4; *Pal. Soc.*, pl. 151, 152.

valuable, from a literary point of view, are some fragments of the Ethics of Epicurus, a treatise on historians, and another on the philosophers of the Academy.

After the papyrus rolls come the numerous vellum codices,¹ which are decisively later in date and are written in a more set uncial style. There were two leading schools, the Alexandrian and the Byzantine. The earliest example to which a definite date can be assigned on other than palæographical considerations belongs to the Byzantine school. It is a copy of the treatise of Dioscorides on plants, which was written for Juliana Anicia, a Byzantine princess, and is assigned to the year 506 or thereabouts.² The great value of this codex is that it affords a standard by which the age of other early uncial manuscripts may be estimated. Of the Alexandrian school, the cardinal examples are the three great Biblical codices, the Codex Vaticanus, the Codex Sinaiticus, and the Codex Alexandrinus.³ The oldest is probably the Codex Vaticanus, which is assigned to the 4th century. It is written in small uncials, delicate, compact, and regular, approaching

¹ More than 300 are now known; of these Montfaucon was acquainted with not more than thirty.

² Facsimiles in Montfaucon, Silvestre, Lambecius, Tischendorf, and *Pal. Soc.*, pl. 177.

³ See the facsimiles published by the Palæographical Society, plates 104, 105, 106. Cf. Gardthausen, *Griechische Palaeographie*, p. 143.

nearer to the lapidary type than the others. It is the most beautiful of the three, but is of less palæographical value, as the letters have been retouched throughout by a tenth-century hand. The Codex Sinaiticus is probably somewhat later, belonging to the end of the 4th or the beginning of the 5th century. Of this manuscript a few leaves, now at Leipzig, were discovered by Tischendorf in 1844, in a basket of fragments in the monastery of St. Catherine on Mount Sinai. In 1859 he succeeded in recovering a larger portion of the codex, which is now at St. Petersburg. The letters are square and broad, the horizontal strokes being fine hair lines. Nearly in the same style, but more regularly written, is the Codex Alexandrinus, now in the British Museum. It is assigned to the middle of the 5th century, and may be taken as the standard example of the Greek uncial alphabet.¹

Of nearly the same date is the palimpsest Codex Ephraemi at Paris, which also belongs to the Alexan-

¹ The alphabet of the Codex Alexandrinus is given in col. i. of the Table on the following page. The codex being by several scribes the writing is not absolutely uniform throughout. The forms of the letters in the Table have necessarily been somewhat generalized, so as to represent the leading type of each period. To have given the absolute alphabets of individual manuscripts would in the limited space at command have been misleading and confusing. In Gardthausen's *Griechische Palaeographie* the reader who requires more minute detail will find the alphabets of 144 cardinal manuscripts, and others, less exact, in the *Specimena Palaeographica* of Sabas.

GREEK UNCIAL AND MINUSCULE.

	UNCIAL.			CURSIVE.			MINUSCULE.		
	Early.	Middle.	Late.	Early.	Middle.	Late.	Early.	Middle	Late.
	Sec. iv.	Sec. vii.	Sec. ix.	Sec. ii. B.C.	Sec. ii. A.D.	Sec. vii.	Sec. ix.	Sec. x. xi.	Sec. xii. xv.
1	Α	Δ	Δ	ΔΔ	Δδ	ϐce	α	α	αδ
2	Β	Β	Β	ΒU	β	βu	υ	υβ	υββε
3	Γ	Γ	Γ	γγ	γγ	γγ	γ	γγ	γγγ
4	Δ	Δ	Δ	ΔΔ	Δδ	Δδ	δ	δΔ	δΔ
5	Ε	Ε	Ε	ΕΕ	ρΕ	εεε	ε	εε	εεε
6	Ζ	Ζ	Ζ	Ζ	ΖΖ	ζζζ	ζ	ζζ	ζζζζ
7	Η	Η	Η	η	η	ηη	η	ηηη	ηηηηηη
8	Θ	Θ	Θ	θ	θθ	θθθ	θ	θθ	θθθ
9	Ι	Ι	Ι	ι	ι	ιιι	ι	ιι	ιι
10	Κ	Κ	Κ	κ	κκ	κκ	κ	κκ	κκκ
11	Λ	Λ	Λ	λ	λ	λλ	λ	λλ	λλ
12	Μ	Μ	Μ	μμ	μμ	μμ	μ	μμ	μμ
13	Ν	Ν	Ν	ν	νν	νν	ν	νν	νννν
14	Ξ	Ξ	Ξ	ξ	ξξ	ξξ	ξ	ξξ	ξξξ
15	Ο	Ο	Ο	ο	ο	ο	ο	ο	ο
16	Π	Π	Π	π	π	ππ	π	ππ	ππ
17	Ρ	Ρ	Ρ	ρ	ρρρ	ρρ	ρ	ρρρ	ρρρρρ
18	Σ	Σ	Σ	σ	σσ	σσσ	σ	σσ	σσσ
19	Τ	Τ	Τ	τ	τ	ττ	τ	ττ	τττ
20	Υ	Υ	Υ	υ	υ	υυ	υ	υ	υυ
21	Φ	Φ	Φ	φ	φ	φφ	φ	φφ	φφφ
22	Χ	Χ	Χ	χ	χ	χ	χ	χ	χ
23	Ψ	Ψ	Ψ	ψ	ψ	ψ	ψ	ψψ	ψψ
24	Ω	Ω	Ω	ω	ω	ω	ω	ω	ωω
	I	II	III.	IV.	V.	VI.	VII.	VIII.	IX.

drian school.¹ To the 6th century we may assign the Codex Bezae at Cambridge, and the Codex Claromontanus at Paris, both of which exhibit contemporary forms of the Greek and Latin uncials, and are believed with good reason to have been written in the South of France.² After the 7th century³ the Greek uncial loses its early style, and becomes narrow, elongated, and cramped, characteristics exaggerated in the Slavonic type⁴ from which the Russian alphabet was derived. In the 9th century the new minuscule came into general use as a book-hand, and the uncials were only retained for liturgical purposes.

The uncial book-hand was not the only early Greek script. Recent discoveries in Egypt have revealed the existence of a Greek cursive character unknown to Montfaucon and the older Palæographers. This Greek cursive is of great importance in the history of

¹ An indication of the Egyptian origin of this codex is the fact that the beautiful parchment on which it is written was, like that of the Codex Vaticanus and the Codex Alexandrinus, made from the skins of antelopes.

² *Pal. Soc.*, plates 14, 15, 63, 64.

³ See col. ii. of the Table. Cf. Wattenbach, *Schrift-Tafeln*, plates 6, 7, 9, and Gardthausen, *Griechische Palaeographie*, plate 1.

⁴ See col. iii. of the Table. Illustrations of the Slavonic type are given by Sabas, and by Wattenbach, *Schrift-Tafeln*, pl. 8, *Pal. Soc.*, plates 26, 27, 154. The last, taken from a Greek Evangelistarium written in Cappadocia in 980, proves that the so-called Slavonic type was not confined to Slavonic lands.

the Greek alphabet, as from it the later minuscule character was to a great extent derived.

Examples of this cursive script, with which the Museums of Europe are now well supplied, have been mainly obtained from a few extensive collections of family papers, contained in sealed earthen jars, which were deposited in tombs. The largest store of such documents consists of papers accumulated by Ptolemy, son of Glaucias, a Macedonian recluse who resided in the Serapeum at Memphis during the reign of Ptolemy Philometer, and conducted an extensive correspondence on his own affairs and those of others with various departments of the Egyptian administration. Dispersed in the Museums of Paris, London, Turin, Rome, and Leyden, are nearly sixty papyri derived from this collection, all relating to the case of two orphan girls, twins, Thaues and Taous, who were attached to the service of the temple of Serapis, and received specified rations of loaves and oil in return for their services. The death of the bull Apis in the year 164 B.C. put a stop to these payments, which were not resumed till the next Apis was discovered. Hence the long series of documents and petitions connected with this suit, which terminated at the end of three months in favour of the twins by the payment of the arrears which they claimed. The writing is careless uncial,¹ exhibiting a tendency

¹ See col. iv. of the Table, and the facsimiles in Silvestre; or *Pal. Soc.*, plate i.

towards cursive forms in several of the letters. A progressive development of cursive forms¹ can be traced in a long series of similar documents from Egypt, extending almost uninterruptedly down to the time of the Arab conquest.² They consist of horoscopes, contracts, directions to officials, complaints of grievances, petitions for favours, manumissions of slaves, offers of rewards for the capture of fugitives, and papers connected with lawsuits, accompanied by the notes thereon of the official persons concerned. We have also an immense number of receipts for payments, often in barbarous Greek, scratched on pots-herds. From this mass of documents, which may be compared with the contract tablets from Babylon and Nineveh, we obtain curious glimpses into the ordinary life of private persons in Egypt throughout the nine centuries, from the time of the 2nd Ptolemy to that of Omar, during which the Greek language and script prevailed in Egypt.

The Greek cursive being essentially adapted and used for writing on papyrus, a cheap and perishable material, our knowledge of it, derived from non-Egyptian sources, is naturally extremely limited, being

¹ See cols. v. and vi. of the Table.

² One of the latest is the will of Abraam, Bishop of Harmonthis, written near Thebes, probably in the 8th century. Here the letters are decidedly cursive. (*Pal. Soc.*, plate 107.) Compare a Papyrus Psalter, written at Thebes by an illiterate scribe in the 4th or 5th century, in which capital and cursive forms are curiously mingled. (*Pal. Soc.*, plate 38.)

almost confined to the scribblings of Greek gladiators on Pompeian walls, and certain subscriptions to documents from Ravenna and Naples which are assigned to the 6th and 7th centuries.

The careless irregular cursive in which most of the foregoing documents are written took a calligraphic form in the official script of the Byzantine chancery. Of this, unfortunately, only a single specimen is known, a precious document which goes by the name of the letter of Constantine V. to Pippin, King of the Franks.¹ Whether or no this attribution is correct, it doubtless belongs to the 8th century.

With the development of the Greek minuscule the old Greek cursive came to an end, surviving however, as we shall presently see, in many of the minuscule forms, and also in the Glagolitic alphabet of the Western Slaves, which, like the so-called Irish uncial, was only an uncialized cursive.²

The 9th century marks the new departure. The

¹ Facsimile in Montfaucon, *Pal. Gr.*, and in Mabillon, *De re dipl.*, repeated in Wattenbach's *Schrift-Tafeln*. See col. vi. of the Table.

² Of Greek tachygraphy little need be said. The examples which we possess, consisting chiefly of marginal notes and scholia, and of a Vatican MS. containing extracts from the book of Enoch and similar works, are of late date, probably not earlier than the 10th century, and seem to be imitations of the Roman tachygraphy. Some of the conventional signs survived in the abbreviations used in early Greek printed books. The existence of an earlier style may, however, be inferred from the assertion that Xenophon took down in short-hand the discourses of Socrates. The subject is fully discussed by Gardthausen, *Griechische Palaeographie*, book ii., chap. 4.

Uncial and the Cursive scripts disappeared, and a new minuscule, which had been for some time in process of formation out of both of the old scripts, became the book-hand of the future. The 8th century, the age of the Iconoclasts, had not been favourable to literature, the monks who followed calligraphy as a profession having suffered much at the hands of Leo the Isaurian. The old uncial had already assumed moribund and degraded forms, and with the literary revival of the 9th century it finally disappeared, and a new graphic development arose out of the old elements and new germs.

The transition to the minuscule forms is displayed in one of the most interesting documents which has come down to us from ancient times—a tattered and fragile sheet of papyrus now at Vienna, which was brought from Ravenna in 1553. This priceless fragment contains a few of the subscriptions of the bishops to the Acts of the Council of Constantinople in 680. These signatures, which are undoubtedly the original autographs, exhibit a curious juxtaposition of uncial and fully formed minuscule handwritings. Six of the bishops, evidently those who were most advanced in years,¹ use uncials, while seven of the younger prelates

¹ This inference is confirmed by the signature of Theognios, who states that by reason of his infirmity his subscription was penned by the hand of his deacon and steward, George, who writes in a bold and fully formed minuscule hand. Facsimile in Wattenbach, *Schrift-Tafeln*, plate 9. Cf. Gardthausen, *Beiträge z. Gr. Pal.*, plate 3.

employ the new minuscule. From a study of this document it is evident that the minuscule arose in the 7th century^{A.D.} as a cursive monastic script, more legible than the old cursive, and more rapidly written than the uncial, and constructed by a combination of the elements of both. It does not appear, however, to have come into use for books before the literary revival of the ninth century,² when it received a calligraphic development, and took its place as the fashionable book-hand, after the old uncial school of monkish calligraphers had died out.

For the detailed history of the Greek minuscule from the 9th century to the 15th the reader must be referred to works on Greek Palæography. The subject is too vast to be adequately treated here. The Greek minuscule may be conveniently divided into three stages;³ the oldest, from the 7th to the 9th cen-

¹ The transition from cursive to minuscule can be first detected in the family papers of Aurelius Pachymius, dealer in purple, which range from 592 to 616 A.D.

² The Oxford Euclid of 888 (*Pal. Soc.*, plates 88, 89) has been usually regarded as the oldest minuscule codex. Gardthausen, however, has recently published a facsimile from a copy of the Gospels written by the monk Nicolaus in 835 at the monastery of St. Saba, near the Dead Sea, in a fully formed minuscule character. The uncial survived for some time in exceptional use, as appears from an Evangelistarium written by the priest Constantine so late as the year 995.

³ Or into four, according to the division of Bast, which is usually followed: 1. Vetustissimi, sec. vii.-ix.; 2. Vetusti, sec. x.-xii.; 3. Recentiores, sec. xii., xiv.; 4. Novelli, sec. xv.

tury, is stiff, in the 10th and 11th centuries it reaches its perfection, after which it loses its uniformity, many uncial types reappearing, and the forms being modified by the use of ligatures and contractions, which make it difficult to read.

These stages are exhibited in the three last columns of the Table, which is only intended to exhibit broadly the historical sequence of the forms, and to explain the way in which the modern minuscule was formed out of the lapidary alphabet.

The most remarkable transformations are plainly due to the use of ligatures, as will be seen by an examination of the progressive changes in the uncial forms of the letters γ δ η ϑ μ ω σ .

A noteworthy peculiarity of the Greek minuscule is the existence of duplicate forms of certain letters.¹ The cause is not far to seek. The minuscule originated out of a combination of the uncial and cursive scripts, and hence uncial letters were used side by side with others derived from the cursive. Some of these duplicate forms, such as β and ϵ , π and ϖ , θ and ϑ , still survive, and others are commonly found in the older printed books. The prolonged survival of these variants, some of which can be traced back for more than a thousand years, illustrates the tenacity of life possessed by alphabetic forms, and testifies also to

¹ The Latin minuscule also contains duplicate forms, uncial and cursive, some of which have survived to our own days. Thus t and s can be traced back to the Latin uncials, r and f to the cursives.

the two-fold origin of the minuscule. The variant forms¹ still used may be classified as follows:—

Uncials,	ϵ	Γ	ζ	θ	π	ς	τ
Cursives,	β	γ	ζ	ϑ	ω	σ	7

Of the letters which have only a single minuscule form, α ε κ λ ξ φ ω are of uncial origin, while δ η μ ν are cursives.² In several cases the uncial and cursive

¹ Some of the duplicate forms were used indifferently according to the individual preferences of the scribe, others according to the convenience of position. Thus ϑ was preferred as an initial and medial form and θ as a final; π before vowels and ω before ρ; τ as an initial, and 7 after τ and π to prevent the confusion arising from the ligatures of ττ or πτ. The cursive form σ is now used as the medial, and the uncial ς as the final form of *sigma*, the uncial form Ϛ being now replaced as an initial by the cursive σ. This usage is not, however, uniformly observed in early MSS.

² Till the 14th century, duplicate forms, uncial and cursive, of several other letters were used. Thus of *epsilon* the cursive form is most usual till the 12th century, in the 13th the uncial Ε begins to prevail, out of which the modern form ε was developed in the 15th. The uncial Η was not finally superseded by the cursive η before the 15th century. The forms of *mu* and *nu* influenced each other by assimilation. Of *mu* the cursive form μ is most usual till the 11th century, then the uncial Ϟ is common till the 14th, and μ only became universal in the 15th. Till the 14th century the uncial ν η is used together with the cursive ν, out of which ν first arose in the 12th, and only becomes general in the 15th. The cursive *omega* ω is more usual till the 14th century, when it is replaced by ω. So also, for a long period, the modern uncial forms of κ λ φ contended with duplicate forms of cursive origin. Some of the uncial forms in the minuscule are not primitive, having been reintroduced at a comparatively late period.

forms are so much alike that the origin of the minuscules cannot precisely be determined.

The Greek types of the early printers were cut in imitation of the contractions and ligatures of the contemporary minuscule.¹ During the 17th century ligatures continued to be used for printed books; in the 18th they were gradually simplified, only a very few, such as ε for στ, ς for ου, Ϟ for ος, and ϙ for και, surviving into the present century.

In the Neo-Hellenic, or Romaic script, the letters often resemble forms familiar in Western scripts; thus, for β ζ η ι κ ν ο σ τ υ ψ ω we have *β ζ η ι κ ν ο σ τ υ ψ ω*

§ 4. LATIN UNCIALS AND MINUSCULES.

The Latin alphabets, like the Greek, are divided into four styles — Capitals, Uncials, Cursives, and Minuscules.

The earliest codices, especially the Virgils, are usually written in Capitals. There are two types, 'Square' and 'Rustic.' The Square Capitals resemble in their regularity and angularity the lapidary characters from which they were imitated. A good example is the St. Gall Virgil,² assigned to the 4th or 5th century,

¹ The most beautiful and complete founts of ligatured type are those cut by Garomond in 1544, 1546, and 1550, for Francis I. and Henry II.

² *Pal. Soc.*, pl. 208.

LATIN UNCIAL AND MINUSCULE.

I.	A B C D E F G H I L M N O P Q R S T V X
II.	Λ B C D E F G H I L M N O P Q R S I V X
III.	A B C δ e F G h i l m n o p q r s t u x
IV.	α B C δ e F G h i l ω n o p q r s t u x
V.	α b c d e f g h i l m n o p q r r f τ u x
VI.	α b c d e f g h i l m n o p q r r f τ u x
VII.	α b c d o e f g h i l m n n o p q r r f s t u x
VIII.	a b c d e f g h i l m n o p q r r f τ u x
IX.	a b c d d e f g h i i l m n o p q r r f s t u x

from which the first alphabet in the Table¹ on the opposite page is taken. The second alphabet² is an early example of the ornamental variety known by the name of Rustic or Negligent Capitals, which came into use in the 3rd or 4th century and continued in fashion till the 6th or 7th, and exceptionally till the 8th or 9th.

¹ This Table has been compiled to illustrate the stages in the evolution of Latin minuscule. The alphabets are from the facsimiles of cardinal MSS. published by the Palæographical Society. They are—

- I. Square Capitals. Sec. iv. St. Gall Virgil.—*Pal. Soc.*, pl. 208.
- II. Rustic Capitals. Sec. iii. Vatican Virgil, 'Codex Romanus.'—*Pal. Soc.*, pl. 113.
- III. Early Roman Uncial. Sec. iii. Vatican palimpsest Cicero.—*Pal. Soc.*, pl. 160.
- IV. Late Roman Uncial. Sec. vii. 'St. Augustine's Gospels' at Corpus Ch. Coll.—*Pal. Soc.*, pl. 33.
- V. Gallican Cursive. Sec. vi. Paris Avitus papyrus.—*Pal. Soc.*, pl. 68.
- VI. Early Gallican Uncial. Sec. v. Hilary Codex at Rome.—*Pal. Soc.*, pl. 136.
- VII. Irish Uncial. Sec. vii. 'Book of Kells' at Dublin.—*Pal. Soc.*, pl. 56.
- VIII. Caroline Minuscule. Sec. ix. Boulogne Augustine.—*Pal. Soc.*, pl. 45.
- IX. Early Black Letter. Sec. xiii., Abbot Robert's Bible in the British Museum.—*Pal. Soc.*, pl. 73.

² This is the celebrated 'Codex Romanus,' a Vatican Virgil, possibly of the 3rd century (*Pal. Soc.*, pl. 113). Of the same date and style is the 'Codex Palatinus,' also in the Vatican (*Pal. Soc.*, pl. 115). In later MSS. the 'rustic' characteristics are more pronounced. The Florence Virgil, the Vatican Terence, the Vatican Sallust, the Paris Prudentius, and the Utrecht Psalter may be taken as standard examples of this character.

It is angular, square, and irregular, formed of broken strokes, with circumflex finials, giving an intentional appearance of rudeness and carelessness.

The few Latin fragments which have been found among the Herculaneum rolls are also in capitals. They are not however free from cursive forms, and occasionally exhibit an approach towards a rounded uncial type, showing that the prevalent notion as to the regularity and purity of the oldest Latin script is due to the accident that early Latin books, written on papyrus, have mostly perished, those which have been preserved being the costly and permanent parchment codices which were written in the more careful book-hand of the period.

Capitals, even after they had been replaced by the later uncial and minuscule book-hands, continued to be employed for superscriptions, titles, and initials, a usage which has continued to our own times.

The development of uncial forms was later in Latin than in Greek, and may have been partly due to the influence of Greek example. Although an incipient tendency towards rounded forms may be detected in the Herculaneum rolls, the definite uncial script is not older than the 3rd century, and was hardly developed before the 4th. From the 6th century to the 9th the uncial was the ordinary book-hand used for Latin codices, gradually replacing the capitals, and being itself replaced by the minuscule.

The third alphabet in the Table exhibits the oldest

form of the Latin uncials. It is taken from a Palimpsest Cicero in the Vatican, which is assigned to the 3rd century.¹ The forms are still somewhat angular, as in the case of the letters *a*, *b*, and *r*. The full perfection of the uncial style is seen in the fourth alphabet, which is Roman uncial of the 7th century. This alphabet is taken from a book of unique literary interest, the venerable Codex now in the Library of Corpus Christi College at Cambridge, which goes by the name of "St. Augustine's Gospels," and may not improbably be the actual copy brought by St. Augustine from Rome when he was sent by Pope Gregory on his mission for the conversion of the Saxons.²

The Table shows better than any description the differences which distinguish uncials from capitals. There is a slight extension above or below the line of the letters *d h l f g p q*,³ and occasionally of *r*, and a tendency in the direction of rounded forms, especially in the case of the test letters *m h u e d a*.⁴

¹ *Pal. Soc.*, pl. 160. Cf. Thompson, *Utrecht Psalter*, p. 12.

² *Pal. Soc.*, pl. 33. The uncial development of *a d e g h* is to be noticed. Instructive examples of intermediate date are the Vienna Livy (*Pal. Soc.*, pl. 183) and the Milan Palimpsest Cicero (*Ib.*, pl. 112), both of the 5th century; the Paris Livy (*Ib.*, pl. 31, 32), the Ambrosian Gospels (*Ib.*, pl. 54), and the Paris Augustine (*Ib.*, pl. 42, 43), all of about the 6th century.

³ The projection of the letters *f* and *l* beyond the line begins in the Capital Scripts.

⁴ The characteristic uncial forms **h** **ŋ** **ε** **u** were probably borrowed at some very early period from the old Roman cursive; the

The existence of an early Latin cursive has long been suspected, and is antecedently probable, since for ordinary correspondence the Romans could hardly have employed their lapidary script, which is quite unsuitable for rapid writing. Unfortunately we have no stores of Roman family papers, such as the Egyptian papyri from which the ancient Greek cursive script has been recovered. In some of the graffiti on the walls of Pompeian houses, and in a few of the inscriptions in the catacombs, irregular forms are used;¹ but all these examples seem to have been productions of illiterate persons, and it has been possible to attribute their peculiarities to the ignorance of the writers, or their want of graphic skill. A fortunate discovery made at Pompeii in 1875 has now placed the matter on a different footing, proving that, side by side with the capitals used for inscriptions and books, a cursive character, actually older than the uncial book-hand, (and the source of some of its characteristic forms,) was ordinarily employed by educated Romans for letters and business purposes. This invaluable 'find' consists of 132 wax tablets (*libelli*), carefully

intermediate forms D D show the origin of d , and A seems also to have arisen out of the Capital.

¹ A similar character is employed on some wax tablets, assigned to the 2nd or 3rd century A.D., said to have been discovered about forty years ago in the disused workings of Roman goldmines in Transylvania. Their genuineness has been disputed, but is upheld by the high authority of Wattenbach. The similar Greek tablets purporting to be from the same workings are undoubtedly forgeries.

stored away in a box hidden in a recess over the portico of the house of L. Cæcilius Jucundus, who seems to have been by profession a factor or banker (*argentarius*). The documents consist of his business memoranda for the years 55 and 56 A.D. Some of them are receipts for taxes disbursed on behalf of his clients, but the greater number are notes of payments made by the *argentarius* on the purchasers' account to the vendors of goods sold by auction. The old Roman cursive, the existence and nature of which is thus established, is, as we shall presently see, of immense historical importance in explaining the origin of modern scripts, several of our own minuscule letters being actually traceable to the Pompeian forms.

Although no earlier examples of this script have been discovered, it must have been in use for nearly two centuries before the destruction of Pompeii, for thus only can we explain the statement of Suetonius that Julius Cæsar wrote *d* instead of *a*.¹ A confusion between the capital forms D and A would be impossible, but the cursive characters *ð* and *Δ* might easily become undistinguishable.

The early Roman cursive, which is loose, irregular, scratchy, and difficult to read, was the precursor of the

¹ Suetonius i., 56. Compare what he says of the handwriting of Augustus (ii. 87, 88), and the advice of Quintilian as to the acquirement of the art of rapid writing. The discovery of cursive abecedaria, scratched on tiles, makes it probable that the cursive writing was regularly taught in schools.

more formal hand used in the rescripts of the Roman emperors, of which we have examples in papyrus fragments from Egypt, dating from the 5th century^{A.D.}, and in documents from Italy of the 6th. A good instance is a deed of sale of property in Rimini, dated at Ravenna in 572 A.D.¹ As a book-hand it was probably confined to books written on papyrus, which, with two or three exceptions,² have all perished. It was the ordinary diplomatic hand of Italy and France till about the 9th century, when it was replaced by the Lombardic and Caroline minuscules which were themselves indirectly derived from it at an earlier stage of its history. It partially survived in the Imperial Chancery till the 13th century, when it had become so illegible that its further use was prohibited by the Emperor Frederick II.

The Roman shorthand, usually called *Notæ Tiro-nianæ*, took its name from Cicero's freedman and amanuensis, M. Tullius Tiro, by whom it is said, on somewhat doubtful authority, to have been invented or improved for the purpose of taking down his master's speeches. There is no doubt, however, that the Romans were acquainted with some system of steno-

¹ *Pal. Soc.*, pl. 2 and 28. The forms of the letters in this document are valuable in explaining the origin of mediæval scripts. Thus we find a great resemblance to the modern cursive forms of the letters *c d f h l m n q r u*. The letter *a* is open like *u*, *b* is *b*, and for *s* we have r , which was the parent of the long *f* afterwards so common.

² See p. 176, *infra*.

graphy in the time of Martial. The Tironian notes, as found in manuscripts dating from the 6th to the 11th century, bear considerable resemblance to some modern systems of shorthand, and have been the subject of a copious literature.¹ Cursive forms of the letters, which could be rapidly written, were employed in conjunction with about 500 arbitrary signs. Many of these were conventional abbreviations, such as E. for *equidem*, T. for *tempus*, H. for *homo*, S. for *sæpe*, SC. for *schola*, the rest being stenographic signs for the common prefixes and suffixes, and for words of frequent occurrence. These signs were constructed on a regular system, which rendered them easy to remember, as will be seen by a few examples. Thus we have / *it*, ì *tam*, i *tat*, \ *tatium*, — *tatem*, 7 *tus*, 7 *entis*, 7 *entibus*, v *etur*, l *imus*, v *iis*, v *remus*.

With the establishment of the Teutonic kingdoms on the ruins of the Roman empire a variety of national scripts arose. Hitherto there had been two concurrent scripts, the book-hand and the business hand, the first aiming at being easy to read, the second at being easy to write. This distinction still continued. In the monasteries, where the traditions of the Roman culture survived, the uncial writing was used for books, while charters and other civil documents were written in a character based on the Roman cursive, in combination

¹ See Ruess, *Ueber die Tachygraphie der Römer*. München, 1879. Cf. Wattenbach, *Anleitung*, pp. 7—10.

with a few uncial forms. Out of these elements the Merovingian script arose in Gaul, the Lombardic in Italy, and the Visigothic in Spain. The Merovingian, which is chiefly known from 8th century charters, is difficult to read, the letters being narrow, tall, and interlaced. It never grew into a calligraphic script, its development having been cut short by the Caroline reform. The 'Lombardic' was not confined to the Lombards, but is merely the name given to the mediæval script of Italy. At first it resembles the early Merovingian, and became the source of the singular hand used for Bulls written in the Papal Chancery. Owing probably to the influence of the Irish monks of Bobbio, the Lombardic received a calligraphic development, and becoming assimilated to the Caroline minuscule, was cultivated in the monasteries of La Cava and Monte Casino, reaching its greatest excellence in the 11th century. The Visigothic passed through similar stages, beginning as a rude cursive, and afterwards being transformed into a set minuscule.¹

The Irish, by far the most important of the national scripts, stands on a different footing from the rest, and presents a problem of considerable perplexity. In Spain, Italy, and Gaul, the Roman civilization not having been destroyed by the inroads of the barbarians, the

¹ For examples of the Lombardic, Visigothic and Merovingian, see the numerous references in Wattenbach, *Anleitung z. lat. Pal.* Cf. *Pal. Soc.*, plates 8, 9, 48, 92, 119, 120, 184, 185.

Roman secular hand survived, the Merovingian and other national scripts of the continent being merely continuations of the Roman cursive. But in Ireland, which was never subjected to the civil supremacy of Rome, and in Britain, where the Roman culture was effaced and the Roman municipal organization was uprooted by the Teutonic conquest, the conditions were different. When, in the 6th century, we first make acquaintance with the Irish script, it appears as a beautiful and fully formed book-hand, resembling the uncial scripts of the continent in its regularity and its rounded forms, but differing from them essentially in the structure of many of the letters. It is usually called the Irish uncial or semiuncial, but its connection with the normal uncial script has never been explained.

Its history is obscure. No Irish hand is known out of which it could have arisen. And yet in the 6th century Ireland suddenly becomes the chief school of Western calligraphy, and the so-called Irish uncial blazes forth in full splendour as the most magnificent of all mediæval scripts. Only one conclusion seems possible. Some time in the 5th century a fully formed book-hand must have been introduced by St. Patrick, (432-458 A.D.), doubtless from Gaul, where he received his consecration.¹ And this must have been cultivated as a calligraphic script in the Irish monasteries, which at this time enjoyed comparative immunity from the

¹ See Skene, *Celtic Scotland*, ii., pp. 428 to 431.

ravages of the Teutonic invaders, who in the 5th century desolated Italy, Gaul, and Spain.

Its parentage remains to be investigated. It is usually assumed that it originated in some unknown way out of the ordinary uncial. This hypothesis is inadmissible, the structure of many letters being altogether different. It is plain that the Irish forms of *g b a m* cannot have arisen out of the Roman uncial,¹ and it is the same with *d n r s*, though in these cases the Irish has incorporated duplicate forms from the 6th century uncial in addition to others which are characteristic of the script, and which cannot be of uncial origin.

The solution of the problem seems to be that, under the common name of uncial, two scripts of wholly different origin have been confounded. The Roman uncial was mainly derived from the capitals; the so-called Irish uncial was evolved, probably in the South of France, from the local 5th century cursive, incorporating a few duplicate uncial forms. Thus the resemblance between the two is merely superficial; both are bold and rounded calligraphic book-hands, but in the structure of the letters, which is the essential point, they are wholly different. The evidence for these conclusions, though not copious, seems to be sufficient.

The first link in the chain of proof is a copy of a

¹ Compare the 4th and 7th alphabets on p. 164, which represent contemporary forms of the Roman uncial and the Irish.

treatise against the Arians by St. Hilary, Bishop of Poitiers (353-368 A.D.) The alphabet of this codex, which is now in the archives of St. Peter's at Rome, is decisively of the Irish type, exhibiting nine of the ten Irish test forms.¹ The theory that it was written in Italy under Irish influence is inadmissible, for at p. 288 of the manuscript there is a note in a cursive hand stating that it was collated and revised 'aput Karalis' in the 14th year of Trasamund, King of the Vandals. The Vandal kingdom in Africa lasted from 429 to 534. Trasamund reigned from 496 to 523, and hence the date of the collation must be 509 A.D. Caralis, where the collation took place, is Cagliari in Sardinia, which was annexed to the Vandal kingdom in the year 456. The manuscript is doubtless older than the collation, and may be assigned to the 5th century.² The monastery of Bobbio, from whence the influence of the Irish calligraphic school penetrated into Italy, was only founded by Columbanus in 612 A.D., a full century after the collation of the codex in Sardinia. The chronological and geographical conditions therefore indicate that this manuscript, instead of being due to the influence of Irish monks in Italy, must itself represent

¹ The alphabet is No. 6 on p. 164 (*Pa'æographical Society*, pl. 136). The forms of the letters *a b d f g m p r s t* should be noticed.

² The ravages of the Vandals in Gaul in the early part of the 5th century may perhaps explain the presence of the work of a Gallican Bishop among the Vandals.

the source from which St. Patrick, in the 5th century, obtained the Irish uncial.¹

We have now to seek for the source of the alphabet of the Hilary Codex. This is supplied by fifteen sheets of papyrus,² now in the Bibliothèque Nationale at Paris, containing portions of the letters and homilies of St. Avitus, who was Archbishop of Vienne about 520 A.D. This manuscript, doubtless of the 6th century, is written in a cursive hand, intermediate between the old Roman cursive, as represented by the Ravenna papyrus (p. 170) and the Merovingian, which grew out of it in Gaul. It seems to have been the ecclesiastical cursive of the 6th century, and its nearly unique character may be explained by the fact that, owing to their fragility, manuscripts written on papyrus have mostly perished.³

We can now trace the affiliation of the Irish forms. The 5th alphabet on p. 164 is that of the Avitus

¹ A copy of the Sermons of St. Severianus, ascribed to the 6th century, now in the Ambrosian Library at Milan (*Pal. Soc.*, pl. 161, 162), is written in the same alphabet as the Hilary Codex, and must also represent the Gallican script, which was the parent of the Irish uncial. It has all the Irish test forms, some of which are also found in two 6th century codices written near Lyons, the Codex Bezae and the Codex Claromontanus. But the Hilary Codex affords the most decisive evidence on account of its definite and early date.

² For facsimile, see *Pal. Soc.*, pl. 68.

³ There is another example in a papyrus containing the Latin translation of Josephus by Rufinus, which is now in the Ambrosian Library at Milan. It is assigned to the 7th century. *Pal. Soc.*, pl. 59.

papyrus, the 6th is that of the Hilary Codex, and the 7th is that of the Book of Kells, a manuscript written in Ireland in the 7th century, which is regarded as the typical specimen of the Irish uncial.¹ It will be seen that the cursive writing of Southern Gaul supplies unmistakable prototypes for all the Irish test forms² which, on the other hand, by no process of palæographical evolution can be obtained from the contemporary Roman uncial.³ The peculiar Irish letters are manifestly merely the cursive characters of the Avitus papyrus,⁴

¹ This beautiful Codex, now in Dublin, originally belonged to the monastery of Kells in Meath. Its date is arrived at by comparison with 'St. Cuthbert's Gospels,' now at Durham, which were written by Eadfrith, who was Bishop of Lindisfarne from 698 to 721. (*Pal. Soc.*, pl. 3.) The writing is of the pure Irish type, as is that of 'St. Chad's Gospels' at Lichfield, c. 700 A.D. (*Pal. Soc.*, pl. 20), and the 'Rushworth Gospels' at Oxford, which were written by Mac Regol in Ireland about 800 A.D. Of these codices St. Cuthbert's Gospels are of special palæographic value, since their definite date affords a standard of comparison by which the age of similar manuscripts can be approximately ascertained.

² Notice especially the peculiar flat-headed *g*, the *b* with one loop, the upright *d*, the cursive *n* and *r*, and the long *s*, as well as the important but less decisive forms of *a f h m t*. The duplicate forms of *d n r s*, which are plainly borrowed from the uncial, must be excluded from the comparison.

³ As seen in 'St. Augustine's Gospels,' given in the fourth alphabet on page 164, or in the Venerable Bede's copy of the Acts, now in the Bodleian, which was written in Sardinia in the 7th century.

⁴ Nearly the same forms are found in the Ravenna papyrus of 572 A.D. (p. 170), and some of them, such as *d*, *r* and *f*, can even be traced back to the Pompeian wax tablets (p. 169).

regularized and reduced to a calligraphic book-hand of uncial style. The Roman uncials are rounded capitals; the Irish uncials are uncialized cursives. The first are the result of deformation, the second of reformation.

The great length at which the origin of the Irish uncial has been discussed must be justified not only on account of the obscurity of its history, but because of the profound influence which it exercised on the later alphabets of Europe. About the beginning of the 7th century the Irish monks founded monasteries in Germany, Switzerland, Gaul, and Italy, and their style of ornamentation,¹ and their unmistakable alphabet,² may henceforth be traced throughout the calligraphic schools of the continent.

¹ Many of the great Irish codices, such as the 'Book of Kells,' or the so-called 'Missal of St. Columba,' are beautifully ornamented in colours, and exhibit fantastic and intricate initials, often of a highly artistic character.

² Another Irish script, the Ogham, derived indirectly from the Runes, will be presently described. The alphabet now used in Irish printed books is an angular cursive minuscule, evolved out of the Irish uncial, or semi-uncial, as it is often called. The term semi-uncial or half-uncial, frequently applied to the mediæval Irish script, has been defined as "an uncial character with minuscule forms." These 'minuscule' forms being really of cursive origin, the term semi-uncial involves the mistaken notion that the minuscule arose out of the uncial and not out of the cursive. Such a misleading term should therefore be used with caution. 'Roman uncial' and 'Irish uncial' are names less likely to lead to error than 'uncial' and 'semi-uncial.'

The Anglo Saxons acquired the art of writing partly from the Roman Missionaries and partly from the Irish. Hence the Anglo-Saxon script exhibits a combination of the two great calligraphic schools, the Irish and the Roman. One style originally prevailed in Wessex and Kent, the other in Mercia and Northumberland. Of the Southern school an early example is 'St. Augustine's Psalter,' now in the British Museum,¹ which is proved by the style of ornament to have been written in England, but in an alphabet almost identical with that of 'St. Augustine's Gospels' at Cambridge, which were undoubtedly written on the continent.² To the Northern or Irish school we may refer 'St. Cuthbert's Gospels' at Durham, or 'St. Chad's Gospels' at Lichfield.³

The Anglo-Saxon, like the Irish, gradually developed into a minuscule, incorporating the Runes *wen* p (*w*) and *thorn* p (*th*), the latter of which maintains a struggling existence, being still used by old-fashioned persons, who write *y*^o for 'the,' little thinking, probably, that they are employing the survival of a Scandinavian rune which the Goths, before they left their early home on the Baltic, had obtained from the Greek colonies on the Euxine, centuries before the commencement of the Christian era. It proves ultimately to be derived from the Greek *delta*, which, after making the round of Europe by the Northern seas, rejoined in England the

¹ *Pal. Soc.*, pl. 18.

² *Ib.*, pl. 33.

³ See p. 177, note.

other letters of the Greek alphabet, which had come by the Mediterranean route.

The Icelandic, in which the Sagas have been conserved, was derived from the Northumbrian or Irish alphabet, from which it does not greatly differ.

The chief importance, however, of the northern type of the Anglo-Saxon script arises from its having been the precursor of the Caroline minuscule, and therefore the parent of the so-called Roman alphabet in which our books are printed. The Caroline reform, the last important stage in the evolution of our alphabet, has now to be described.

In the West, as in the East, the 9th century is marked by a new graphic departure. In the East it was a consequence of the literary reaction which followed the age of the Iconoclasts; in the West it was due to the cosmopolitan culture introduced with the Carolingian empire. The reform of the Western scripts, which had been for some time impending, was accelerated by the foundation in the Abbey of St. Martin at Tours (796 to 809 A.D.) of the celebrated school established by Alcuin of York, the friend and preceptor of Charlemagne. Alcuin's literary eminence, his Northumbrian training, his residence in Italy, and his position at the Court of Charlemagne, had made him acquainted with the traditions of the best calligraphic schools of Europe, and gave him the influence necessary for securing the adoption of his reforms. The new script, though obtained mainly from the rounded English book-hand

of the 8th century¹ with which Alcuin must have been familiar during his earlier years at York, incorporated elements derived from the Lombardic minuscule, the Roman uncial, and possibly from the Merovingian cursive. Owing to its manifold excellencies, such as the rapidity with which it could be written, the ease with which it could be read, and economy of parchment, the Caroline minuscule,² as it is usually called, grew rapidly in favour, and, being diffused by Alcuin's pupils over Europe, displaced the older majuscule scripts—the monastic uncials, as well as the secular cursives. About the end of the 11th century or the beginning of the 12th it reached its greatest perfection. Before the close of the 12th century deformation had set in—the letters are formed with less care, the ink deteriorates in quality, and the strokes grow thicker. In the 13th century the writing becomes more angular,³ developing, in the 14th century, into the cross-barred (*gitterformig*)

¹ Seen in the Winchester Prayers (*Pal. Soc.*, pl. 163), or in the Commentary on the Psalms by Cassiodorus, now at Durham, a book which tradition states to have been penned by the hand of the Venerable Bede himself. (*Pal. Soc.*, pl. 164.)

² The eighth alphabet on p. 164 is from a very early example of the Caroline minuscule. This is a copy of the Retractations of St. Augustine, written in the abbey of St. Bertin at St. Omer during the abbacy of Nantharius II., 804 to 820 (*Pal. Soc.*, pl. 45). Compare the Psalter given by Louis le Debonnaire in 825 to the abbey of St. Hubert in the Ardennes (*Pal. Soc.*, pl. 69).

³ As in the ninth alphabet on p. 164, which is taken from the Bible written for Robert, Abbot of St. Augustine's at Canterbury, 1252 to 1252 A.D. (*Pal. Soc.*, pl. 73, 74).

script which goes by the name of Black letter, or Gothic.¹ This became so coarse and illegible, that with the revival of learning and better taste in the 15th century it was generally abandoned by the Italian scholars, who returned to the beautiful minuscule of the 11th century.

The reform had not extended to Germany, when, in the middle of the 15th century, the art of printing with moveable types² was discovered by Gutenberg of Mainz. The first printers being Germans, they naturally imitated the Black letter of the monkish missals then locally in fashion, and these barbarous forms—such is the power of that most conservative of institu-

¹ The development of the Black letter can be traced in the series of fourteen dated examples, from 1176 to 1445, published by the Palæographical Society (plates 37, 73, 196 to 200, 75, 221 to 226).

² In the 14th century engraved wooden blocks were used to print playing cards and sacred pictures. The next step was to engrave a few words below the picture, as in the case of the St. Christopher, with two lines of legend, dated in 1423. The revolution effected by Gutenberg consisted not so much in his discovery of the printing press as in his subsequent invention of moveable types, which were first cut in intaglio, and then cast in metal from the wooden matrix. Without these types his enterprise of printing the great folio Bible, completed in 1455, would have been impracticable. Moveable types have, however, been repeatedly invented. They were probably used for Babylonian and Assyrian seals, and were undoubtedly employed long before the Christian era by the potters of Thasos, as is proved by the occasional inversion of letters in the potters' marks. They were again invented in China in the 10th century A.D., and were also used about the same time for stamping the legends on the coins of Tibet.

tions, a printing office—are still essentially retained in German books.

When the art of printing was carried south of the Alps by the German monks of Subiaco they took with them their Black-letter types, but soon found it desirable to conform to the requirements of the Italian book-market by an imitation of the finer forms of the older minuscule which had come into fashion among the Italian scribes. The Lactantius printed at Subiaco in 1465, for which the types were cut by Sweinheim, is the first book in which an approach to the rounded Roman forms is seen.¹ Two years later, in 1467, Sweinheim printed at Rome, with greatly improved types, the Epistles of Cicero. In 1470 these Roman types, as they were called from the place where they were first adopted, were brought to Paris and used at the Sorbonne for the first book printed in France.

The earliest English books were printed with Black-letter types brought by Caxton from Bruges (1471 to 1477), and it was not till fifty years after their introduction into France that 'Roman' types, probably brought from Paris by Pynson, were used in London. It is interesting to note that the first book printed in

¹ Aldus Manutius, in his Virgil printed at Venice in 1501, introduced the semi-cursive type which from him has received the name of 'Aldine,' and was the precursor of the 'Italic' type now used by printers. The original fount of 'Aldine' type is said to have been cut by Francesco da Bologna, better known as Francia, in imitation of the beautiful Italian hand of Petrarch.

England with the Roman letter was the Treatise by Henry VIII., on account of which the Pope bestowed on him the title of Defender of the Faith, still retained by English sovereigns on their coins. It was probably in deference to the Italian taste that Roman types were obtained for a book intended as a compliment to the Pope. The fashion thus set by the King prevailed, the Black letter which had established itself in English printing offices giving place to the Roman character. We may well be thankful for this fortunate accident, but for which, in the typographic demarcation which henceforth divided Europe, England might have finally cast in her lot with the other Teutonic lands, Germany, Holland, and Denmark, which still adhere to the Black letter, instead, as is happily the case, with the Latin races, French, Spanish, and Italian.

The manifold advantages of the Roman type become manifest if we compare it with the improved Black letter still used in Germany, which is not only less beautiful and less compact, but much more ambiguous and more fatiguing to the eyes.¹ The superiority of the Roman forms will at once be recognized if we compare the perplexing similarity of the German capitals **C E G S** with the distinctness of their Roman equivalents **C E G S**; or again, if we compare **B V** with **B V**; **I F** with **I F**; or, among the

¹ The frequency of the use of spectacles among young men in Germany, as compared with England, France, or Italy, is believed to be due in great part to the more trying nature of German type.

minuscules, *r* *x* with *r* *x*, *f* *f* with *s* *f*, *h* *h* with *h* *y*, *d* *a* *o* *c* *e* with *d* *a* *o* *c* *e*, or *i* *t* *t* with *i* *t* *l*.

The tenacity with which the Teutonic nations on the one hand, and the Latin races on the other, have adhered to those forms of the letters which chanced to be adopted in the first printed books, illustrates one of the chief results of the invention of printing. The introduction of cast metal types, by arresting the ceaseless process of alphabetic evolution, has proved to be the most important event in the History of the Alphabet. The tendency has been and is towards the establishment of a single stable and uniform alphabet among all civilized nations. What this alphabet will be there can be little doubt. In England, France, Spain, Italy, America, and Australia, all other alphabets have been replaced by the 11th century minuscule, which, as a book-hand, has probably never been surpassed, and which, in spite of a few imperfections,¹

¹ Proposals for the improvement of our alphabet have frequently been brought forward, but it may be doubted whether they have any great chances of success. The fact that a single alphabet prevails over such vast regions, the practical conveniences of such uniformity, the difficulty of effecting any change, the immense literature which it conserves, the enormous capital invested in printer's type, the substantial excellence of our present alphabet, and the small amount of actual inconvenience occasioned by its defects, may well lead us to question the desirability as well as the practicability of attempting any improvement. It cannot be denied that such an alphabet as the Phonotype, proposed by Mr. Pitman, has some theoretic advantages over our present alphabet, but it may be doubted whether the difficulties and inconveniences attending a substitution, allowing it

theoretical rather than practical, is likely to remain the alphabet of the future, and to extend its sway among those nations which have not yet adopted it. The Roman alphabet is constantly extending its range; books in Asiatic languages are now not unfrequently printed in Roman type, it is increasingly used for the barbarous languages of Africa, it may very possibly be adopted in Japan, the Germans are year by year replacing their Black letter by the superior Roman forms, and their adoption in Russia is probably only a question of time.

The evolution of our modern minuscule forms is amply discussed in Wattenbach's *Anleitung*, so that a mere summary of results may here suffice.

From the Table on p. 164 it will be seen that the letters b d f h l m n r are the old Roman cur-

to be practicable, do not outweigh any possible gains. For the blind, however, Mr. Moon's embossed alphabet, with its ingeniously simplified forms of the letters, leaves little to be desired. Of the scientific alphabets, which are absolutely required for the study of dialects, and for the exact representation of the sounds of barbarous languages, the 'Standard Alphabet' invented by Professor Lepsius taxes too severely the resources of printers, an objection which does not apply to the 'Palæotype' and 'Glossic' of Mr. Ellis, which are more convenient than Professor Max Müller's 'Missionary Alphabet,' and easier to learn as well as more complete than the 'Romic' of Mr. Sweet. Prince L. L. Bonaparte has catalogued 385 possible sounds, some however actually occurring in no known language, which would have to be represented by separate symbols in a complete scientific alphabet. On the merits of scientific alphabets, see Sayce, *Science of Language*, vol. i., p. 329.

sives, transmitted from Gaul to Ireland in the 5th century, thence to England in the 7th, and adopted into the Caroline minuscule in the 9th.

Of these letters none have undergone more complete transformation than *d* and *r*, the loop of *D* having been transferred to the other side of the vertical stroke, while the loop and tail of *R* have undergone almost complete atrophy.¹

In the long *s*, (*f*) which is a very ancient cursive form, the tick to the left is a survival of the lower curve of *S*, as is shown by the transition forms *ʀ* and *ʁ*. The capital form *S* reappears as a variant in the Irish uncial, but *f* is almost universal in the early Caroline minuscule. In the 10th century *S* begins to creep into use as a final form, and in the 12th gradually becomes more common. The first French printed book (1470) has only *f*, the second (1471) has *S* final. The long *f*, probably on account of its inconvenient resemblance to *f*, has disappeared from printed books, lingering, however, in the ancient ligature *ft*. The modern cursive *s* arose out of the Black letter *ſ*. The German character *ß* and the common manuscript ligature *fs* combine both forms.

The characters *c e o p q u* are common both to the

¹ The stages of the process can easily be traced. In the Herculanum rolls we find the form *D*, from this we easily get *d*, which passed from the Pompeian cursive into the 3rd century Roman uncial, and affords an easy transition to the 5th century cursive form *d*. In like manner *r* came through *ʀ* and *R* from *R*.

uncial and cursive scripts, while v x z are comparatively late reintroductions of capital forms. In the earlier minuscule we find z, which, to avoid confusion with ʒ, a rounded form of r called *r rotunda*, gave place to ʒ or ʒ̄, a form surviving in the *cedilla* (ç) which is a 'little *zed*,' as the name implies.¹

The forms of most recent origin are a g k t y w i j. The minuscule a was at first ɑ or ʌ, but as early as the 10th century the top was bent round, a, in order to avoid confusion with d, the curve being prolonged in the Black letter ʌ so as to form a complete loop.

Similarly, in the case of g, the lower loop of the Irish ʒ was completed, giving the Anglo-Saxon ʒ̄, and then in the Lombardic and Caroline minuscule the flat bar, a vestige of which survives in the little crook at the top of the Roman g and the Black letter ʒ, was curved downwards so as to form a second loop.

The original minuscule form of t was τ, which is retained in French and Italian handwritings. The blotted t̄ of modern printed books is a very curious survival, proving that the letter was not crossed after being formed as in the Italic t, but that as in the case of its prototype τ the horizontal bar was made first, and the vertical stroke then formed without the pen being taken off the paper. The head of the letter does not appear above the cross-bar before the early

¹ Cf. the Italian *zediglia*, from the diminutive *zeticula*.

Black letter of the 12th century,¹ the new form being apparently suggested by the Caroline ligature *ft*.

The letter *y* is late, dating only from the 12th century, and so is *k*, which seems to be a form of Lombardic origin.

For *w* the Anglo-Saxons used the *wen* rune, *ƿ*, which was at first replaced by *vu*. In the 11th century we find *uu* as well as *vv*, which was afterwards written *W* or *w*, showing that it was originally not a letter, but a mere ligature, like *ff æ ſh ft fl*.

The specialization of *v* and *u*, and of *j* and *i*, to denote the consonantal and vocalic sounds, has already been mentioned by anticipation in order to explain the formation of the new letters in the Greek Alphabet (p. 72). Originally *v* was the capital form, and *u* the uncial and cursive. In the 10th century minuscule we find the capital form used by preference as the initial, and *u* as the medial. The consonant being more common at the beginning of Latin words, and the vowel in the middle, the initial form seems to have been gradually appropriated as the symbol of the consonant, and the medial form as that of the vowel. Similarly, in the 15th century, the forms *j* and *i*, which were originally only initial and medial forms of the same letter, became specialized to denote the consonant and the vowel. The dot over the *j* is a curious survival. It is now useless as a diacritical mark, which it originally was,

¹ The earliest instance of *t* which I have been able to find is in the Rule of St. Benet, written at Nîmes in 1129.

but remains as a witness not only that *j* was obtained from *i* by differentiation, but also that the practice of dotting the *i* is older than the evolution of *j*.

The form *i* is old, but the dot is late¹ and only came gradually into use. As early as the 11th century *i* was conveniently distinguished by an accent² when doubled, or in juxtaposition with *u*. Thus we have *íí* *uí* and *íu*. In the 12th century the accent is occasionally added when *i* is combined with other letters, especially with *m* and *n*, but it only became universal when the invention of printing made it inconvenient to retain both forms. Thus in the earliest specimen of French typography (1470) we have *id* without the accent, which is used for the first *i* of *níhí* because it comes next to *n*. In the 14th century the accent over the *i* begins to change into a dot, the earliest occurrence of *í* instead of *í* being in a manuscript dated in 1327.

The differences in the handwriting of European nations date from a remote period. The forms of the modern German cursive go back to those of the Imperial Chancery, which were based on the Merovingian cursive. Our English script is based on the Court-hand

¹ As is proved by the fact that the capital *I*, a more archaic form, has no dot.

² The *comma* (,) originally a hair-line, as the name implies, arose out of *l*, the mark of a pause. The full stop, originally called the *colon*, was (·), which, united with the comma, gave the semi-colon (;). A moderate pause was originally denoted by (.), which, united with (·), gave our modern colon (:).

which arose out of the degraded Caroline minuscule, greatly influenced, however, by the Italian fashions which prevailed in the Elizabethan age. It has been modified, as is easy to see, by the use of ligatures, which explain the growth of such forms as *b p g f* out of *b p g f*, the tendency being to form tails to the right, just as in Semitic scripts they are formed to the left.¹

§ 5. COPTIC.

Having traced the history of the various Western alphabets which were derived from the Latin, we have now, in like manner, to investigate the origin of the national Eastern alphabets which arose out of the Greek scripts, uncial and cursive.

Among the causes which determined the distribution of mediæval alphabets were the partition of the Empire into two dominions, Eastern and Western; the schisms which divided the Church into three great communions, Catholic, Orthodox, and Jacobite; and the missionary zeal which carried the Latin alphabet to Poland, the Syriac to Tartary, and the Greek to Russia.

Of the national alphabets which arose out of the Greek uncial, the Coptic is the earliest in date. It is the vehicle of the Coptic language, which though no longer vernacular, is still in liturgical use among the

¹ See vol. i., pp. 262, 266, 289.

Copts, who are the remnant of the Egyptian Church. They are less than 150,000 in number, and possess about 130 churches or monasteries. They have not only retained their original alphabet and liturgies, but preserve a most ancient ritual, and a very primitive arrangement of their churches. The Coptic language is the speech of ancient Egypt corrupted with Semitic and Greek idioms. It probably represents the Egyptian vernacular of the Roman period. It began to give place to Arabic in the 9th century, maintaining a struggling existence till the 17th.¹ It is now little if at all understood even by the priests, who have to use it in the services of the Church. The Service books, which are mostly in manuscript, are written in Coptic, with Arabic rubrics. The printed books usually have the Coptic prayers on the one side with an Arabic translation on the other. Coptic is used exclusively for that part of the ritual which is conducted within the Sanctuary, other portions of the Service being read first in Coptic and afterwards in Arabic.

This retention of the ancient language, script and ritual, was due not only to the Oriental dislike of change, and to the conservatism inherited by the Copts from their lineal ancestors, the old Egyptians, but in no small degree to their adherence to the Monophysite heresy, which practically denied the human nature of our Lord. At the Council of Chalcedon, in 451, the

¹ An old man who spoke Coptic died as lately as 1633.

Coptic patriarch and six of his bishops took part with Eutychus, and in the following century the Copts finally cast in their lot with the Jacobites, and were thus cut off from communion with the Byzantine Church. Owing to this isolation the Coptic alphabet preserves almost unchanged the type which was in use at the time of the schism. On the conversion of Egypt to Christianity, the Demotic script was supplanted for ecclesiastical use by the Greek uncial, as for secular purposes it had already been by the Greek cursive, six or seven letters being borrowed from the Demotic in order to express Coptic sounds not found in Greek. Hence the Coptic retains the forms of the Alexandrian uncial of the 4th or 5th century.

The Service books used in the Coptic churches are seldom older than the 16th century, but there are a few which are believed to date from the 5th or 6th. One of the oldest, which is now in the Vatican Library at Rome, contains a portion of the Gospel of St. John, with the Coptic and Greek versions in parallel columns. With the exception of the Demotic characters the forms of the letters in the Coptic version are exactly the same as the square uncials in the Greek text.¹



















In the accompanying table the Coptic alphabet, as used in modern printed books, is given side by side

¹ Silvestre, *Pal. Universelle*, pl. 2, no. 2, and Madden's text, vol. i., p. 125. Silvestre's plate also contains a selection of Coptic texts ranging from the 5th to the 10th century, showing the development of the script. Cf. Montfaucon, *Pai. Gr.* p. 312.

THE COPTIC ALPHABET.

	Names.	Values.	COPTIC.	GREEK UNCIALS.		Names.	Values.	COPTIC.	GREEK UNCIALS.
1	Alpha	<i>a</i>	Ⲁ ⲁ	Α	17	Pi	<i>p, b</i>	Ⲡ ⲡ	Π
2	Vida	<i>b, v</i>	Ⲃ ⲃ	Β	18	Ro	<i>r</i>	Ⲅ ⲅ	Ρ
3	Gamma	<i>g</i>	Ⲇ ⲇ	Γ	19	Sima	<i>s</i>	Ⲉ ⲉ	Σ
4	Dalda	<i>d</i>	Ⲋ ⲋ	Δ	20	Tau	<i>t, d</i>	Ⲍ ⲍ	Τ
5	Ei	<i>e</i>	Ⲏ ⲏ	Ε	21	He	<i>ü</i>	Ⲑ ⲑ	Υ
6	So	<i>o</i>	Ⲓ ⲓ	Ϟ	22	Phi	<i>ph</i>	Ⲕ ⲕ	Φ
7	Zita	<i>dz</i>	ⲗ Ⲙ	Ζ	23	Khi	<i>kh</i>	Ⲙ ⲙ	Χ
8	Ita	<i>e, ī</i>	Ⲟ ⲟ	Η	24	Psi	<i>ps</i>	Ⲝ ⲝ	Ψ
9	Thita	<i>th</i>	Ⲡ ⲡ	Θ	25	Au	<i>ū, ō</i>	Ⲟ ⲟ	Ω
10	Jauta	<i>i</i>	Ⲣ ⲣ	Ι	26	Shei	<i>sh</i>	Ⲡ ⲡ	Ϡ
11	Kapa	<i>k</i>	Ⲥ ⲥ	Κ	27	Fei	<i>f</i>	Ⲧ ⲧ	Ϙ
12	Laula	<i>l</i>	Ⲋ ⲋ	Λ	28	Chei	<i>ch</i>	Ⲉ ⲉ	ϙ
13	Mi	<i>m</i>	Ⲏ ⲏ	Μ	29	Hori	<i>h</i>	Ⲓ ⲓ	ϛ
14	Ni	<i>n</i>	Ⲟ ⲟ	Ν	30	Janjia	<i>j, g, dzh</i>	Ⲙ ⲙ	Ϝ
15	Ksi	<i>ks</i>	ⲗ Ⲙ	Ξ	31	Tshima	<i>tsh</i>	ⲛ Ⲝ	ϝ
16	O	<i>o</i>	Ⲓ ⲓ	Ο	32	Ti	<i>ti</i>	Ⲟ ⲟ	Ϟ

AFFILIATION OF THE DEMOTIC CHARACTERS IN COPTIC.

Names.	Values.	Hieroglyphic.	Hieratic.	Demotic.	Coptic.	Names.	Values.	Hieroglyphic.	Hieratic.	Demotic.	Coptic.
Shei	<i>sh</i>				Ϡ	Hori	<i>h</i>				ϛ
Fei	<i>f</i>				Ϙ	Janjia	<i>j</i>				Ϝ
Chei	<i>ch</i>				ϙ	Tshima	<i>tsh</i>				ϝ

with the alphabet of the Codex Alexandrinus, which may be taken as the type of the Greek uncial used in Egypt in the 5th century. It will be seen that the divergences are very trifling.¹ The affiliation of the characters borrowed from the Demotic is given below, as determined by Brugsch.

§ 6. THE SLAVONIC ALPHABETS.

The Russian alphabet, being the official script of an empire which includes a seventh part of the habitable globe, ranks in its territorial extension with the Latin and the Arabic. In the reign of Peter the Great the old Russian alphabet was reformed by Elias Kopievitch : of the original 48 letters, 14 were discarded as unnecessary, the forms of several characters were modified, and one new letter was introduced.

The primitive Russian alphabet is seen in a manuscript written in 1056 for Ostromir, Prince of Novgorod, and in an inscription at Kiev assigned to the year 996 A.D.² This differs little from the ecclesiastical Slavonic, commonly called the Cyrillic, which was invented in the reigns of the Greek Emperor Michael, and of Boris, Prince of Bulgaria (855—863 A.D.), by the apostles of the Northern Slaves, Cyril and Methodius,

¹ The Greek letters γ , δ , θ , χ , ψ , which were not required to express Coptic sounds, are used to transliterate Greek words, and are retained, together with *vau*, as numerals.

² See Madden's *Silvestre*, vol. ii., pp. 780, seq.

THE SLAVONIC ALPHABETS.

Names.	Values.	Glagolitic.	Cyrillic.	Wallachian Ruthenian.	Russian.	Names.	Values.	Glagolitic.	Cyrillic.	Wallachian Ruthenian.	Russian.
Az	<i>a</i>	Ɑ Ɱ	А	Ɑ	А а	Uk	<i>u</i>	Ɱ Ɐ	У у	Ɱ Ɐ	У у
Buki	<i>b</i>	Ɒ	Б	Ɒ	Б б	Fert	<i>f</i>	Ɒ ⱱ	Ф ф	Ɒ ⱱ	Ф ф
Vedi	<i>v</i>	Ⱳ	В	Ⱳ	В в	Kher	<i>χ</i>	Ⱳ ⱳ	Х х	Ⱳ ⱳ	Х х
Glagol	<i>g</i>	ⱴ Ⱶ	Г	ⱴ	Г г	O	<i>ō</i>	ⱴ	Г	ⱴ	
Dobro	<i>d</i>	ⱶ	Д	ⱶ	Д д	Sha	<i>sh, s</i>	ⱶ	Ш ш	ⱶ	Ш ш
Est	<i>e</i>	ⱸ ⱹ	Е	ⱸ	Е е	Shta	<i>sht, 'st</i>	ⱸ	Ш ш	ⱸ	Ш ш
Zhivête	<i>zh</i>	ⱺ	Ж	ⱺ	Ж ж	Tsi	<i>ts</i>	ⱺ	Ц ц	ⱺ	Ц ц
Zelo	<i>dz</i>	ⱼ	С	ⱼ		Tsherv	<i>tsh, ě</i>	ⱼ	Ч ч	ⱼ	Ч ч
Zemlya	<i>z</i>	ⱼ	З	ⱼ	З з	Djerv	<i>dj</i>	ⱼ	Ж ж	ⱼ	
Izhe	<i>é, i</i>	ⱼ	И	ⱼ	И и	Yet	<i>ye</i>	ⱼ	К к	ⱼ	К к
I	<i>i, y</i>	ⱼ	І	ⱼ	І і	Yu	<i>yu</i>	ⱼ	Ю ю	ⱼ	Ю ю
Kako	<i>k</i>	ⱼ	К	ⱼ	К к	Yer	<i>o e</i>	ⱼ	К к	ⱼ	К к
Lyudi	<i>l</i>	ⱼ	Л	ⱼ	Л л	Yery	<i>y</i>	ⱼ	Л л	ⱼ	Л л
Muislite	<i>m</i>	ⱼ	М	ⱼ	М м	Yerek	<i>e i</i>	ⱼ	Б б	ⱼ	Б б
Nash	<i>n</i>	ⱼ	Н	ⱼ	Н н	Es	<i>eng</i>	ⱼ	А а	ⱼ	А а
On	<i>o</i>	ⱼ	О	ⱼ	О о	Yes	<i>yeng</i>	ⱼ	А а	ⱼ	А а
Pokoy	<i>p</i>	ⱼ	П	ⱼ	П п	As	<i>ong</i>	ⱼ	К к	ⱼ	К к
Reei	<i>r</i>	ⱼ	Р	ⱼ	Р р	Yas	<i>yong</i>	ⱼ	К к	ⱼ	К к
Slovo	<i>s</i>	ⱼ	С	ⱼ	С с	Thita	<i>θ</i>	ⱼ	А а	ⱼ	А а
Tverdo	<i>t</i>	ⱼ	Т	ⱼ	Т т	Yzica	<i>ü</i>	ⱼ	В в	ⱼ	В в

for the use of the heathen Moravians and Bulgarians, and employed for Cyril's translation of the Psalms and Gospels into the old Bulgarian language.¹

Cyril's original alphabet consisted of 38 letters, afterwards increased to 48. Of these, 24 are identical with the ordinary Greek uncials of the 8th or 9th century.² But the resources of the Greek alphabet being insufficient to express the numerous vowels, sibilants, and nasals of the Slavonic languages, additional characters were required.³ Some of these were ob-

¹ The tradition as to the origin of the Cyrillic alphabet is related by Khrabre, a Bulgarian monk, who tells us that he knew persons who had known Cyril and Methodius. Khrabre's account, which is preserved in the work of John, Exarch of Bulgaria, (890 to 922) is as follows: "Formerly," he says, "the Slavonians had no books, but they read and made divinations by means of pictures and figures cut [on wood] being pagans. After they had received baptism they were compelled, without any proper rules, to write their Slavonic tongue by means of Greek and Latin letters. But how could they write well in Greek letters [such words as] Bog, Zhivot, Zelo, or Tserkov . . . and others like these. And so many years passed by. But then God, loving the human race, had pity upon the Slavonians, and sent them St. Constantine the Philosopher, called Cyril, a just and true man, who made for them an alphabet of thirty-eight letters, of which some were after the Greek style, and some after the Slavonic language."

² Compare col. iii. on p. 154 with col. ii. on p. 196; or the 8th century Greek uncials given by Sabas in his *Specimena Palaeographica*, plate 5, with the oldest Cyrillic forms in plate 7.

³ The letters Ѡ ѡ are called the preiotized vowels; ѣ and ѥ originally expressed the neutral vowel. In Russian they are written but not pronounced, ѣ hardening the preceding letter and

tained by differentiation, ⱱ *b* and Ⱳ *v*, for instance, being modifications of the uncial *beta*; some again, such as ѱ *yu*, or ѱ̄ *ya*, are mere ligatures; but, in addition to those which can be thus explained, there are a number of strange symbols, such as ѿ *sh*, ѿ̄ *sht*, ѿ̇ *ts*, ѿ̈ *tsh*, ѿ̉ *zh*, ѿ̊ *ye*, ѿ̋ *eng*, whose origin has been the cause of much speculation. Mr. Peile, the latest writer on the subject, considers that some of these characters were arbitrary inventions of Cyril, who "had recourse to the inartistic expedient of using two or three upright strokes, with small modifiers below."¹ This explanation and reproach cannot be admitted, since these mysterious characters are indubitably related to the corresponding letters in an older Slavonic alphabet, variously called the Glagolitic, Azbukvitza, Bukvitza, or Hieronymian,² which

softening it. The letter ⱱ is the French *j* in *jamais*, ѿ̄ the English *ch* in *Church*, ѿ̇ is a very hard sibilant, *schtsch*. The sounds of ѿ̇ and ѿ̈ are indistinguishable, as are those of their prototypes η and ε in Modern Greek. The fact that *b* and *v* were expressed only by differentiated symbols, shows that in Cyril's time *beta* had already acquired the sound of *v*, which it has in Modern Greek. The letters *Es* and *As*, pronounced *eng* and *ong*, are the nasalized vowels *e* and *o*. The primitive powers of the Slavonic letters are exhaustively discussed by Miklosich in his *Altslovenische Lautlehre* (Vienna, 1878), to which the reader may be referred. Cf. Schleicher, *Formenlehre der Kirchensl. Sprache* (1852); Chodzko, *Grammaire Paléo-slave* (1869).

¹ *Encyclopædia Britannica*, 9th ed., vol. i., p. 614 (1875).

² Glagolitic (*glagolski*, 'literary') is an adjective derived from *glagoli*, 'words', 'letters.' The name Azbukvitza, or *Azbukividarium*, is formed, like the words *alphabet* and *abecedarium*, from the names of the letters which stand first. The designation 'Hieronymian' embodies

was probably in use among the Croats as early as the 7th century,² even dating, according to the Slavonic tradition, from the 4th. The Glagolitic was the liturgical alphabet of the Slovenians, Illyrians, Croats, and the other western Slaves who acknowledged the Roman obedience, just as the Cyrillic became

the dubious tradition of the invention of this alphabet in the 4th century by St. Jerome, who was by birth a Dalmatian. See note on p. 205.

² The most ancient Glagolitic codices are probably not older than the 10th century, most of them being considerably later. There are two Glagolitic missals, assigned to the 14th century, in the Bodleian. The oldest known codex is a manuscript belonging to Count Cloz, of Trent, which contains a Slavonic version of some of the sermons of St. Chrysostom. It has been published by Kopitar, *Glagolita Clozianus* (1836) and is assigned to the 11th or possibly to the 10th century. As early as 1483 a Glagolitic missal was printed, probably at Venice. To one of the few Glagolitic MSS. which have reached the West, a curious bibliographical romance attaches. In the communal library at Rheims is treasured a venerable volume called the *Texte du Sacre*, on which the French kings took the coronation oath by touching the Gospels. The book consists of forty-seven leaves, bound in oak boards covered with red leather, formerly studded with gems and relics. It originally came from Constantinople, and was at one time in the possession of the Emperor Charles IV., king of Bohemia, and seems to have been given to Nôtre Dame of Rheims by Cardinal de Lorraine in 1574. The nature of the writing was unknown, being variously conjectured to be Greek, Syriac, 'Oriental,' or Indian. In 1717 it was shown to the Czar Peter and his suite on their visit to Rheims, and was then recognised to be a Slavonic Evangelistarium, the first portion being in Cyrillic characters and the remainder in Glagolitic. See Silvestre, *Pal. Univ.*, plates 331, 332, and text.

the script of the northern races—Ruthenians, Russians, Bulgarians, and Servians—who adhered to the Orthodox communion.

The relation of the two Slavonic scripts is shown not only by the incorporation of Glagolitic characters in the Cyrillic, but by the identity of the letter names,¹ which are mostly significant Slavonic words,² evidently selected on the familiar acrologic principle—some, possibly, on account of a fancied pictorial appropriateness.

The fortunes of the two alphabets have been widely different. The Cyrillic has become one of the three great dominant alphabets of the world, while its precursor, the Glagolitic, at first only the liturgical script of the western Slaves, has been supplanted by the Latin alphabet, and is now little more than a literary curiosity. Such interest as it still possesses is due to its having been one of the sources from which the Russian alphabet was obtained, and to the singular mystery in which its origin is shrouded.

The most diverse theories have been put forward as to the source of this queer and anomalous script. It has been derived from the Hebrew, the Armenian, the

¹ A few letters, mostly excluded from the Table, bear Greek names, such as *kxi*, *psi*, and *thita*. They do not seem to have existed in the original Glagolitic alphabet. This is an indication that the Cyrillic names were borrowed from the Glagolitic.

² As *buki*, 'a beech-tree;' *vedi*, 'meadow;' *zemlya*, 'land;' *lyudi*, 'people;' *zhivete*, 'life;' *slovo*, 'speech.'

Coptic, the Oscan, and the Latin. It has been argued, on the one hand, that it was a corruption of the Cyrillic, dating only from the 13th century, and on the other that it was obtained direct from Phœnician traders at some immensely remote period. Slavonic tradition assigns its invention to St. Jerome, while a more recent theory, which has been adopted by such eminent scholars as Jacob Grimm, Srezniewski, Chodzko, and Lenormant, makes it an adaptation or survival of the "Slavonic Runes,"¹ the existence of which is however entirely hypothetical, the only examples which have been produced being, as Professors Jagić and Nehring have conclusively proved, nothing but clumsy modern forgeries.²

Three years ago I ventured to suggest³ a solution of the problem, which having met with general acceptance among Slavonic scholars, may here be reproduced.

The antecedent probabilities are in favour of a Greek origin for the Glagolitic script. The meagre historical evidence which we possess points to this solution. From the nearly contemporary account of the monk

¹ A few of the Glagolitic letter names may possibly be related to the Rune names. Thus for corresponding letters we have

Runic names: as is wen ger sail rais

Glagolitic names: az izhe on kher zelo reci.

² Jagić, *Zur Slavischen Runenfrage*. (*Archiv für slavische Philologie*, vols. ii. and v.)

³ Taylor, *Ueber den Ursprung des glagolitischen Alphabets*. (*Archiv f. sl. Phil.*, vol. v., 1880.)

Khrabre we learn that the Slaves wrote in an imperfect manner with Greek letters for 'many years' before Cyril introduced his improved alphabet. In the next place, to say nothing of the geographical and chronological limitations, it will be noticed that the differences between the Cyrillic and Glagolitic alphabets are chiefly confined to the forms of the letters, which, as we have frequently had occasion to note, are liable under certain conditions to extreme variability, while the two alphabets are in singular agreement in the more essential particulars, such as the number, order, names, and powers of the characters. Hence their sources are presumably not far apart. The Cyrillic being essentially the 9th century Greek uncial, the origin of the Glagolitic must be sought in some Greek script of somewhat earlier date.¹

¹ The relative priority of the Glagolitic and Cyrillic scripts has been warmly disputed among Slavonic scholars, and has been usually decided in conformity with their ecclesiastical predilections. I assume the priority of the Glagolitic for the following reasons:—First, the improbability that such a clumsy script as the Glagolitic, which Schleicher well calls "monstrous," could have arisen at all if the Slaves had been already acquainted with the far superior Cyrillic alphabet. Next, Khrabre's account points to the existence of a Slavonic script older than the Cyrillic. Thirdly, certain characters, such as III *sh* and X *zh*, were clearly borrowed by one script from the other. It is incredible that if these were borrowed from the Cyrillic, other convenient signs should not also have been taken, whereas no difficulty attaches to the borrowing of these signs by Cyril, as they express sounds not represented in the Greek alphabet. In the fourth place we have the decisive fact, pointed out by Kopitar in his *Glagolita Clozianus*, that the oldest Glagolitic codices exhibit forms

ORIGIN OF THE GLAGOLITIC ALPHABET.

GLAGOLITIC.				GREEK	GLAGOLITIC.				GREEK
Names.	Values.	Late.	Early.	CURSIVE.	Names.	Values.	Late.	Early.	CURSIVE.
Az	a	𐌠 𐌡	Ⲑ ⲑ	Ⲑ ⲑ Ⲓ A	Uk	u	Ⲕ ⲕ	ⲕ ⲕ	ⲔⲔ = 00
Buki	b	𐌢	Ⲓ ⲓ Ⲕ	Ⲓ ⲓ B	Fert	f	Ⲕ ⲕ	ⲕ ⲕ	ⲕ
Vedi	v	𐌣	ⲕ Ⲗ	ⲕ Ⲗ V	Kher	x	ⲕ Ⲗ	ⲕ Ⲗ	ⲕ Ⲗ X
Glagol	g	𐌤 𐌥	ⲕ Ⲗ	ⲕ Ⲗ √	O	o	ⲕ	ⲕ	ⲕ ω
Dobro	d	𐌦	ⲕ Ⲗ	ⲕ Ⲗ Δ	Sha	sh	ⲕ	ⲕ	ω = σσ
Est	e	𐌧 𐌨	ⲕ Ⲗ	ⲕ Ⲗ ε	Shta	sht	ⲕ	ⲕ	ⲕ = σστ
Zhivête	zh	𐌩	ⲕ Ⲗ	ⲕ = τϞ	Tsi	ts	ⲕ	ⲕ	ⲕ ϕ = στ
Zelo	dz	𐌪	ⲕ Ⲗ	ⲕ Ⲗ ζ	Tsherv	tsh	ⲕ	ⲕ	ⲕ = τσσ
Zemlya	z	𐌫	ⲕ Ⲗ	ⲕ = θϞ	Djerv	dj	ⲕ	ⲕ	ⲕ ρ - τν
Izhe	é	𐌬	ⲕ Ⲗ	ⲕ Ⲗ Η	Yet	ye	ⲕ	ⲕ	ⲕ Ⲗ = εⲓ + ε
I	y	𐌭 𐌮	ⲕ Ⲗ	ⲕ = εⲓ ⲓ = ⲓ	Yu	yu	ⲕ	ⲕ	ⲕⲔ = νⲔ
Kako	k	𐌯 𐌰	ⲕ Ⲗ	ⲕ Ⲗ Ϟ	Yer	$\frac{o}{e}$	ⲕ	ⲕ	ⲕⲔ = 0 + εⲓ
Lyudi	l	𐌱	ⲕ Ⲗ	ⲕ Ⲗ λ	Yery	y	ⲕ	ⲕ	-0 + Ⲕ + η
Muislite	m	𐌲 𐌳	ⲕ Ⲗ	ⲕ Ⲗ μ	Yerek	$\frac{e}{i}$	ⲕ	ⲕ	-ε + εⲓ
Nash	n	𐌴 𐌵	ⲕ Ⲗ	ⲕ Ⲗ ν	Es	eng	ⲕ	ⲕ	ⲕ Ⲗ γ - εν
On	o	𐌶 𐌷	ⲕ Ⲗ	ⲕ Ⲗ ο	Yes	yeng	ⲕ	ⲕ	-ε + εν
Pokoy	p	𐌸 𐌹	ⲕ Ⲗ	ⲕ Ⲗ π	As	ong	ⲕ	ⲕ	-0 + εν
Reci	r	𐌺 𐌻	ⲕ Ⲗ	ⲕ Ⲗ ρ	Yas	yong	ⲕ	ⲕ	-η + 0 + εν
Slovo	s	𐌼	ⲕ Ⲗ	ⲕ Ⲗ σ	Thita	θ	ⲕ	ⲕ	ⲕ
Tverdo	t	𐌽	ⲕ Ⲗ	ⲕ Ⲗ τ	Izica	ü	ⲕ	ⲕ	ⲕ + ν - εⲓ + ν

Here the history of Western Palæography supplies a suggestive analogy. In the 7th century the Irish uncial, which was the old Roman cursive uncialized, came into competition with the Roman uncial which was derived from the capitals, and borrowed some of its forms. The same may have occurred in the East, in which case the Glagolitic might prove to be merely an uncialized form of the Greek cursive.

How far this hypothesis may suffice to explain the facts will be seen by an examination of the preceding table. The first column contains the ordinary square Glagolitic characters, which certainly bear as little resemblance to the Greek cursives as can well be imagined. These are followed by the rounded¹ and less regular forms found in the oldest manuscripts, which probably date from the 10th century.² Side by side with them are placed Greek cursive forms which were

of the ancient Slavonic speech which are earlier than those used in any manuscripts written in the Cyrillic character.

¹ The older rounded forms go by the name of 'Glagolitique à lunettes,' several of the letters, such as *glagol*, *dobro*, and *lyudi*, resembling spectacles.

² Facsimiles of ancient Glagolitic MSS. are given by Dowbrowsky, *Glagolitica* (Prag, 1845); Hosler und Schafarik, *Glagolitische Fragmente* (Prag, 1857); Rački, *Pismo Slovensko* (Agram, 1861); Jagić, *Quatuor Evangelium Codex Glagoliticus, olim Zographus* (Berlin, 1879). I am indebted to Prof. Jagić of St. Petersburg, to Mr. Morfill of Oxford, and to Canonico Parčić of S. Girolamo degli Slavi at Rome, for aid and information, and to Prof. Sayce for valuable suggestions as to the probable affiliations of some of the Glagolitic characters.

in use prior to the invention of the Cyrillic alphabet.¹ It will be seen that these Greek cursives, if squared and uncialized, so as to adapt them to liturgical use, yield possible prototypes for the Glagolitic forms, many of which, as the analogy of the Cyrillic alphabet would suggest, prove to be mere ligatures.

With the aid of the Glagolitic, it becomes easy to explain the origin of those of the Cyrillic and Russian letters which were not derived from the Greek uncial. As the following table shows, they are manifestly ligatures, either borrowed, like *zhivete* and *sha*, from the Glagolitic, or obtained from the ligatures usual in the 9th century Greek minuscule.²

¹ The 6th century is probably the earliest time at which the Slaves were brought into such contact with Hellenic culture, as to make possible the transmission to them of a Greek alphabet. The advance of the Avars in the 6th century drove the Lombards into Italy, and split the Slaves into two bodies, driving them to the north-west on the one hand, and to the south-west on the other, the Magyar invasion placing a final barrier between the northern and southern Slaves. In the 7th century the Croats addressed a letter to the Pope in their own script, which presumably was the Glagolitic. Its origin comes therefore within narrow limits of date. It is not easy to find good examples of Greek cursive belonging to the required period and place. The cursive papyri of the 2nd and 3rd centuries A.D. (Gardthausen, *Gr. Pal.* pl. 3) are too early, and do not yield the required forms, and hence we have to fall back to a great extent on the subscriptions of the bishops to the Acts of the Council of Constantinople 680 A.D., and the letter of Constantine to Pippin, which are somewhat too recent.

² It will be observed that the corresponding letters in the two alphabets are not always obtained from the same ligatures.

THE LIGATURES.

Names.	Values.	Cyrillic.	Russian &c.	Ligatures.
Zhivête	<i>zh</i>	Ѡ	Ѡ	τσ (δσ?)
Sha	<i>sh</i>	Ш	Ш	σσ
Shta	<i>sht</i>	Ш	Ш	σστ
Tsi	<i>ts</i>	Ц	Ц	τσ
Djerv	<i>dj</i>	Ѣ	Ѣ	τι
Tsherv	<i>tsh</i>	Ш	Ш	τσ
Yet	<i>ye</i>	Ѣ	Ѣ Я	αε αι
Yu	<i>yu</i>	Ю	Ю	ιο
Yer	$\frac{o}{e}$	Ѣ	Ѣ	οε
Yery	<i>y</i>	Ѣ	Ѣ	οελ
Yerek	$\frac{e}{i}$	Ѣ	Ѣ	ε
Ës	<i>eng</i>	Ѡ	Ѡ	ιν
As	<i>ong</i>	Ѡ	Ѡ	οιν
Yes	<i>yeng</i>	Ѡ	Ѡ	ιν
Yas	<i>yong</i>	Ѡ	Ѡ	οιν
Uniku, Uk	<i>ü</i>	ΟΥ	γ υ	ου

Of the other Slavonic alphabets little need be said. The Ruthenian is the unreformed Russian alphabet, and hence is nearly identical with the Cyrillic. The Servians have four additional letters, originally ligatures, invented to express the sounds *dy*, *ly*, *ny*, *ty*. Owing to geographical proximity the Cyrillic alphabet was originally adopted by the Wallachians; the omission of the iotized vowels and other needless characters, and the addition of *ѣ dzh*, and *і un*, giving them an alphabet of twenty-seven symbols; but a Slavonic alphabet being unsuited to their Latin speech, it is now generally replaced by the Roman characters. The Glagolitic alphabet has been supplanted among the Bulgarians by the Russian, and among the Illyrians, Croats, and Slovenians by the Roman.

The Bohemians and the Poles, whose Christianity was of Latin origin, adopted from the first the Roman letters, which, by means of diacritical marks, have been nearly doubled in number, in order to express the numerous sounds of Slavonic speech.

§ 7. THE ALBANIAN ALPHABETS.

The Albanians, who call themselves Skipetar, or "Highlanders," are divided into two tribes—the Geghs, who occupy the northern region, which partly corresponds to the ancient Illyria, and the Tosks, whose territory is nearly conterminous with Epirus. About half of the Albanians are nominally Christians. In

the north they acknowledge the Roman obedience, and have adopted the Latin alphabet; in the south they adhere to the orthodox communion, and use a modified form of the Greek minuscule, adapted to the requirements of Albanian speech by diacritical points and the introduction of two or three of the Roman letters.

The German traveller von Hahn, to whose researches Albanian philology owes so much, succeeded, about thirty years ago, in recovering two earlier Albanian alphabets, one of which he found in use among the Tosks of Elbasan and Berat, while the other was obtained from an Albanian named Būthakukye. These alphabets are evidently debased derivatives from the Greek cursives or minuscules, and are chiefly interesting as exhibiting the alphabetic deformation which occurs among isolated races who are destitute of a literature. We shall presently have occasion to notice parallel degradations of Indian alphabets found among some of the Malay races.

Early forms of the Albanian alphabets being unknown, the affiliation of the letters, several of which however are plainly mere ligatures,¹ cannot be determined with certainty.² The following Table must therefore be regarded as only tentative.

¹ See von Hahn, *Albanesische Studien*, p. 281.

² The Būthakukye alphabet seems to have been derived, at no very remote period, from the Neo-Hellenic. In the Elbasan, which is plainly much older, some of the forms are analogous to those of the Illyrian Glagolitic. Compare, for instance, *v*, *e*, *l*, *s*, *r*, *n* with the Glagolitic types of the same letters.

THE ALBANIAN ALPHABETS.

Values.	Büthakukye.	Elbasan.	Probable Greek Prototypes.	Values.	Büthakukye	Elbasan.	Probable Greek Prototypes.	Values.	Büthakukye.	Elbasan.	Probable Greek Prototypes.
<i>a</i>	Ⲑ ⲑ	ⲕ	α	<i>n</i>	ⲛ	ⲛ	ν	<i>v</i>	ⲕ ⲕ	ⲙ	β
<i>b</i>	ⲛ ⲛ ⲛ	ⲙ	β	<i>x</i>	ⲛ	ⲛ	ξ	<i>d</i>	ⲛ ⲛ	ⲛ	δ
<i>g</i>	ⲛ ⲛ	ⲕ	γ	<i>o</i>	ⲛ	ⲛ	ο	<i>y</i>		ⲛ	ε
<i>dh</i>	ⲛ ⲛ	ⲕ ⲛ	δ	<i>p</i>	ⲛ	ⲛ	π	<i>y</i>	ⲛ ⲛ		η
<i>e</i>	ⲛ ⲛ	ⲛ	ε	<i>r</i>	ⲛ	ⲛ	ρ	<i>ss</i>	ⲛ ⲛ		σ
<i>z</i>	ⲛ ⲛ	ⲕ	ζ	<i>s</i>	ⲛ	ⲛ	σ	<i>u</i>	ⲛ ⲛ		υ
<i>ē</i>	ⲛ ⲛ		η	<i>t</i>	ⲛ	ⲛ	τ	<i>gh</i>		ⲛ	κ
<i>th</i>	ⲛ ⲛ	ⲛ	θ	<i>ü</i>	ⲛ ⲛ		υ	<i>e</i>		ⲛ	ι
<i>i</i>	ⲛ ⲛ	ⲛ	ι	<i>f</i>	ⲛ ⲛ	ⲛ	φ	<i>u</i>		ⲛ	ο
<i>k</i>	ⲛ ⲛ	ⲛ	κ	<i>kh</i>	ⲛ ⲛ	ⲛ	χ	<i>rr</i>		ⲛ	ρ
<i>l</i>	ⲛ ⲛ ⲛ ⲛ	ⲛ	λ								
<i>m</i>	ⲛ ⲛ	ⲛ	μ								
I.	II.	III.	IV.	I.	II.	III.	IV.	I.	II.	III.	IV.

THE LIGATURES.

Elbasan.				Büthakukye.			
<i>as</i>	ⲕ = α + σ	<i>dsh</i>	ⲛ = θ + σσ	<i>ky</i>	ⲛ ⲛ = κ + ι		
<i>ps</i>	ⲕ = π + σ	<i>ndsh</i>	ⲕ = ν + θσσ	<i>ks</i>	ⲕ ⲛ ⲛ = κ + σ		
<i>mb</i>	ⲛ = μ + β	<i>nd</i>	ⲛ = ν + δ	<i>dz</i>	ⲛ ⲛ = δ + σ		
<i>st</i>	ⲛ = σ + τ	<i>ds</i>	ⲛ = δ + σ	<i>ds</i>	ⲛ ⲛ = θ + σ		
<i>sh</i>	ⲛ = σ + σ	<i>nds</i>	ⲛ = ν + δσ	<i>tzy</i>	ⲛ ⲛ = τ + σ + ι		
<i>shy</i>	ⲛ = σσ + ε	<i>ngh</i>	ⲛ = ν + κ	<i>ng</i>	ⲛ ⲛ = η + ν		
<i>sht</i>	ⲛ = σσ + τ	<i>gy</i>	ⲛ = κ + ε				
<i>te</i>	ⲛ = τ + ε	<i>ngy</i>	ⲛ = ν + κε				
<i>ts</i>	ⲛ = τ + σ	<i>ly</i>	ⲛ = λ + ε				
		<i>ky</i>	ⲛ = κ + ι				

§ 8. THE RUNES.

In the Scandinavian lands, Sweden, Denmark, and Norway, there are thousands of inscriptions in the ancient alphabet of the heathen Northmen, which is called Runic. Similar records are scattered over the regions which were overrun or settled by the Baltic tribes. They are found in the valley of the Danube, which was the earliest halting-place of the Goths on their southward migration; in Kent, which was conquered by the Jutes; in Cumberland, Orkney, and the Isle of Man, which were occupied by the Norwegians. The oldest of these records may date from the 1st or 2nd century A.D., a few are as late as the 14th or 15th century, the greater number being older than the 10th or 11th, when, after the conversion of Scandinavia, the Runes were gradually replaced by the Latin alphabet. The letters are called Runes, and the alphabet bears the name of the Futhorc, from the first six letters ƿ ƚ ƚ ƚ R ƚ, f, u, th, o, r, c.

Runes of different periods and countries naturally exhibit considerable differences. They may however be classified in three main divisions, the Gothic, the Anglian, and the Scandinavian, which are tabulated on p. 218. The first column, which contains the Gothic Futhorc of twenty-four runes, exhibits the earliest type, as found in inscriptions prior to the 6th century; in the second column are the Anglian runes used in

Northumbria from the 7th to the 9th centuries; while the third gives the later Scandinavian Futhorc of sixteen runes, used in Denmark, Sweden, Norway, Cumberland, and the Isle of Man, from the 10th century onward. The fourth column contains the Mæso-Gothic alphabet constructed in the 4th century by Ulphilas, Bishop of the Goths. It is based on the contemporary Byzantine uncials, to which the runic names have been assigned, and incorporates a few runic characters.

The Gothic Futhorc being manifestly the primitive type from which the Anglian and Scandinavian runes were developed, the determination of the origin of the runes depends on the inscriptions, about 200 in number, which are written in this alphabet.

The dates and geographical distribution of these inscriptions will be found to reduce within narrow limits the possible sources from which the runic writing could have been obtained. First in historical importance must be ranked a massive gold torque, of the intrinsic value of about £4000, found at Buzeo in Wallachia, apparently on the site of a heathen temple, and bearing, in well-formed runic characters, an inscription which informs us that it was "dedicated to the temple of the Goths." The torque must have constituted the spoils of some recent triumph, and the date cannot be later than the beginning of the 3rd century, when the Goths were still heathens, and fresh from the plunder of Mæsia and Thrace. In the same early alphabet, and also of 3rd century date, as appears from the evidence

of associated Roman coins, are runic inscriptions, engraved on ornaments, implements, and weapons found in an ancient cemetery at Nordenhoff near Augsburg, and in two Danish peat bogs, anciently lakes, from one of which was exhumed the hoard of some trader or chieftain, consisting of some 3000 miscellaneous articles, and from the other three war-ships, sunk in storm or battle, with all their contents, the skeletons of the horses still retaining the iron bits between their jaws. To a later alphabetic type belongs the silver brooch of a Burgundian chief, with an inscription of ownership and an abecedarium or futhorc containing the first nineteen runes in their accustomed order, which was found along with a great quantity of ornaments and weapons on the battle-field of Charnay on the Saône, where the Burgundians were defeated with great slaughter by the Franks under Clovis.

To these inscriptions definite dates, ranging from the 3rd century to the 5th, may be confidently assigned on historic grounds. But from Jutland and Norway there are other inscriptions, such as the Frøhaug bronze, the Dalby diadem, the Tune stone, and the Thorsbjerg Moss weapons, which exhibit forms of the runes decisively more archaic, and which therefore must be assigned to an earlier period, the 1st or 2nd century of our era at the least.¹

¹ Facsimiles of all the inscriptions will be found in Stephens' *Runic Monuments*: viz., Buzeo torque, p. 567; Nordenhoff brooch, p. 574; Danish Moss weapons, pp. 285 to 309; Charnay brooch, p. 587; Frøhaug bronze, p. 250; Dalby diadem, p. 283; Tune stone, p. 247.

These and similar records prove that the Scandinavian races must have been in possession of a definite and well established alphabet before their dispersion began. Now the advance of the Goths down the Dneiper to the plains of the Danube dates from the 2nd century A.D., while their northward migration across the Baltic to the shores of Sweden must be assigned to a still earlier time. The Futhorc, though plainly related to the Mediterranean alphabets, differs so greatly from every known type, that its evolution must have occupied many generations; and hence it is difficult to avoid the conclusion that the first transmission of alphabetic writing to the Baltic tribes must have taken place some centuries before the commencement of the Christian era.

The question as to the precise source from which the Futhorc was obtained has been a fruitful source of conjecture and controversy. The pre-scientific hypothesis, that the runes were arbitrarily invented by some Scandinavian people, may be summarily dismissed as contrary to all the analogies afforded by alphabetic history. The theory propounded by Dieterich, Lenormant, and Peile, that the runes originated out of a Semitic alphabet transmitted by Phœnician merchants, has been supported by no valid arguments, and cannot be considered as more than a mere guess, and hence the only possible source of sufficiently early date must be either Hellenic or Italic.

A Latin origin, which has been advocated by Kirchhoff,¹ and more recently by Wimmer,² is open to very serious objections, geographical, chronological, and phonological. The runes seem to have been unknown to any of the Teutonic tribes who came into early contact with the Romans. Dr. Wimmer is obliged to assume that they were obtained from Gaul about the beginning of the Christian era, but he is unable to explain how they were transmitted from Gaul to the Baltic, through a host of hostile tribes, without leaving behind any traces of their passage. The chronological difficulty is not less formidable than the geographical. Runic inscriptions from Denmark and Norway actually date, as we have seen, from the time of the early empire, and hence it is impossible to obtain a sufficient period of time for the evolution of the differences which distinguish the Futhorc from the Latin alphabet. But the phonological difficulty seems by itself to be absolutely conclusive. Although the Latin alphabet supplies easy prototypes for several of the runes, such, for example, as þ *d*, R *r*, l *i*, B *b*, S *s*, it offers no explanation of the origin of others which occur in the very oldest inscriptions, such as X *g*, X̄ *ng*, M *ē*, M̄ *d*, Q̄ *ō*, which, as we shall presently see, can be explained without difficulty as derivatives from letters peculiar to Greece, χ, γγ, η, θ, ω. It appears therefore that

¹ Kirchhoff, *Das gothische Runenalphabet*, Berlin, 1854.

² Wimmer, *Runenskriftens Oprindelse og Udvikling i Norden*, Kopenhagen, 1874.

a Greek source remains as the only possible hypothesis.¹

The geographical and chronological limitations of the problem must first be stated. The Buzeo torque from Wallachia proves that the runes were brought with them by the heathen Goths, when in the 2nd century they advanced from the Baltic to the Danube, while the early records from Norway and Jutland prove that the same runes were employed by Gothic tribes who had previously migrated northwards. Now in the time of Pythias (4th century B.C.), of Tacitus (1st century A.D.), and of Ptolemy (2nd century A.D.), the Goths occupied a region south of the Baltic and east of the Vistula. Being a numerous people, their realm must have extended over the Russian governments of Grodno, Volhynia, and Minsk, southward probably, from the neighbourhood of Dantzic to the upper waters of the Pripiet and the Dnieper. Here they would be in possession of the northern half of the great trade route between the Baltic and the Euxine, and would

¹ Five years ago I ventured to put forward this solution in a little book entitled *Greeks and Goths, a Study on the Runes* (Macmillan, 1878). I there stated with considerable detail the difficulties attaching to the Latin hypothesis, and the reasons in favour of a Greek origin. The arguments then advanced not having been refuted, and the new theory having met with very general acceptance among scholars, including several who had previously advocated some other solution, it may here suffice briefly to restate the general results of that inquiry, without repeating the more technical details of the proof.

be in commercial intercourse with the Greek traders from Olbia, who, as we learn from Herodotus, ascended the Dnieper for forty days' journey as far as Gerrhos, a trading post which cannot have been very far from the southern frontier of the Gothic realm; and where the amber and furs of the north were doubtless bartered for woven stuffs, pottery, weapons, ornaments, and the precious metals. Material evidences of the extent of this commerce are not wanting. Hoards of early Greek coins have been found even beyond the limits of the Gothic territory, and there are not a few evidences of the Greek origin of the civilization of this region.¹

From the Greek traders of Olbia with whom, not improbably at Kiev, the Goths were in commercial contact, they may readily have obtained a knowledge of the Greek alphabet, just as the Greeks themselves obtained it from the Phœnician merchants. The probable date would be the 6th century B.C., which would

¹ Greek coins struck in the 3rd century B.C. have been found near Riga; a hoard of coins minted in the 5th century B.C. at Olbia, Ægina, Athens and Cyzicus, was recently dug up on the lower Vistula, near Bromberg, in Posen; while to a still earlier date we must assign twenty-four gold gryphons of Assyrian workmanship which were discovered near Kiev on the Dnieper. Moreover the structure of the house in the valley of the Vistula differs in most essential particulars from the plan adopted in other parts of Germany, and can only be explained as a survival of the Greek type. See Henning, *Das deutsche Haus in seiner historischen Entwicklung*; Wiberg, *Einfluss der Klassischen Völker auf den Norden*; Von Sadowski, *Handelstrassen der Griechen und Römer*; Kuhn and Mehlis, *Vorgeschichte des Menschen in östlichen Europa*.

allow sufficient time for the development of the considerable differences which distinguish the oldest runes from the Greek letters.

This early date is obtained from a variety of concordant indications. Many of the older runic inscriptions are either retrograde or boustrophedon in direction, a proof, not without cogency, that the alphabet was obtained from the Greeks before the 5th century, when their writing had finally assumed the more convenient direction from left to right.

Again, the standard Greek alphabet of the 5th and following centuries does not supply prototypes for the runes so satisfactory as the earlier alphabet which prevailed in Thrace and in the Greek colonies on the Euxine during the 6th century, just before the commencement of the Persian war. In the type of the Greek alphabet from which the runes were derived, the new letters χ and Ω must have already been introduced, *eta* must have been open, and have denoted both \bar{e} and h , ς must have been used instead of \mathbf{M} or ξ , and the alphabet must have retained certain forms which afterwards disappeared, such as *koppa* and the tailed *rho* \mathbf{R} , the old *lambda*, \uparrow instead of Λ , and the old *theta*, \otimes instead of Θ .

All these peculiarities were transmitted to the runes. I have elsewhere shown¹ that they specially characterize the 6th century alphabet of Thrace and the

¹ *Greeks and Goths*, pp. 40, 51, seq.

THE RUNIC ALPHABETS.

NAMES.	VALUES.	RUNES.			IV. ALPHABET OF ULPHILAS.	
		I. GOTHIC.	II. ANGLIAN.	III. SCANDI-NAVIAN.		
fech, feh, fe	<i>f</i>	ƿ ƿ	ƿ ƿ	ƿ	ƿ	ϕ
ur, hur	<i>u</i>	ʌ ʌ	ʌ ʌ	ʌ	ʌ	ou
thorn	<i>th</i>	ᚢ ᚢ ᚢ	ᚢ	ᚢ	ᚢ	δ
asc, æsc, os	<i>a, æ, o</i>	ᚦ ᚦ	ᚦ ᚦ	ᚦ	ᚦ	α
rad, rat	<i>r</i>	ᚱ ᚱ	ᚱ	ᚱ ᚱ	ᚱ	ρ
cen, kaun	<i>c, k</i>	ᚨ ᚨ	ᚨ	ᚨ	ᚱ	κ
gebo, gifu	<i>g</i>	ᚨ	ᚨ	ᚱ	ᚱ	γ
wen	<i>v, w</i>	ᚱ	ᚱ		ᚱ ᚱ ᚱ	v, hv
hegl, hagall	<i>h</i>	ᚱ ᚱ ᚱ ᚱ	ᚱ	*	ᚱ	h
nyd, nod	<i>n</i>	ᚠ ᚠ	ᚠ	ᚠ ᚠ	ᚱ	ν
is	<i>i</i>	ᚠ	ᚠ	ᚠ	ᚱ	ι
ger, yr, ar	<i>y, ge, j, a</i>	ᚨ ᚨ ᚱ	ᚱ	ᚱ ᚱ	ᚱ	j
hic, ih, eoh	<i>ih, i, eo</i>	ᚨ ᚨ	ᚱ		ᚱ	ζ
peorth, perc	<i>p</i>	ᚱ	ᚱ ᚱ	ᚱ	ᚱ	π
ilix, calc	<i>a, i, k, x</i>	ᚱ	ᚱ		ᚱ ᚱ	q
sigil	<i>s</i>	ᚠ	ᚱ	ᚱ	ᚱ	σ
tir	<i>t</i>	ᚠ	ᚠ	ᚠ ᚱ	ᚱ	τ
berc, berith	<i>b</i>	ᚱ	ᚱ	ᚱ	ᚱ	β
hæc, ech, eh	<i>e</i>	ᚱ ᚱ	ᚱ		ᚱ	η
man	<i>m</i>	ᚱ	ᚱ	ᚱ ᚱ	ᚱ	μ
lagu	<i>l</i>	ᚠ	ᚠ	ᚠ	ᚱ	λ
ing	<i>ng</i>	ᚠ ᚠ	ᚱ		ᚱ	χ
dag, dæg	<i>d</i>	ᚱ ᚱ	ᚱ		ᚱ	θ
othil	<i>o, œ</i>	ᚱ ᚱ	ᚱ		ᚱ	ω

Euxine colonies, to which the geographical conditions point as the probable source from which the runes must have been obtained.

Having already urged at considerable length¹ the arguments as to the affiliation of the individual runes, I need not here repeat them. They are necessarily minute and technical, depending to a great extent on the phonological changes in Gothic speech which are formulated in Grimm's law. The results obtained may however be briefly recapitulated.

As in the case of other alphabets, we may expect to find changes of five kinds: (1) disuse of needless letters; (2) evolution of new letters; (3) changes of form; (4) changes of value; (5) changes of position.

Thus the rune *asc* ᚱ, derived from *epsilon*, denoting *a*, *alpha* disappeared, while *beta* was differentiated into three runes, *berc* ᚷ, *perc* ᚨ, and *fech* ᚱ, representing *b*, *p*, and *f*. By Grimm's law a Gothic *k* represents a primitive *g*, and hence we may identify the *k* rune, < or ʌ, with the Thracian *gamma*, < or ʌ. Since *g* may weaken into *y* and *u*, we also obtain from *gamma* the second rune, ʌ *u*. The rune ᚯ *ng* is merely a ligature representing *γγ*, as is proved by the variant forms ᚯ ᚯ ᚯ ᚯ Σ ᚯ which are found in early inscriptions. In Greek, as well as in the Mæso-Gothic version of the Bible by Ulphilas, the sound of *ng* is represented by *gg*, a peculiarity of the runes inconsistent with a Latin origin.

¹ *Greeks and Goths*, pp. 56 to 87.

The three runic dentals \triangleright *th*, \boxtimes or \boxtimes *d*, and \uparrow *t*, correspond to the three Greek dentals \triangleright *d*, $\textcircled{\times}$ *th*, and T *t*, the phonetic changes being partly explained by the fact that by Grimm's law a Greek θ answers to a Gothic *d*.¹

The Greek *eta* H (\bar{e} and h) was differentiated into the two runes \sqcap or M \bar{e} , and N or H h . As in Latin, *kappa* was replaced by a k rune derived from *gamma*, while *iota* and *lambda* reappear without change of form or value as the *i* rune I and the *l* rune L . The *m* rune, M , was obtained from *mu* M , but was differentiated so as to avoid confusion with the \bar{e} rune M , derived from *eta*. In like manner *nu* N was the source of the *n* rune N , the change of form being explained by the h rune having become N .²

The letters *omicron* and *pi* disappeared, *o* and *p* being represented by derivatives from *omega* and *beta*. The next three letters, *rho* R , *sigma* S , and *tau* T , may be identified with the runes R *r*, S *s*, and \uparrow *t*. By Grimm's law a Greek *chi* answers to a Gothic *g*, which explains the origin of the *g* rune X . *Omega* O became the source of the \bar{o} rune O , while the *y* rune which assumes

¹ That the correspondence should be incomplete indicates that the Lautverschiebung had commenced at the time of the transmission of the runes, but had not been completed. See *Greeks and Goths*, pp. 71 to 73.

² An analogous change, also due to correlation, has affected these two letters in Russian, where *eta* H has become H *i*, and *nu* N has become H *n*.

the variant forms Υ H N 1 G was probably derived from *upsilon*, Υ or Υ . The rune Υ , which appears to have been originally a guttural, afterwards weakening into a vowel, may be referred to the Thracian *chi* Υ , while the *w* rune P seems to be from *koppa* P (*qv*), a derivation supported by the way in which *q* and *w* (*v*) are represented in the alphabet of Ulphilas.

Some of these changes of form, otherwise inexplicable, since they are from simpler and easier forms to others more complicated and seemingly more difficult, can be readily accounted for by the fact that the runes were essentially a xylographic script. This we learn¹ from the often quoted lines of Venantius Fortunatus, a 7th century writer, who says :

Barbara fraxineis pingatur rhuna tabellis ;
Quodque papyrus agit, virgula plana valet.

The runic writing was cut in the wood in the direction of the grain, as may be seen in the case of some of the runic "clog almanacks" which are still in existence. Horizontal lines would therefore be inadmissible, and would give place, as a matter of graphic convenience, to lines running obliquely across the grain. We may thus account for the derivation of the runes M \bar{e} , N h and V *ih* from the Greek *eta* H , as well as for the Greek T having become ↑ . The substitution of triangular for rounded forms, as in the case of the runes *wen*, *dag* and *othil*, probably derived from *koppa* P , *theta* Θ , and *omega* Ω , can thus easily be explained.

¹ Cf. Tacitus, *Germania*, c. 10.

The order of the Runes in the Futhorc differs materially from the order of the letters in the Greek alphabet, though the points of agreement are sufficient to show that the one has been based on the other. Thus the last rune \mathfrak{Z} retained the station occupied by its prototype Ω , while the first four runes, \mathfrak{F} \mathfrak{N} \mathfrak{T} \mathfrak{B} , are descended from \mathfrak{B} \mathfrak{G} \mathfrak{A} \mathfrak{E} , which follow each other at the beginning of the Greek alphabet. We have a similar sequence of four runes, \mathfrak{P} , \mathfrak{Q} , \mathfrak{S} , \mathfrak{L} , in the middle of the alphabet. In other cases the order has been much disturbed. I have elsewhere shown¹ that these changes can be explained by the causes which have produced the dislocations of the primitive order in other alphabets, such as the Arabic, Ethiopic and Mongolian. These causes are of two kinds. Certain letters have been moved from their primitive places and placed side by side, either on account of the resemblance of their forms, or because of the similarity of their values. Thus the \bar{e} rune \mathfrak{M} has been brought into collocation with the m rune \mathfrak{M} , whose primitive form must have been \mathfrak{M} , while the r rune \mathfrak{R} must have been transferred to the place next to that formerly occupied by \mathfrak{K} , which afterwards disappeared. So the d rune \mathfrak{N} and the ng rune \mathfrak{X} were put next to \mathfrak{Z} , to which they bear some resemblance. On account of the similarity of sound the g rune \mathfrak{X} was brought next to \mathfrak{C} , and the y and ih runes next to i .

¹ *Greeks and Goths*, pp. 99 to 105.

The Anglian and Scandinavian Futhorcs differ considerably from the primitive Gothic Futhorc. In the Anglian Futhorc the symbols have been multiplied; thus, from the primitive *a* rune **ᚱ**, the additional runes **ᚷ** *o*, and **ᚸ** *æ* were evolved by differentiation, while the rune **ᚹ** *œ* was probably obtained from **ᚱ** or **ᚱ** *u*.

On the other hand the changes in the Scandinavian Futhorc were mainly in the direction of simplification, the twenty-four runes of the Gothic Futhorc being reduced to sixteen by the disuse of eight superfluous runes, **ᚷ** *g*, **ᚹ** *w*, **ᚱ** *ih*, **ᚷ** *i*, **ᚸ** *e*, **ᚹ** *ng*, **ᚱ** *d*, **ᚱ** *o*; while several of the older forms were replaced by more convenient lapidary types, such as **ᚹ** instead of **ᚱ**, **ᚱ** for **ᚱ**, **ᚱ** for **ᚱ**, **ᚱ** for **ᚱ**, **ᚱ** for **ᚱ**, and **ᚱ** for **ᚱ**.

The Mæso-Gothic resembles the Cyrillic and the Armenian in being, to some extent, an artificial missionary alphabet, compounded of elements derived from distinct scripts. It was constructed by Ulphilas, or Wulfila (318—388 A.D.), Bishop of the Goths who had settled in the province of Mœsia, for his memorable translation of the Gospels, which forms the oldest extant monument of Teutonic speech. The alphabet is chiefly known¹ from the "Codex Argenteus" now in the University Library at Upsala. This beautiful manuscript, which is in silver and gold letters on purple vellum, is believed to have been written in Italy in the

¹ There are also a few fragmentary documents in the same alphabet which come from Italy, where the Gothic speech is believed to have survived till the 9th century.

6th century, and was carried off by the Swedes from Prag on the capture of that city in 1648.¹

The Mæso-Gothic alphabet is given in col. iv. of the Runic Table on p. 218. Its composite structure is manifest. It is based on the Byzantine uncials of the 4th century,² with which Ulphilas must have been most familiar, with additional letters for those Gothic sounds for which there was no exact Greek equivalent. These were derived in some cases from the Futhorc, and in others from the Latin alphabet. For *u*, Ulphilas took the rune η (*ur*), and for *v* the rune ρ (*wen*), and for *o* the rune Ɱ (*othil*). For *h* he took the Latin symbol, and for *f*, *r*, *j*, *q*, *s*, either the runes or the Latin letters, probably the former. The names of the letters, as in the case of the Cyrillic and the Irish Bethluisnion alphabets, were the appellations already familiar to the people by whom the alphabet was to be used.

Thus *u*, *th*, *r*, *v*, *h*, *j*, *s*, *b*, *m*, *l*, *d*, *o*, were called *urus*, *thaurnus*, *raida*, *vinja*, *hagls*, *jer*, *sojil*, *bairika*, *manna*, *lagus*, *dags*, and *othol*, which are manifestly identical with the corresponding rune names *ur*, *thorn*, *rad*, *wen*, *hagal*, *ger*, *sigil*, *berc*, *man*, *lagu*, *dag*, and *othil*.

¹ For facsimile of the Codex Argenteus, see *Pal. Soc.* pl. 118. The Mæso-Gothic alphabet has been discussed by Waitz, *Ueber das Leben und die Lehre des Ulfila*, 1840; Zacher, *Das Gothische Alphabet Vulfilas*, 1855; Kirchhoff, *Das Gothische Runenalphabet* (1854), and by the numerous editors of the Mæso-Gothic version.

² See col. i. of the Table on page 154 *supra*.

§ 9. THE OGHAMS.

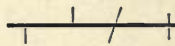
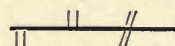
No runic inscriptions have been found in those parts of Wales and Ireland which were settled by the Scandinavians. In these regions the runes are replaced by the mysterious Ogham characters in which the most ancient records of Wales and Ireland are written. The Ogham writing, as I have elsewhere shown,¹ was simply an adaptation of the runes to xylographic convenience, notches cut with a knife on the edge of a squared staff being substituted for the ordinary runes. That the Oghams were derived from the runes is indicated by the fact that they are found exclusively in regions where Scandinavian settlements were established, and also by the fact that the names of the Oghams agree curiously with the names of the runes of corresponding value.

The Ogham characters, with their primitive values as restored by the researches of Prof. Rhys, are as follows, the ancient values being enclosed in brackets :

b (f)	l	f (w)	s	n
h (ch)	d	t	c	q
/	//	///	////	/////
m	g	ng	st (z)	r
a	o	u	e	i

¹ *Greeks and Goths*, pp. 108—139.

An explanation of the mode in which this alphabet was obtained from the runes is suggested by the somewhat similar Scandinavian 'tree runes,' which were a sort of cryptograms, constructed on the plan of indicating, by the number of branches on the tree, the place occupied in the Futhorc by the corresponding ordinary rune.¹ The Oghams seem to have been merely tree runes constructed on a somewhat different principle. The Irish regarded the Oghams as a forest, the individual characters being 'trees,' *feada*, while each cross stroke is called a 'twig,' *fleasg*.

The exact principle of construction is only a matter of conjecture, but it seems probable² that the four Oghams with one twig , which originally formed the first class, or grove, were taken as representatives of the branched runes, which bear a general resemblance to the first rune Ψ . The Oghams with two twigs  would similarly correspond to the four crooked runes, of which the second rune was the type; the Oghams with three twigs representing the looped runes, or hollow trees, formed on the type

¹ The runes were divided into 'families,' branches to the left of the stem indicating the family, and branches to the right the place of the rune in the family. Thus a tree with two branches to the left and six to the right would denote β , the sixth rune in the second family. The Arabic cryptograms called *El Mushajjar* and *El Shajari*, the 'branched' or 'tree-shaped,' were similarly constructed out of the Arabic alphabet, after the Arabs had come into contact with the Varangians in the 9th century.

² See *Greeks and Goths*, pp. 127 to 131.

of the third rune þ; the Oghams with five twigs representing the runes with roots, of which the fifth rune ʀ is the type; the remaining four runes being represented by Oghams with four twigs.

The Oghams are undoubtedly older than the 8th century, when the incursions of the Scandinavian vikings began, and in the Ogham tract contained in the Book of Ballymote are referred to the Tuatha de Danann of Irish legend, who represent in all probability an earlier Scandinavian immigration. There is, however, reason to believe that the Oghams actually originated in Pembroke, where there was a very ancient Teutonic settlement, possibly of Jutes, who, as is indicated by the evidence of runic inscriptions found in Kent, seem to have been the only Teutonic people of Southern Britain who were acquainted with the Gothic Futhorc.

CHAPTER IX.

THE IRANIAN ALPHABETS.

- § 1. *The Primitive Scripts of Persia.* § 2. *The Pehlevi Alphabets.* § 3. *The Indo-Bactrian Inscription of Asoka.*
§ 4. *The Indian Numerals.* § 5. *The Armenian and Georgian Alphabets.*

§ 1. THE PRIMITIVE SCRIPTS OF PERSIA.

THE primitive Semitic alphabet divided into three branches, the Phœnician, the Joktanite, and the Aramean. Each of these became the parent of a family of Aryan alphabets. From the Phœnician came the alphabets of Europe, which have been just discussed; from the Joktanite came the alphabets of India; while the Aramean alphabet not only exterminated the other Semitic scripts of Western Asia but also became the source of the alphabets employed by various non-Semitic races in the provinces of the Persian empire.

For this group of alphabets a general appellation is required. Pehlevi, the name most commonly adopted, is open to serious objection, since it is also used specifically to denote one member of the group, the

central alphabet used for the coins and inscriptions of the Sassanian kings. Inasmuch as the alphabets in question prevailed in provinces of the Achæmenian empire, the term 'Persian' might have been employed had it not been already appropriated as the designation of a national variety of the Neskhi Arabic, modified to suit the requirements of modern Persian speech; not to say that the alphabet developed under Darius out of the cuneiform writing (1st Achæmenian) has a prior claim to the title of 'Persian.' The term 'Persic' suggests a misleading connexion with 'Persian,' while Zendic and Arianian are also open to objection.

The word IRANIAN, as yet unappropriated as an alphabetic designation, is perhaps less unsatisfactory than any other name that can be found, since it may fairly be applied to the oldest as well as to the more modern forms of the alphabet of the old Persian empire.¹

The history of the Iranian alphabets is involved in considerable obscurity, on account of the extensive blanks in the series of monumental records. Owing to the preservation of a continuous series of records, extending over nearly three thousand years, it has been possible to trace with reasonable exactitude the affiliation of the western branches of the Semitic alphabet. But as regards those portions of the

¹ Iran, the name now given by the Persians to their kingdom, is the regular modern form of the ancient name Ariyana or Airyana.

Persian realm which lay to the east of the Euphrates, the case is different. During nine important centuries, from the fall of the Assyrian empire down to the establishment of the Sassanian monarchy, when the record again becomes continuous, the epigraphic silence in these eastern regions is almost complete, being broken only by the occasional and doubtful legend on a coin, and by a solitary monument, preserved for one-and-twenty centuries, by strange good fortune, in a remote corner of a distant Indian province.

For this silence it is not difficult to account. After the destruction of Nineveh we have access to no such storehouse of epigraphic material as is afforded by the spoils of the Assyrian palaces. For monumental purposes the cuneiform writing continued to be used in the Achæmenian empire till it was replaced by the Greek alphabet, which followed in the wake of the conquests of Alexander. Even on the moneys of the foreign princes who ruled over the Eastern provinces of Persia, Greek legends are nearly universal. Hence coins, the last resource of the epigraphist, fail us in this case.

There can, however, be no doubt that, side by side with the cuneiform and Greek writing which were employed for monumental records and numismatic legends, a local variety of the Aramean alphabet held its place for ordinary purposes. All examples of this script must, however, be held to have perished with

the perishable materials employed for their reception—papyrus, skins, the bark of trees, and tablets of wax or unbaked clay.

That the two modes of writing, the cuneiform and the alphabetic, were in simultaneous use, even for official purposes, before the fall of the Assyrian empire, is proved by evidence which has already been brought forward. Thus in the bilingual contract tablets found in the archives of Nineveh, an official cuneiform text is accompanied by the signatures of witnesses and contracting parties, and even by memorial docketts, in Semitic letters, while the Assyrian lion weights, with their bilingual inscriptions, cuneiform and alphabetic, are also of an official character, and indicate the extensive use of alphabetic writing for commercial purposes. So also when two scribes are represented in Assyrian sculptures as engaged side by side in recording public transactions, we see, in intentional contrast to the cuneiform manipulation of the one, the representation of a second amanuensis, who uses a reed and a parchment scroll. In such a case it can hardly be doubted that the design is to portray a scribe writing in alphabetic characters.

Thus at this early period, before the destruction of Nineveh, there is abundant evidence of the contemporaneous employment of the two modes of writing, and it is impossible to suppose that alphabetic writing, with its superior simplicity and convenience, should have gone out of use during the succeeding centuries,

although no monumental evidence of the fact has been preserved. This surmise is reduced to a certainty when, at a later period, we find in existence a whole family of alphabets which can only have descended from some very ancient alphabet which prevailed throughout the Persian empire.

The chief direct evidence of the usage of alphabetic writing comes to us from the extreme East. Some facile form of the graphic art must have been practised in Bactria at the remote period when the sacred books of the Zoroastrians were composed. As early as the 5th century B.C. Darius Hystaspis records, in the Behistun inscription, his restoration of the forgotten text and commentary of the Zendavesta.¹ Hermippus of Smyrna, who lived in the middle of the 3rd century B.C., quoted, and even summarized the contents of the twenty books, each consisting of 100,000 lines, which, he says, had been composed by Zoroaster. Masudi, an Arab historian of the 10th century, also gives an account of the Zendavesta, apparently from authentic sources. He states that it was written on 12,000 cow-hides, in a character invented by Zartusht (Zoroaster). The existence of a Bactrian literature, long before the conquests of Alexander, cannot therefore be disputed. Nor is there any reason to doubt that a variety of the Aramean alphabet was the vehicle adopted for this literature. The great inscription of

¹ See, however, Darmesteter, *Zend-Avesta*, vol. i., p. lii.

the Buddhist king Asoka, at Kapur-di-giri, on the confines of India and Afghanistan, which was written in the middle of the 3rd century B.C., remains as a solitary but imperishable monument of a wide-spread knowledge of alphabetic writing, which extended to the remotest province of the Achæmenian empire. Just as caps of certain denuded geological formations, crowning the extreme summits of lofty hills, testify to the former existence, over extended tracts, of strata which elsewhere have disappeared, so the Kapur-di-giri record must be regarded as an isolated monument of a great Bactrian alphabet in which the Zoroastrian books, and an extensive literature, were in all probability conserved.

To the inscription of Kapur-di-giri may be added the evidence of a nearly contemporary Bactrian coin which was struck by Agathokles in 240 B.C. There are also numerous coins of Indo-Scythian princes belonging to the two succeeding centuries, and these are succeeded by coins of the Parthian kings which bear legends in an Aramean alphabet of the same general character as that used in the inscription of Asoka. Hence we conclude that from a very early period the regions to the east of Iran possessed a peculiar alphabet of the Aramean type. When in the 4th century A.D., both the old cuneiform writing and the Greek alphabet introduced by Alexander's captains, had fallen into disuse throughout the regions east of the Euphrates, this ancient Iranian alphabet, which

had temporarily been submerged as it were, reappeared with the revival of Iranian nationality, and held exclusive sway, till it was finally displaced by the alphabet introduced by the Arabian conquerors in the 7th century of our era.

It was from the Aramean type of the Semitic alphabet that these Iranian scripts must have been derived. They all exhibit the characteristic Aramean test, namely, the opening of the loops of the closed heads of the Phœnician letters, which took place at the end of the 7th century B.C. But as the Kapur-digiri inscription, which is the earliest monument of the Iranian alphabet, dates from the middle of the 3rd century B.C., it is plain that the Iranian alphabet could not have arisen earlier than the beginning of the 6th century B.C., or later than the end of the 4th.

The Aramean alphabet, before it broke up into national types, passed through successive chronological stages of development. The scanty monuments of the epoch to which the origin of the Iranian alphabet must be assigned consist of 5th and 4th century coins, struck by the Persian satraps of Asia Minor, and of somewhat later records from Egyptian tombs. The nearest congener of the Iranian alphabet seems to be the Aramean of the Satrapies. The earlier of the Palmyrene types, though too late to be regarded as the direct progenitor of the Iranian alphabet, yet, from its geographical proximity, exhibits useful illustrative forms. It must, however, be remembered that the Iranian alphabet

has to be explained by collateral forms only, its direct progenitor being unknown.

The alphabets of the Iranian group may be classified as follows :—

1. THE INDO-BACTRIAN.
2. THE PEHLEVI.
3. THE ARMENIAN.
4. THE GEORGIAN.

A comparative Table of these alphabets will be found on the next page.

Owing to the defects of the monumental record the definite chronological affiliation of these alphabets cannot be exhibited. Of the Indo-Bactrian we practically possess only a single monument separated by an interval of centuries from its nearest congeners. It has left no descendants, it has no near collaterals, and its immediate parentage is unknown. The Armenian and Georgian must also be regarded as isolated alphabets, as they are only known from manuscripts of comparatively late date, though they exhibit survivals of very primitive forms, the Armenian *m* and *g* (col. ix. Nos. 13 and 3), for instance, being practically identical with the corresponding Indo-Bactrian forms which are older by more than a thousand years. The ancient forms of the Armenian and Georgian letters which are given in the Table¹ have been copied from the oldest

¹ In the Armenian and Georgian alphabets additional letters were borrowed from the Greek, and others were obtained by differentiation from the primitive characters. These have been omitted in the

THE IRANIAN ALPHABETS.

	ARAMEAN.		PEHLEVI.					INDO-BACTRIAN.	ARMENIAN. (Reversed.)	GEORGIAN. (Reversed.)	
			ARSACIDAN.		SASSANIAN.		PARSI.				
	SATRAPIES & EGYPT.	PAL-MYRA.	Coins & Gems.	Haji-abad B.	Haji-abad A.	Coins.	MS.	KAPUR-DI-GIRI.	Oldest MSS.	Oldest MSS.	
	Sec. iv. & iii. B.C.	Sec. ii. A.D.	Sec. i. & ii. A.D.	Sec. iii. A.D.	Sec. iii. A.D.	Sec. iv. to vi. A.D.	Modern	Sec. iii. B.C.	Sec. ix. A.D.	Sec. xi. A.D.	
א	𐤀	𐤁	𐬀	𐬁	𐬂	𐬃	𐬄	𐬅	𐬆	𐬇	1
ב	𐤂	𐤃	𐬇	𐬈	𐬉	𐬊	𐬋	𐬌	𐬍	𐬎	2
ג	𐤄	𐤅	𐬈	𐬉	𐬊	𐬋	𐬌	𐬍	𐬎	𐬏	3
ד	𐤆	𐤇	𐬉	𐬊	𐬋	𐬌	𐬍	𐬎	𐬏	𐬐	4
ה	𐤈	𐤉	𐬊	𐬋	𐬌	𐬍	𐬎	𐬏	𐬐	𐬑	5
ו	𐤊	𐤋	𐬋	𐬌	𐬍	𐬎	𐬏	𐬐	𐬑	𐬒	6
ז	𐤌	𐤍		𐬍	𐬎	𐬏	𐬐	𐬑	𐬒	𐬓	7
ח	𐤎	𐤏	𐬎	𐬏	𐬐	𐬑		2𐬑	𐬒	𐬓	8
ט	𐤐	𐤑					2𐬑	𐬒	𐬓	𐬔	9
י	𐤒	𐤓	𐬏	𐬐	𐬑	𐬒	𐬓	𐬔	𐬕	𐬖	10
כ	𐤔	𐤕	𐬐	𐬑	𐬒	𐬓	𐬔	𐬕	𐬖	𐬗	11
ל	𐤖	𐤗	𐬑	𐬒	𐬓	𐬔	𐬕	𐬖	𐬗	𐬘	12
מ	𐤘	𐤙	𐬒	𐬓	𐬔	𐬕	𐬖	𐬗	𐬘	𐬙	13
נ	𐤚	𐤛	𐬓	𐬔	𐬕	𐬖	𐬗	𐬘	𐬙	𐬚	14
ס	𐤜	𐤝	𐬔	𐬕	𐬖	𐬗	𐬘	𐬙	𐬚	𐬛	15
ע	𐤞	𐤟		𐬖				𐬛	𐬜	𐬝	16
פ	𐤠	𐤡		𐬗	𐬘	𐬙	𐬚	𐬛	𐬜	𐬝	17
צ	𐤢	𐤣			𐬘	𐬙	𐬚	𐬛	𐬜	𐬝	18
ק	𐤤	𐤥		𐬙	𐬚	𐬛	𐬜	𐬝	𐬞	𐬟	19
ר	𐤦	𐤧	𐬚	𐬛	𐬜	𐬝	𐬞	𐬟	𐬠	𐬡	20
ש	𐤨	𐤩	𐬛	𐬜	𐬝	𐬞	𐬟	𐬠	𐬡	𐬢	21
ת	𐤫	𐤬	𐬜	𐬝	𐬞	𐬟	𐬠	𐬡	𐬢	𐬣	22
I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.		

known codices in the Bibliothèque Nationale at Paris. They have also been reversed, these scripts being written from left to right, instead of from right to left, as is the case with the other alphabets with which they have to be compared.

In this Table the three Pehlevi alphabets can alone be regarded as a series arranged in chronological sequence. The Arsacidan forms are taken from the coins of the Parthian kings, and from the inscription of Shahpur I. at Haji-abad. The Sassanian letters are from the Sassanian version of the same inscription and from later Sassanian coins. The Parsi letters in column vii. are the 'Zend' types used in printing-offices, which are imitations of the characters found in 16th century manuscripts of the Avesta.

The affiliation of the Iranian alphabets, as has been shown, can only be determined indirectly. The two types of the Aramean alphabet which have been taken for comparison must therefore be regarded merely as collateral forms.¹

Table, those forms only being inserted which appear to be direct descendants from the twenty-two Aramean letters.

¹ With regard to the relations subsisting between these alphabets the following comparisons may be made:—

- Cols. i., iii. Satrapies and Proto-Pehlevi. Cf. Nos. 5, 6, 8, 12, 13, 15, 21, 22.
 „ ii., iv. Palmyrene and late Arsacidan. Cf. Nos. 7, 8, 10, 12, 17, 19, 20, 22.
 „ ii., v. Palmyrene and Sassanian. Cf. Nos. 8, 10, 12.
 „ iii., iv. Early and late Arsacidan. Cf. Nos. 1, 3, 5, 6, 13, 14, 15, 20, 21.

§ 2. THE PEHLEVI ALPHABETS.

The central stem of the Iranian alphabet goes by the general name of PEHLEVI, which is used to designate the alphabet of Persia in its successive stages, from the first century of the Christian era, when its peculiarities begin to manifest themselves, down to its Indian survival at the present day.

The word Pehlevi is probably equivalent to Parthvi, the Parthians having been the rulers of Persia while the Pehlevi language and alphabet were in process of formation, just as French is not the language of the Franks, but the language of a country which they conquered. The Pehlevi language presents a remarkable philological enigma. Based on the ancient Persian of the Achæmenian inscriptions, it is largely intermixed with Semitic words which were subjected to the inflexions of Iranian grammar. It thus formed

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- Cols. iii., v. Proto-Pehlevi and Sassanian. Cf. Nos. 1, 2, 3, 5, 6, 8, 13, 15.
 „ ix., viii., iii. Armenian, Bactrian and Proto-Pehlevi. Cf. Nos. 1, 3, 5, 6, 11, 12, 15, 17, 18, 20.
 „ x., v., vi. Georgian and Sassanian. Cf. Nos. 7, 11, 12, 13, 18, 20, 22.

It would therefore seem that the Arsacidan and Bactrian are most closely related to the earlier type of the Aramean, while the Sassanian was derived from the Proto-Pehlevi, but was somewhat influenced by Palmyrene or Western forms. The Georgian apparently belongs to the Sassanian type of the Pehlevi, and the Armenian to the earlier or Arsacidan type. The student may compare the Iranian forms with the other Aramean alphabets given in the Table in vol. i., p. 250.

an exception to the linguistic law that except in the case of mere jargons, such as dog Latin, law French, or the pigeon English of Canton, mixed languages do not exist. Scientific philologists doubted whether such an artificial form of speech could have been at any time the spoken language of the Persian people, and they conjectured that it must have been confined to a class of learned pedants at the court of the Sassanian princes.

The sagacity of Prof. Haug has now solved this curious riddle. The Pehlevi proves to be not a mixed language, but only a mixed script. We have already seen¹ how the Semitic Assyrians, adopting the cuneiform characters invented by the primitive Turanian people of Babylonia, used them partly as phonograms or symbols of sounds, and also as signs of thoughts or ideograms, which developed into logograms or symbols of words. A somewhat similar process occurred when the Aryan Persians adopted a Semitic alphabet. When Persian was written by the Aramean scribes, they employed the Semitic letters to spell the Persian words, and also optionally used the accustomed graphic representation of Semitic words as logograms to denote the equivalent Persian words. Thus the letters מלכא (*malka*, 'king') are used on coins to denote the Persian word *Shah*, in the same way that we ourselves might read V.R. as 'Queen Victoria,'

¹ See vol. i., p. 45.

or A.M. and P.M. as graphic equivalents of the words 'morning' and 'afternoon.'¹

The Pehlevi alphabet, strictly speaking, is the alphabet of the Sassanian period which conserves the monuments of the Pehlevi language; but the name is conveniently employed in a somewhat looser sense to comprehend also the earlier alphabet of the Parthian empire, as well as the later alphabet now used by the Parsis for the transcription of the Zendavesta.

The history of the Pehlevi alphabet is intimately connected with the political fortunes of Persia. On the partition of the empire of Alexander, Central Asia, as far as the Hindu Kush and the Indus, fell under the rule of Seleucus Nicator. In 256 B.C. Arsaces in Parthia, and Diodotus in Bactria, successfully rebelled against Antiochus Theos, the second successor of Seleucus.² The sixth Arsacid, Mithridates I. (174-136 B.C.), united all Iran under his supremacy. Greek princes still ruled in Bactria on the east, and in Syria on the west, but the central provinces were never again subjected to Western influence.

¹ We have many similar logograms in constant use, such as lbs., £. s. d., cwt., dwt., oz., viz., &c., e.g., i.e., &, D.V., N.B., R.S.V.P., R.I.P., Xmas, and it is easily conceivable that the number might have been as considerable in Pehlevi, in which Semitic logograms were employed to represent about 400 words of most constant recurrence, thereby giving a language which, when spoken, was almost purely Aryan, and the appearance, when written, of a semi-Semitic jargon. See West, *Pahlavi Texts*, p. xiii.

² See, however, Gardner, *Parthian Coinage*, p. 3.

Parthia proper was little more than the modern province of Khorasan, but the natural features and position of this region, and the hardy and warlike character of its inhabitants, who were probably of Scythic race, enabled them, like the Mongols at a later time, to establish a great Oriental empire. For nearly five centuries the invincible Parthian horsemen protected Central Asia from foreign conquest. At no time did there exist any universal Roman dominion, there was always a second great empire, which divided with Rome the sovereignty of the earth, which repeatedly defied and defeated the Roman legions, and whose court, rivalling in magnificence that of the Achæmenian kings, afforded to exiles a welcome refuge from the vindictiveness of Rome. Hence the so-called history of Parthia is really the history of Western Asia for the eventful centuries during which the Arsacid empire lasted. The great Asiatic revolution which took place in 226 A.D. marks the revival of Iranian nationality. Persia passed from the dominion of Scythian or Tartar kings to the rule of native Persians. The long line of the twenty-nine Arsacid princes was brought to an end by the revolt of the satrap Ardeshir (Artakshatr or Artaxerxes), a grandson of Sassan, through whom he traced his lineage to the royal Achæmenian line. In three great battles the Parthians and Persians contended, the Parthian king Artabanus was slain, and the Arsacid empire, which had lasted for 476 years, was replaced

by the monarchy of the Sassanids, itself destined to endure for a nearly equal period.

Ardeshir successfully endeavoured to revive the feeling of Iranian patriotism, and the glories of the Achæmenian empire. He restored the ancient Magian fire-worship, and caused a bas-relief, which represents him on horseback trampling on the prostrate figure of Artabanus, to be carved on the rock at Nakhsh-i-Rustam, near Persepolis, close to the portrait of Darius, his reputed ancestor. The inscription is trilateral, in the Pehlevi of West and East Iran with a Greek translation. His son Shahpur (Sapor I., 241-272 A.D.) recorded his victory over the Romans on the same historic rock. Shahpur is represented on horseback, the Emperor Valerian kneeling before him as a suppliant. Shahpur has also left his effigy on the rock at Nakhsh-i-Rajab, near Persepolis, and in the cave at Haji-abad. The inscriptions which accompany these sculptures, and the long series of Pehlevi legends on the Sassanian coins, supply abundant materials for the history of the Pehlevi alphabet in its second stage.

The rise of Islam brought the Sassanian monarchy to an end. Persia was almost the first country to be attacked. Ctesiphon was taken in the year 16 A.H., and an immense booty was sent to the Khalif Omar at Medina. Four years later, with the great battle of Nehavend, fought in 641 A.D., in which 100,000 Persians are said to have fallen, Zoroastrianism as a

national faith, and the last of three Iranian empires, came to an end, after the Sassanian dynasty had ruled Persia for upwards of four centuries.

After the Arab conquest the Pehlevi character was replaced by Arabic,¹ which is now the alphabet of Persia. Many of the fire-worshippers, preferring exile to conversion, fled from Persia. On the western coast of India, from Surat to Bombay, there are nearly 70,000 descendants of the refugees who emigrated from Iran at the time of the Arab conquest. They still speak Parsi, an ancient Persian dialect, and they preserve to the present day their primitive religion, their venerable literature, and the ancient alphabet in which their sacred books are written. According to a tradition which they preserve, their ancestors first took refuge on the island of Hormuz in the Persian gulf, from whence they passed to Din on the coast of Gujarat, which they reached about the end of the 9th century A.D.

From the foregoing historical sketch it will be seen that the development of the Pehlevi alphabet may be naturally divided into three successive stages, corresponding to the three epochs of Iranian history. These three Pehlevi types are (1) The ARSACIDAN, which was developed in Persia during the period of the Parthian empire, 256 B.C. to 226 A.D.; (2) the

¹ Pehlevi legends are found on the coins of the Arab Khalifs down to the year 81 A.H., after which Kufic became the official character, and the Pehlevi alphabet finally disappeared from Persia.

SASSANIAN, or Pehlevi proper, which prevailed under the dynasty of the Sassanids, 226 to 651 A.D.; (3) the PARSİ or Indian Pehlevi, often called the Zend alphabet, which was used by the fugitives who fled to India from the Arab conquerors.

The earliest form of the Pehlevi alphabet is that which is found on the coins of the Parthian kings and satraps. By its discoverer, Sir Henry Rawlinson, it was called the 'Parthian' alphabet. But as it had no special connexion with Parthia, properly so called, this appellation has been disused. It was then called 'Persepolitan,' the principal inscriptions in which it is used having been found in the neighbourhood of Persepolis. Since many of the Sassanian inscriptions come also from the same region this name was relinquished in favour of the term Chaldæo-Pehlevi, which, however, is neither compendious nor specially appropriate. But as this alphabet was that distinctively employed under the Parthian dynasty, the term least open to objection seems to be ARSACIDAN, which will therefore be adopted in these pages.

The earliest type of the Arsacidan alphabet goes by the name of Proto-Pehlevi (p. 236, col. iii). The monuments in this character are scanty in the extreme, owing to the fact that the Greek alphabet was ordinarily used by the Parthian kings during the first two or three centuries of their empire. Having no literature, art, or civilization of their own, they seem to have prided themselves on their imitation of Greek

culture. The Arsacids call themselves on their coins "friends of the Hellenes." Greek was spoken at their court, and Plutarch tells us that plays of Euripides were acted before Orodes, the opponent of Crassus. Under the Parthian rule the language of the Greek colonists no doubt survived in the provincial cities, which were self-governing and semi-independent communities. As Mr. Gardner has well observed, the language and alphabet of the Greeks must have been to the Parthian conquerors of Persia what the Latin language and literature were to the Goths and Franks of the 8th century. This explains the fact that the earlier Parthian coins are in a good Greek character. In the reign of Gotarzes (42-50 A.D.) the Greek legends become barbarous, and finally unintelligible, the Greek letters being strewn about the surface of the coin in a way which shows that the mint-masters were ignorant of Greek,¹ and strove merely to produce some colourable resemblance of an earlier coin. This conventional imitation of a Greek legend finally disappears about the year 130 A.D., and henceforward a new legible character, which was plainly quite familiar to those who used it, takes its place upon the coins.

¹ In these later Parthian coins the Greek words are often hopelessly undecipherable, and even when, with the help of the earlier coins from which they were imitated, they can be made out, the most absurd errors are found, such as *vos* for *uios*; *κεκαλυσνος* for *κεκλημενος*, or *φιλελληχος* for *φιλελληνος*, while even the dynastic name *Αρσακου* becomes *Αριανου*.

This new alphabet, evidently a long-established form of writing, now at last officially adopted, is not identical with, or very closely related to, any other alphabet which has been discovered, its nearest known congeners being the cursive Aramean, which is found some four or five centuries earlier on the coins of the Achæmenian satraps of Asia Minor, and the Indo-Bactrian character, older by more than three centuries, used by Asoka at Kapur-di-giri.

The characteristic peculiarities of this early Arsacidan alphabet are first discernable on the coins of Artaxias of Armenia (c. 189 B.C.), the letters *vau*, *gimel*, *yod*, *samekh*, and *shin* showing a tendency to depart from the Aramean type in the direction of the Pehlevi forms. The development of these tendencies may be traced through the Armeno-Parthian mintages to the close of the dynasty, and are seen also on the coins of the kings of Characene. A coin of Sanabares, struck at the beginning of the Christian era, may be said to exhibit the earliest actual example of the Pehlevi alphabet. A century later the names of the Arsacidan kings appear regularly on the Parthian coins in Pehlevi letters, with the title *malka*, 'king.'¹ The final

¹ The series of Pehlevi legends begins with Mithridates IV. (107 to 113 A.D.) and is continued on the coins of Vologeses IV., Vologeses V., Vologeses VI., Artabanus V., ending with Artavosdes, the last Parthian king (227 A.D.). They are engraved in plates 6 and 7 of Gardner's *Parthian Coinage*. An alphabet compiled from these coins is given in column iii. of the Table on p. 236.

form of the Arsacidan alphabet is shown in the biliteral inscriptions of the two first of the Sassanian kings—namely, in the inscription of Ardeshir Babekan at Nakhsh-i-Rustam and the inscription at Haji-abad¹ of Shahpur I. (240-273 A.D.).

The SASSANIAN alphabet appears in a fully-developed form in the elaborate inscriptions of the founders of the Sassanian empire.² Subsequent to the date of these great inscriptions the monuments of the Pehlevi alphabet are mainly numismatic, with the exception of the "Devonshire Amethyst," which is the seal of Varahran IV. (c. 380 A.D.). From the time of Ardeshir to that of Narses (226-302 A.D.) the alphabet of the coins agrees with that of the early inscriptions. During the next three centuries the alphabet undergoes gradual modification till about the year 600, when it has approximately assumed the form found in the oldest copies of the Avesta.

Thus the history of the Sassanian alphabet may be

¹ A cast of this inscription, taken by Sir Henry Rawlinson, is in the possession of the Royal Asiatic Society. An excellent photographic copy is published in the *J. R. A. S.* for 1868. The alphabet is given in column iv. of the Table on p. 236.

² The chief of these are the trilingual inscription of Ardeshir Babekan, the founder of the Sassanian monarchy, at Nakhsh-i-Rustam, near Persepolis, and the bilingual inscription of his successor Shahpur, at Haji-abad, from which the alphabet in column v. of the Table on p. 236 has been obtained. There is another inscription of Shahpur at Nakhsh-i-Rajab, and an inscription of Narses at Shahpur.

said to begin with the inscription of Ardeshir Babekan (226–240 A.D.), the first of the Sassanian kings. But even then the forms of the letters plainly prove that it was already of considerable antiquity. The fact that both Ardeshir and Shahpur should have thought it necessary to commemorate their deeds by means of biliteral inscriptions, in the Sassanian as well as in the Arsacidan alphabet, proves that for a considerable antecedent period the two Pehlevi alphabets must have existed side by side.¹ The Sassanian alphabet is more cursive² than the Arsacidan, but the distinction between the two was doubtless mainly geographical, the one having been the alphabet of Eastern, and the other of Western Iran.

Although both the Pehlevi alphabets were in contemporaneous use at the date of the earliest inscriptions, yet the Arsacidan is plainly the more primitive of the two, agreeing with respect to a considerable number of letters with the Kapur-di-giri inscription,³ which is earlier by several centuries. It was derived in all probability from the ancient

¹ The above-named coin of Sanabares, struck in the year 2 A.D., has an Arsacidan *s* on one side, and a Sassanian *a* on the other.

² The more cursive character of the Sassanian forms may probably be explained by the nature of the writing materials employed—possibly birch-bark, as Mr. Thomas has suggested.

³ The student should compare these two alphabets, which are given in columns iv. and viii. of the Table on p. 236. The letters numbered 2, 3, 4, 6, 7, 11, 12, 13, 15, 17, 19, and 20 exhibit resemblances more or less conspicuous.

alphabet of Eastern Iran, a sister alphabet of the Aramean of the Satrapies.

The Sassanian alphabet, on the other hand, must be referred to a subsequent stage of the Aramean. It corresponds not so much to the fourth century Aramean and the third century Indo-Bactrian, as to the earliest form of the Palmyrene, and to the primitive conjectural type of the Arsacidan. But its connexion with the Palmyrene as well as with the Arsacidan was somewhat remote, as will be seen if we remember that these three very distinct alphabets were nevertheless absolutely contemporaneous. Shahpur, from whose biliteral Haji-abad inscription we obtain the Arsacidan and Sassanian alphabets given in the Table, was the contemporary of Odenath, husband of Zenobia, whom he twice defeated. Hence the Palmyrene alphabet in its final stage, the Sassanian, and the Arsacidan, were used at the same period in adjacent regions; the Arsacidan having the Palmyrene to the west, and the Sassanian to the east. After the death of Shahpur both the Palmyrene and the Arsacidan alphabets fell into disuse, the Syriac of Edessa prevailing in the west, and the Sassanian in the regions towards the east.

The final stage of the Pehlevi script commonly goes by the name of the Zend alphabet, since it is the vehicle in which the existing copies of the Zend Avesta are preserved.¹ The name however is misleading,

¹ The word Zend, more correctly written Zand, denotes the 'com-

inasmuch as the so-called Zend language is the most primitive form of Iranian speech,¹ while the Zend alphabet was the last development of the Iranian script. The Zend language and the Zend alphabet are therefore separated from each other by an interval of some twenty centuries. It would therefore seem more accurate to call it the PARSİ alphabet, rather than by the more usual name of Zend. The character which is now used by the Parsis for the transcription of their sacred books, is a modified form of the alphabet found in the oldest copies of the Zend Avesta. Though none of these manuscripts are believed to be earlier than the 14th century, the forms of the letters seem to have been

mentary' on the Avesta or 'revelation.' The sacred literature of the Parsis consists of the 'Avesta,' which contains the ancient Magian litanies and laws, together with the 'Zand' or Pehlevi translation and commentary. European scholars have converted the Avesta with its Zand into the 'Zend-Avesta,' and have further taken Zend to be the name of the original language in which the Avesta was written, which is much as if we should designate the language of the Pentateuch and the Psalms as 'Talmud.' See West, *Pahlavi Texts*, p. x.

¹ "Zend" is the old language of Eastern Iran, it has no literature except the Avesta, and has left no linguistic descendants. It ranks with Sanskrit and Pali as being the vehicle of one of the great religions of the East. Parsi, or Pazend, was the vernacular of Eastern Persia, and is nearly identical with the language of the Shah-nameh of Firdusi, written in the 10th century A.D. Modern Persian is the descendant of the sister dialect of Western Persia, as represented in the language of the Achæmenian inscriptions, corrupted with Arabic words and idioms. The Iranian languages are:—1. Zend; 2. Achæmenian Persian (5th century B.C.); 3. Pehlevi (3rd century A.D.); 4. Parsi (10th century A.D.); 5. Neo-Persian.

transmitted with little alteration from the Sassanian period. The alphabet is nearly identical with that found in Indian inscriptions in the Pehlevi character, the earliest of which is assigned to the end of the 9th century. This again agrees very closely with the characters on the coins struck towards the close of the Sassanian monarchy, that is, from the reign of Chosroes II. to the time of the Arab conquest.

Although the forms of the letters have been so little modified during the last twelve centuries, yet the Pehlevi alphabet has undergone extensive amplifications in its Indian home. The oldest MSS. exhibit five additional characters, which are not found on the coins. These were obtained from the older letters by differentiation. This process was subsequently extended, the nineteen Semitic letters which are found in the Sassanian alphabet having been developed, in modern Parsi, into seventeen vowels and thirty-six consonants, constituting one of the most elaborate of existing scripts. The difficulty is increased by the assimilation of the forms of several letters, and by the use of numerous conventional ligatures,¹ the

¹ Thus the symbol 𐬎 stands for *y, i, e, d* and *g*, and when doubled is identical in form with 𐬎 *s*. This last symbol has seventeen separate phonetic values, such as *dag, gag, gad, yi, di, gi, s*. Again, 𐬎 *sh* is undistinguishable from the ligature of 𐬎 *y, i, e, d, g* and 𐬎 *a*, and may have sixteen different values. Hence this script presents a remarkable example of the ambiguities producible by the 'law of least effort.' See vol. i., pp. 161 to 166; and West, *Pahlavi Texts*, p. xvi.

number of separate graphic symbols with which the reader has to be acquainted amounting to no less than 168.

To explain in detail the development of the fifty-three letters of the Parsi alphabet out of the nineteen Sassanian characters would not be difficult, as the materials are ample,¹ but the intrinsic interest of the subject would hardly justify the dedication of the considerable space that would be needed. It is a matter rather for specialists, than for the student of the general history of the alphabet. It may suffice to append a Type-table of the more usual Parsi or 'Zend' letters, as now used in printed books.

PARSI OR ZEND ALPHABET.

𐬀	a	𐬁	iy	𐬂	g	𐬃	th	𐬄	l
𐬅	â	𐬆	û	𐬇	gh	𐬈	d	𐬉	r
𐬊	e	𐬋	uv	𐬌	n̄	𐬍	dh	𐬎	v
𐬏	ā	𐬐	e	𐬑	j	𐬒	n	𐬓	w
𐬔	æ	𐬕	é	𐬖	c	𐬗	p	𐬘	s
𐬙	â	𐬚	o	𐬛	z̄	𐬜	f	𐬝	š̄
𐬞	i	𐬟	ó	𐬠	z	𐬡	b	𐬢	š̄
𐬣	î	𐬤	k	𐬥	t	𐬦	m	𐬧	h
𐬨	u	𐬩		𐬪	d̄	𐬫	y	𐬬	hw

The process by which the vowel signs were elabo-

¹ These developments can easily be traced by the aid of the three admirable *Pehlevi Schrift-Tafeln* compiled by Dr. Euting to illustrate Hübschmann's *Iranische Studien*, which appeared in Kuhn's *Zeitschrift für vergleichende Sprachforschung* in 1878 (vol. xxiv., N. F. iv.). Of these Tables extensive use has been made in the present chapter.

rated is, however, worthy of note, as it illustrates similar alphabetic developments. Here, as in other cases, the adaptation of a Semitic alphabet to an Aryan language necessitated the evolution of symbols for the vowels which play so important a part in Aryan speech. Four breaths and semivowels, *aleph*, *he*, *vau*, and *yod*, were taken over, and converted, by differentiation and combination, into seventeen vowel signs.¹

The history of the recovery of the Iranian alphabet and literature forms a chapter of almost romantic interest in the arid annals of Philology. In the middle of the last century a portion of the Avesta was attached by an iron chain to a wall of the Bodleian, and was regarded as a mysterious treasure of which the key was lost. Fired with the ambition of unlocking the secret of Zoroaster, Anquetil Duperron, then a mere lad studying at Paris, enlisted as a common soldier with the object of reaching India. Landing at Pondicherry, he mastered Persian and Sanskrit, and thus

¹ With regard to 'ayin, specialists are inclined to believe that it disappeared altogether, as it represented no Persian sound. This, however, cannot be regarded as beyond dispute. An inspection of the Table on p. 236 will show that one of the Arsacidan letters, col. iv., Nos. 1 and 16, differs considerably from the Aramean *aleph*, but is almost identical in form with the Aramean 'ayin (cols. i. and ii., No. 16). See, however, Lenormant's explanation, in *Jour. Asiat.* 1865, (Ser. vi., vol. vi., p. 220.), and compare the name and form of the Armenian equivalent. The Parsi letters $\aleph a$, $\aleph \acute{a}$, $\aleph \bar{a}$, $\aleph \grave{a}$, are all descended from this doubtful character.

equipped for his enterprise he succeeded after years of hardships and adventures in reaching Surat, the goal of his hopes, where, winning himself into the confidence of the Parsi priests, he obtained from them the key to their ancient alphabet and language, and copies of their sacred books, hitherto guarded with the utmost jealousy. After an absence of eleven years he returned to Paris, and the next day deposited in the Bibliothèque Royale the treasure won at the cost of so many perils. Seven years of labour were devoted to the task of preparing a translation of the Zend Avesta, which was at last published in 1771, only to be received by the learned world with mockery and derision, as a puerile and audacious forgery. The controversy raged for half a century, and it was not till twenty years after the death of this intrepid pioneer of science that the researches of Rask and Burnouf set the question at rest, and finally established the genuineness and unique importance of the treasure so hardly won.¹

Meanwhile Sylvestre de Sacy,² by the aid of Anquetil's researches and of the Greek version of the bilingual inscription at Nakhsh-i-Rustam, which had been copied by Ker Porter, succeeded in deciphering the early Sassanian alphabet. The alphabet having once been recovered, numerous scholars, among whom the names of Ouseley, Tychemsen, Longpérier, Dorn, Ols-

¹ See *Mémoires de l'Académie des Inscriptions*, vol. xxxi., and Darmesteter, *Zend-Avesta*, pp. xiv. to xxiv.

² De Sacy, *Mémoire sur quelques antiquités de la Perse*. Paris, 1793.

hausen, Thomas, and Mordtmann deserve special notice, devoted themselves to the explanation of the legends on the very numerous coins of the Sassanian dynasty. To a countryman of our own, Mr. Edward Thomas, belongs the final honour of having deciphered the oldest of the Pehlevi alphabets, the Arsacidan. This was done by means of the copy of the bilingual inscription of Shahpur at Haji-abad, obtained by Sir H. Rawlinson. The researches of Spiegel, Haug, Windischmann, Westergaard, Darmesteter, Hovelacque, West, and Hübschmann, have now fulfilled the hopes and crowned the labours of Anquetil, by creating the great and fruitful science of Iranian philology.¹

¹ The student may consult vol. i. of *Prinsep's Essays*, by Thomas; Lenormant, *Études sur l'alphabet Pehlevi*, in the *Journal Asiatique*, 6th series, vol. vi., 1865; Lepsius, *Das ursprüngliche Zend Alphabet*, in the Berlin Transactions for 1862, pp. 293 to 383; Olshausen, *Die Pehlewi-Legenden auf den Münzen der letzten Sásaniden* (Kopenhagen, 1843); Levy, *Beitrage Z. D. M. G.*, vol. xxi.; Longpérier, *Essai sur les Médailles des rois Perses de la Dynastie Sassanide* (Paris, 1840). There are also numerous papers by Mordtmann on Sassanian coins in the *Z. D. M. G.*, and by Thomas in the *Numismatic Chronicle* and the *J. R. A. S.* Nothing can be better than the reproductions of Arsacidan coins in Gardner's *Parthian Coinage*, a book which contains an excellent sketch of Parthian history. See also Duncker's *History of Antiquity*, vol. v., and Rawlinson's *Sixth and Seventh Oriental Monarchies*. The legends on the coins reproduced in this work cannot, however, be depended on.

§ 3. THE INDO-BACTRIAN INSCRIPTION OF ASOKA.

The earliest monument of the Iranian group of alphabets comes, strange to say, from a region which formed one of the Indian provinces of the empire of Darius. In 1836 a French officer in the service of Runjeet Singh made known the existence of a long inscription in an unknown alphabet engraved on a rock west of the Indus in the direction of Peshawar. It is usually called the Kapur-di-giri inscription, from the name of a neighbouring village. By the labours of Prinsep, Lassen, and Norris it was ultimately deciphered, and it proved to be a version of the fourteen Edicts of Asoka, the grandson of Sandrocottos (Chandragupta), the contemporary of Seleucus Nicator. Asoka, who has been well called the Constantine of the Buddhist faith, ruled over the greater part of India in the 3rd century B.C. From Gujarat on the western coast, to the Bay of Bengal on the east, and throughout the whole valley of the Ganges, transcripts of the edicts of Asoka have been found at various points, engraved on rocks or pillars. Two alphabets of wholly different character and origin were employed. The Kapur-di-giri inscription is written from right to left, in a cursive alphabet of the Aramean, or rather of the Iranian type. The other copies of the edicts are in a totally distinct character, from which all existing Indian alphabets were subsequently derived. Unlike the cursive and slanting Kapur-di-giri script, the writing is square and

monumental, running from left to right. This alphabet will be discussed at length in the chapter on the Indian alphabets, of which it became the parent; for the present, it need only here be said that whatever its affinities may be, it certainly could not have been, like the other, of Aramean origin. For the alphabet of the Kapur-di-giri inscription various names have been proposed, none of which, however, is entirely free from objection. It has been called the Arian, the Cabulese, and the North Asoka alphabet. The term Ariano-Pali is used in the *Corpus Inscriptionum Indicarum*, while M. Senart designates it as the "North-Western Alphabet," a suggestion which has been approved and adopted by Prof. Max Müller. But any name bestowed from the point of view of Indian Palæography is necessarily misleading, the true connexion of this alphabet being with the Iranian group, of which it is the extreme eastern outlier. It is the Iranian of the east, rather than the Indian of the north-west.

The name "Kapur-di-giri Alphabet," which is frequently employed, is empirical rather than scientific—it obscures the important fact that this alphabet extended over vast regions of Central Asia, while it is not even accurate, since the actual locality from which comes the cardinal monument of this alphabet is not Kapur-di-giri, as is usually asserted, but the contiguous village of Shahbaz-garhi.

The "Bactrian Alphabet," a designation proposed

by Mr. Thomas, though more appropriate than any other as yet suggested, takes no account of the fact that this alphabet was not only the alphabet of Bactria, but still more emphatically that of Afghanistan and the Punjab, whence its chief monuments have been obtained. On the whole, the name INDO-BACTRIAN seems less open to objection than any other, and is therefore adopted in these pages.

With regard to its geographical extension, the Indo-Bactrian alphabet seems to have prevailed throughout the whole region between the great Persian desert and the Indus, that is to say in Ariana, (Herat) Margiana, (Merv) Bactriana, (Bokhara) Alexandria Arachosia, (Candahar), and in India throughout the Punjab.

Its earliest and most important monument is the version of the edicts of Asoka (264—223 B.C.) at Kapur-di-giri. This inscription cannot be earlier than 253 B.C., and was in all probability written in the year 251. In the same alphabet, and of almost contemporary date, is a coin of Agathokles, struck about 240 B.C., which is of importance as showing the wide range of this alphabet over both kingdoms, Bactrian and Indian, at the period when its earliest monuments make their appearance. Its history is continued by the coins of the Greek princes of Ariana and India, which extend down to the year 120 B.C., and these are succeeded by the coins of the Indo-Scythian kings,¹ the Sacæ and

¹ About two centuries after the conquests of Alexander one of the great migrations of nations took place. A Scythian horde swept

Tochari, which range from 120 B.C. to 79 A.D. Under the Indo-Scythians this alphabet received its greatest geographical extension, having been carried as far as the Sutlej, as is proved by an inscription of Kanishka found at Bahawalpur. About the end of the 1st century A.D. the Indo-Bactrian alphabet seems to have become finally extinct in India, being replaced by the rival Indian alphabet. In the west, the earliest Bactrian coins exhibit as a rule Greek types and legends. Subsequently the Greek type disappears, and after the reign of Eukratides (c. 180 B.C.) the coins have Greek legends on one side and Bactrian on the other.

The introduction of the Indo-Bactrian alphabet into India must be assigned to a period considerably earlier than the reign of Asoka, as it makes its appearance in the Kapur-di-giri inscription in a greatly expanded form, the twenty-two Aramean consonants having been developed into an elaborate alphabet of at least 35 letters; five vowels, the cerebral series of consonants, and

down from the frontiers of China and submerged Bactria. The Macedonians were driven from Cabul into the Punjab. Greek captains—Menander, and afterwards Apollodotus—passing through the Khyber, conquered the valley of the Indus, and reduced even Gujarat and Kashmir. The Greeks were afterwards crushed between the advancing Scythian hordes and the great Indian empire of Magadha. The Hellenic influence in India is apparent both in the architecture, and in the coins of the Gupta dynasty, which are of the Greek type. The coins of the Sah kings of Gujarat even have Greek legends.

numerous aspirated letters, all of which are unknown in the Aramean alphabet, having been evolved.¹

General Cunningham assigns the evolution of the Indo-Bactrian alphabet to the end of the 4th century B.C., when the provinces west of the Indus were ceded by Seleucus Nicator to Chandragupta, the grandfather of Asoka. This conclusion is difficult to admit. The assigned cause is insufficient, since the introduction of a western alphabet would be connected with the advance rather than with the retrogression of western influence. Again, the period of fifty or sixty years which would thus be obtained seems wholly inadequate to bring about the wide diffusion, as well as the expansions and differentiations of the Iranian alphabet, which had been effected in the time of Asoka and Agathokles, processes which would necessarily demand lengthened periods of time. Moreover, and this alone seems fatal to the theory, if an alphabet had been obtained by Chandragupta from Seleucus it would not have belonged to the Iranian type, but

¹ That the Indo-Bactrian alphabet did not originally contain all the letters, appears from the fact of the soft aspirates having been developed out of mere ligatures. Thus the character

𐬑 (<i>gh</i>) is the ligature	𐬑	+	𐬀	(<i>g + h</i>)
𐬒 (<i>dh</i>)	,,	𐬒	+	𐬀
𐬓 (<i>bh</i>)	,,	𐬒	+	𐬀

The origin is indisputable, but the modification of form postulates a considerable period of evolution. So the resemblances found in the dental and cerebral series of consonants imply a common origin. For example, 𐬑 (*n*) and 𐬒 (*n*) are plainly differentiated forms, as well as *th* and *dh*, or *q* and *d*. See p. 301, note.

would have been the Greek alphabet, which the Macedonians persistently introduced throughout the eastern regions which they overran.

An earlier date and different political conditions seem on every ground to be demanded for the introduction into India of the Iranian writing. In the first place we possess definite testimony which proves that the art of writing was practised in the valley of the Indus prior to the Seleucidan period. Nearchus, who accompanied Alexander in his expedition into the Punjab, tells us that the people wrote letters on cloth, which was smoothed for the purpose by being beaten. It must, I think, be held that this Punjab script can have been none other than the Iranian alphabet. Thus the Sanskrit word *lipi* 'writing,' as Dr. Burnell has pointed out, is not, as has been thought, derived from the root *lip*, 'to smear,' or from *likh*, 'to scratch,' but, as the dialectic form *dipi* proves, is a corruption of the Achæmenian word *dipi*, 'writing,' 'edict.' This is an indication that the earliest knowledge possessed by the Indian nations of the art of writing came from Persia. For its introduction a probable date and occasion can be assigned. In the year 500 B.C. the Persians under Darius conquered the greater portion of the Punjab, and Herodotus asserts that India, by which he probably means the valley of the Indus, was formed into the 20th satrapy of the Persian empire, paying an annual tribute of 360 talents of gold. In the Persepolis inscription we find that

India constituted the 21st and the 13th of the Persian provinces. The fact that the range of the Indo-Bactrian alphabet was approximately coextensive with the limits of the eastern satrapies of Persia seems to suggest that its introduction and diffusion was a consequence of the Persian conquest. On every ground of historical probability the naturalization of the Persian alphabet in India must be connected with the conquests, not of the Greeks, but of the Persians, who would necessarily employ the art of writing, to them so familiar, in the administration of their Indian satrapies.

Two centuries, therefore, before the Seleucidan period there was opportunity and sufficient cause for the introduction into the Punjab of the Iranian alphabet, and this date would allow adequate time for its adaptation to the needs of the Prakrit idioms, and for the development of the cerebrals, the aspirated consonants, and the vowels, which we meet with in the inscription at Kapur-di-giri.

The complete alphabet of the Kapur-di-giri inscription will be given when we come to consider the other Indian alphabets, with which it has curious relations.¹ It may here suffice to refer to the table of the Iranian alphabets (p. 236) which contains those letters which exhibit the most direct connexion with the Aramean forms.²

¹ See chapter x., § 3.

² With regard to most of these letters, as Nos. 2, 3, 4, 6, 7, 8, 11,

§ 4. THE INDIAN NUMERALS.

The Indo-Bactrian alphabet possesses a special interest for ourselves, inasmuch as it became, in a curiously roundabout way, the source from which were derived some of the ciphers which are designated as the Arabic, or more correctly as the Indian numerals. These names indicate a considerable portion of the history of the ciphers. They were introduced by the Arabs into Spain, from whence during the 12th and 13th centuries they spread over Europe, not, however, without considerable opposition. The bankers of Florence, for example, were forbidden, in 1299, to use them in their transactions, and the Statutes of the University of Padua ordain that the stationer should keep a list of the books for sale with the prices marked "non per cifras, sed per literas claras." The name 'ciphers,'¹ here used to denote the new numerals, is an Arabic word, and indicates the immediate source from which they were obtained. Their use was at first confined to mathematical works, they were then employed for the paging of books, and it was not till the 15th century that their use became general. The earliest European forms are found in MSS. of the 12th century, and by the 14th century they had practically

12, 13, 14, 15, 19, 20, the affiliation is beyond dispute. Other derivations, especially Nos. 1, 5, 9, 16, 22, are only put forward conjecturally.

¹ Arabic *ṣifr*, Italian *zefiro*, 'zero.' Cf. French *chiffre*.

assumed their modern shapes. The 12th century forms differ very slightly from the Gobar or "dust" numerals, used by the Arabs in the 10th century, which are found in a MS. of that date written at Shiraz, in Persia. According to the tradition of the Arabs they were brought from India about the 8th century. Comparing them with the contemporary Sanskrit and Kawi numerals this tradition is plainly seen to be correct. These Sanskrit numerals have been shown by Dr. Bunnell to be slightly modified forms of the numerals used in inscriptions of the Vengi dynasty, which belong to the 4th or 5th century A.D. These again can be traced to the numeral signs used in the inscriptions of the Western Caves, which are assigned to the 1st and 2nd centuries of our era.

The question now arises as to the ultimate origin of these Cave numerals, which are proved by a chain of evidence to be the remote ancestors of our present forms. That they were not generally used in the time of Asoka is shown by the numbers being denoted in his edicts by parallel lines I II III IIII IIIII. Their origin is therefore reduced within definite chronological limits. They have every appearance of having originally been letters from some alphabet, and I have elsewhere endeavoured to show¹ that they are letters derived from the Indo-Bactrian alphabet. At the time of their origin two alphabets were contending in

¹ See the *Academy*, January 28th, 1882.

north-western India, the southern alphabet prevailed in the struggle for existence, the obsolescent Bactrian letters, however, conveniently surviving as numerical signs.

There are two ways in which alphabetic characters may be employed as numerals. The letters may either be taken in their alphabetic order, as in Hebrew or Greek, or the initial letters of the words denoting the numbers may be similarly employed. The Indians adopted the latter method, the initial letters of the numbers being thus used as abbreviations for the number, instead of writing the word at full length. The annexed Table will show how this was done.

It will be seen that the Cave numeral for 5 is identical in form with the Indo-Bactrian letter پ (p), which is the initial of the Sanskrit *pañcan* 'five.' The case of 4 is perhaps more convincing on account of the greater complication of the forms, so that any merely accidental similarity is more improbable. In Sanskrit 'four' is *chatur*, and the Cave cipher for four closely resembles the Indo-Bactrian letter which has the power of *ch*, and is almost undistinguishable from the slightly differentiated character for *chh*. Six and seven are *ṣaṣ* and *saptan* in Sanskrit, and here again the cave numerals closely resemble two of the Indo-Bactrian sibilants. The sibilants appear, however, to have been interchanged, but the difficulty is not so serious as it might seem, since the interchange

of sibilants is a recognized feature of the north-western dialect.

THE ARABIC CIPHERS.						Letters of the Indo-Bactrian Alphabet.
European.		Gobar.	Indian.			
Sec. xiv.	Sec. xii.	Sec. x.	Sec. x.	Sec. v.	Sec. i. A.D.	
1	۲	۱	۱	۱	—	
2	۲	۲	۲	۲	=	
3	۳	۳	۳	۳	≡	
4	۴	۴	۴	۴	۴	۴ = chh
5	۵	۵	۵	۵	۵	۵ = p
6	۶	۶	۶	۶	۶	۶ = s
7	۷	۷	۷	۷	۷	۷ = ş
8	۸	۸	۸	۸	۸ ۳	۸ = aš?
9	۹	۹	۹	۹	۹	۹ = n
0	۰	.	۰	۰		۰ = d

The origin of the ciphers for 8, 9, and 10 is not so obvious, but it seems not impossible to refer the cipher for 8 to the conjectural ligature¹ *aš*, standing for *aštan* 'eight;' that for 9 to *n*, the initial of *navan*, 'nine;'

¹ This ligature does not actually occur in the Kapur-di-giri inscription, but the form given in the Table is that which analogy would lead us to expect.

and the cipher for 10, which is found in a Punjab inscription written in the reign of Kanishka, to *d*, the initial of *dasan*, 'ten.'

The signs for the three first numerals are of more doubtful origin. In the Cave inscriptions these numbers are denoted by $- = \equiv$, from which the curved Vengi symbols were manifestly obtained. From these it is quite possible that the 10th century Devanagari ciphers may have been derived, although, till intermediate forms are discovered, it is impossible to speak positively. But as in the inscriptions of Asoka the numbers 4 and 5 are expressed by IIII and IIIII, a notation which was subsequently superseded by the initials of the words *chatur* 'four' and *panchan* 'five,' it is not impossible that the method of acrologic notation may have had a further extension, the ciphers for 1, 2, and 3 having been derived from the initial letters of the words *eka*, *dva*, and *tri*, to which they bear some resemblance. Probably the question can only be settled absolutely by the discovery of transitional forms for these three ciphers.¹

¹ The curious resemblances between some of the Indian and Egyptian numerals have not been satisfactorily explained. The two systems are most probably independent, the resemblances being merely superficial and accidental. The Neo-Pythagorean numerals, however, are probably related to the Egyptian ciphers. Soon after the appearance of my article in the *Academy*, an essay on *The Genealogy of Modern Numerals*, by Sir E. C. Bayley, was read before the Asiatic Society (J. R. A. S., vol. xiv., N.S. pp. 335—376). The writer argues that the Indian numeral system was of "an eclectic

The Table exhibits the chief stages in the history of the Arabic ciphers according to the foregoing hypothesis. The first column gives the 14th century ciphers, which are practically identical with those now in use. The second column contains the earliest European forms, from MSS. of the 12th century. The Gobar numerals of the Arabs come next. The three following columns show the Indian ciphers of the 10th, 5th, and 1st centuries A.D., and these are followed by the suggested alphabetic prototypes, taken from the Indo-Bactrian coins and inscriptions of the 2nd and 1st centuries B.C.¹

§ 5. THE ARMENIAN AND GEORGIAN ALPHABETS.

The Armenian and Georgian alphabets may be regarded as the only living representatives of the great

character," some signs being of Egyptian origin, others Phœnician, and some possibly cuneiform. The numerals for 4, 5, 6, 7, 8, 9, he considers to be the Bactrian letters *chh*, *p*, *g*, *a*, *b*, *h*. M. Bertin (*Academy*, Feb. 11, 1882) believes that the Indian ciphers were developed in India out of the Egyptian system.

¹ The history of the Arabic ciphers has been investigated by Woepcke, *Mémoire sur la Propagation des Chiffres Indiens*, by Pihan, *Signes de Numeration*, and by Cantor in the *Zeitschrift f. Math. und Physik*, 1856. The successive European forms are given by Wattenbach, *Anleitung zur lateinische Palæographie*, p. 88; and by Friedlein, *Gerbert, die Geometrie des Boethius, und die indischen Ziffern*, plate vi. The Indian forms, together with an excellent discussion of the question, will be found in Burnell's *South Indian Palæography*. Cf. Holle, *Tabel van Indische Alphabetten*, plates 30—35.

Iranian alphabet ; the Parsi, so far as it can be said to survive, being an ecclesiastical script, used and understood only by a learned class.

The exceptional preservation of these two alphabets, and their successful resistance to the encroachments of Syriac, Greek, and Arabic, is doubtless due to special circumstances. In the case of the Georgian it may be attributed to the peculiarity of the language and the inaccessibility of the mountain region inhabited by the people ; while in addition to these causes the powerful conservative influence of religious isolation has aided in the preservation of the script of the Armenians, who never having accepted the decrees of the Council of Chalcedon, constitute an independent Jacobite sect, under their own patriarch.

These alphabets also claim attention on another ground. As a rule, the evolution of graphic signs being a gradual and almost insensible process, has escaped the notice of contemporary historical writers, and the problem of their origin has to be worked out by means of such epigraphic materials as can be obtained from the evidence of inscriptions and coins. In this instance we have a notable exception to the ordinary rule. No ancient inscriptions having been preserved,¹ and the numismatic evidence being singularly scanty, it becomes necessary to rely on liturgical

¹ None of the codices are earlier than the 9th or 10th century A.D. Of the coins the most important is one of Gorig IV., assigned to the 11th or 12th century. See Langlois, *Numismatique de l'Arménie*.

fragments of mediæval date. But in place of the usual epigraphic evidence we have to deal with the unique circumstance of a full and venerable tradition which relates the conditions under which these alphabets were believed to have originated. (Our information comes from the Armenian historian, Moses of Khorene, who attributes the origin of both the Armenian and Georgian alphabets to St. Mesrob, who flourished about the year 400 A.D. He had been a secretary at the court of the Armenian kings, Varazdates and Arsaces IV., where the 'Persian' writing was used. After a time he resigned his post in order to devote himself to a religious life. The Armenians had adopted Christianity about a century before this time, and the Persians, with whom the political connexion was close, being Zoroastrians, the Armenian church leant for support on Constantinople. To render his church independent of the Persians on the one hand, and of the Greeks on the other, and not improbably prompted by the Armenian king, Mesrob determined to discover for his fellow-countrymen an alphabet suitable for ecclesiastical use, which they did not then possess. He consulted with Plato, a Greek rhetorician at Edessa, and with Ruphanus, a learned monk of Samos, and obtained from them a knowledge of the alphabet used by the Greeks. With this aid he succeeded in constructing an Armenian alphabet "on the pattern of the Greek writing," the letters, according to the tradition, being revealed to him from heaven in

a vision. With the help of Isaac, the Armenian patriarch, he translated the New Testament into Armenian, using apparently the Peshito version, and introduced his new alphabet into Armenia, with the exception of the districts ecclesiastically subject to the Archbishopric of Cæsarea, in which the Greek alphabet was used instead of the "Assyrian," which prevailed elsewhere. In 406 A.D. the Mesropian alphabet was adopted by an edict of the Armenian king.

In the year 410 Mesrob went among the Iberians (*i.e.* Georgians), and in concert with the Georgian king Artchal (413—446 A.D.) furnished them also with a suitable alphabet of 28 letters.

The significance of this account has now to be determined. It throws light, to begin with, on the curious relations which are found to exist between the Armenian and Georgian alphabets, and possibly accounts for their somewhat artificial character. But here we are confronted with a problem which has occasioned considerable controversy. The statement of Moses of Khorene that Mesrob constructed his alphabet "on the pattern of the Greek writing" may be taken to mean either that he took the Greek alphabet and adapted it to the needs of Armenian speech, or that he merely remodelled the defective local alphabet in use among the Armenians, conforming it in general style and appearance to the more regular and ornate type of Byzantine MSS. The text does not absolutely exclude either of these interpretations. The question

whether the Armenian belongs fundamentally to the Greek or to the Iranian group of alphabets must be determined on internal evidence.¹

Dr. Friedrich Müller, in a very able essay,² has constituted himself the champion of the fundamentally Aramean character of the Armenian and Georgian alphabets, while the arguments in favour of a Greek origin have been urged by Gardthausen.³ The evidence on either side is partly historical, and partly palæographical.

That the Armenians were in possession of an alphabet before the time of Mesrob, is certain not only from the mintages of early Armenian kings, but also from a passage in Philostratus, from which we learn that the Armenians had an alphabet of their own as early as the 2nd century A.D. This alphabet must have belonged to the Iranian group, as appears from the statement of Moses of Khorene, that in some parts of

¹ A third hypothesis, wholly untenable, has been advocated by Brosset, *Éléments de la Langue Géorgienne* (Paris, 1837). He contends that the Armenian and Georgian alphabets were constructed by Mesrob on the basis of the Indian Nagari, with the addition of a number of arbitrarily invented symbols. It may suffice to say that the superficial resemblances, on which M. Brosset relies, disappear when the older forms of the Nagari letters are taken into account.

² Müller, *Ueber den Ursprung der armenischen Schrift* (Transactions of the Vienna Academy for 1864).

³ Gardthausen, *Ueber den griechischen Ursprung der armenischen Schrift*, in the *Z. D. M. G.*, vol. xxx., 1876.

Armenia the Greek alphabet was employed instead of the "Assyrian" letters which were used elsewhere. By "Assyrian" letters, the Arsacidan alphabet must be meant. This conclusion is confirmed by the legends on the early Armenian coins, which are in an alphabet of the Arsacidan type, as well as by the early connection of Armenia with the Parthian monarchy. The employment of the "Persian," that is, the Sassanian letters, by Mesrob in his office of royal secretary, is explained by the political dependence of Armenia upon Persia.

Mesrob's very superficial knowledge of Greek and his familiarity with the Pehlevi alphabets which were used by his countrymen, together with the fact that he was unable to introduce his new alphabet into that part of Armenia in which the Greek letters were already known, are reasons for believing that the new alphabet of Mesrob was based on the indigenous Iranian script, and not an adaptation from the Greek.

The internal evidence is to the same effect. The long interval of four or five centuries which elapsed between the time of Mesrob and the oldest existing fragments of the Armenian script make it unsafe to attach much importance to mere external similarity in the forms of the characters, which are liable to undergo extensive mutations in the course of centuries. But taking such evidence for what it is worth, it will be found that the oldest forms of the Armenian and

Georgian letters when reversed¹ can be deduced with no great difficulty from the Pehlevi forms, while they rarely exhibit any appreciable resemblance to the Greek.²

Putting aside all such seductive but treacherous evidence, it will be found, as in other cases, that the names and order of the letters supply an argument whose cogency cannot be disputed.

From the Table of the Armenian³ and Georgian

¹ The old forms of the Armenian and Georgian letters, reversed, are given in columns ix. and x. of the Table on page 236. The Armenian forms have been taken from a stray leaf preserved in the British Museum containing part of the tenth chapter of St. John's Gospel, which is assigned to the 9th century (Add. MSS. 19,735), compared with two copies of the Gospels, one of the 10th century in the Bibliothèque Nationale at Paris, the other of the 11th century in the British Museum (Add. MSS. 19,727). Three facsimiles of Armenian MSS., one of the 11th century, and two of the 16th, are given by Silvestre, *Pal. Univ.*, pl. xlii. The old Georgian letters are taken from a 10th century Book of Liturgies at Paris (MSS. Geor. No. 2), and from a somewhat later palimpsest liturgy for Lent (*ib.*, No. 17). The British Museum, unfortunately, does not possess any ancient Georgian MSS. These alphabets are nearly identical with those obtained from the oldest Vienna MSS., which are given by Dr. Friedrich Müller in his essay on the origin of the Armenian alphabet, to which I am under heavy obligations.

² For instance, by referring to the Iranian Table on p. 236, and comparing the Armenian letters *a, b, k* and *n* (col. ix., nos. 1, 2, 11, 14) with the corresponding Pehlevi forms in col. iv., and also with the Greek letters **A B K N**, the reader may easily determine for himself the relative probability of an Iranian and a Greek origin.

³ This Table contains the modern type forms of the letters as used in printed books. The ordinary Armenian capitals and minuscules will be found in columns i. and ii., and the cursive characters in

alphabets given on the next page it will be seen that the Georgian¹ alphabet has preserved almost unimpaired the primitive Semitic arrangement, while in the Armenian, though the order of the letters has been to some extent disturbed, the primitive names have, in several cases, been preserved with so little change as to admit of identification.²

column iii. The names *da*, *za*, *ra*, &c. are pronounced dah, zah, rah, and *khe*, *pe*, *re*, &c. as khay, pay, ray. The duplicate phonetic values correspond to the pronunciation in the two Armenian dialects. The Eastern dialect, which represents the older pronunciation, is spoken in Tiflis, and by the Armenians of Persia and India; the newer Western dialect being used in Constantinople, in the Turkish provinces of Asia Minor, and in the Armenian convents at Venice and at Vienna. Thus the 2nd, 3rd, and 4th letters, which are sounded as *b*, *g*, *d*, at Tiflis, have become *p*, *k*, *t*, at Constantinople.

¹ The Georgian alphabet is called the *Anban* from the names of the two first letters. The Anban has two distinct forms, the civil and the ecclesiastical, differing so greatly that they might be regarded as separate alphabets. The oldest alphabet, now confined to liturgical use, is a square and monumental uncial alphabet of thirty-nine letters, called the Khutsuri, or 'sacerdotal,' from the word *Khutsi*, a 'priest.' The capital and minuscule forms are given in columns iv. and v., p. 277. The other alphabet is the Mkhedruli Kheli, or 'soldier's hand,' given in col. vi. It is a cursive rounded script of forty letters, used for ordinary purposes. The Khutsuri does not differ very greatly from the ancient forms, from which both alphabets are descended. On the Georgian alphabet, see Brosset, *Éléments de la Langue Géorgienne*.

² The present order is for the most part of great antiquity, as is proved by the discovery of an ancient Armenian Grammar found some fifty years ago among the treasures of the Bibliothèque Nationale at Paris. Dioynsius Thrax, who lived at the end of the

THE ARMENIAN ALPHABETS.

Names.	Capitals.	Minuscules.			Numerical Values.	Names.	Capitals.	Minuscules.			Numerical Values.
		Minuscules.	Cursives	Values.				Minuscules.	Cursives.	Values.	
Aib	Ա	ա	ա	<i>a</i>	1	Mien	Մ	մ	մ	<i>m</i>	200
Bien	Բ	բ	բ	<i>b, p</i>	2	HeorYe	Ծ	յ	յ	<i>h', y</i>	300
Gim	Գ	գ	գ	<i>g, k</i>	3	Nu	Ն	ն	ն	<i>n</i>	400
Da	Դ	դ	դ	<i>d, t</i>	4	Sha	Շ	շ	շ	<i>sh</i>	500
Yetch	Ե	ե	ե	<i>e, y</i>	5	Wo	Ո	ո	ո	<i>oo, wo</i>	600
Za	Զ	զ	զ	<i>z</i>	6	Jha	Չ	չ	չ	<i>jh, j</i>	700
E	Է	է	է	<i>ē</i>	7	Pe	Պ	պ	պ	<i>p, b</i>	800
Et	Ը	ը	ը	<i>ě</i>	8	Che	Չ	չ	չ	<i>ch</i>	900
Tto	Թ	թ	թ	<i>tt, th</i>	9	Ra	Ր	ր	ր	<i>rr</i>	1000
Zhe	Ժ	ժ	ժ	<i>zh</i>	10	Se	Ս	ս	ս	<i>s</i>	2000
Ini	Ի	ի	ի	<i>i</i>	20	Viev	Վ	վ	վ	<i>v</i>	3000
Liun	Լ	լ	լ	<i>l</i>	30	Tiun	Տ	տ	տ	<i>t, d</i>	4000
Khe	Խ	խ	խ	<i>kh</i>	40	Re	Ր	ր	ր	<i>r</i>	5000
Tsa	Ծ	ժ	ժ	<i>ts, dz</i>	50	Ttso	Յ	յ	յ	<i>ts, dz</i>	6000
Kien	Կ	կ	կ	<i>g, k</i>	60	Hiun	Ի	ւ	ւ	<i>u</i>	7000
Kwo	Կ	կ	կ	<i>h</i>	70	Ppiur	Փ	փ	փ	<i>pp, ph</i>	8000
Dza	Չ	ժ	ժ	<i>dz, ts</i>	80	Khe	Ք	ք	ք	<i>kk, kh</i>	9000
Ghat	Պ	պ	պ	<i>gh</i>	90	O	Օ	օ	օ	<i>o</i>	10000
Je	Ճ	ճ	ճ	<i>j, jh</i>	100	Fe	Փ	ֆ	ֆ	<i>f</i>	20000

THE GEORGIAN ALPHABETS.

Names.	KHUTSURI.		MKHEDE-RULI.	Values.	Numerical Values.	Names.	KHUTSURI.		MKHEDE-RULI.	Values.	Numerical Values.
	Capitals.	Minuscules.	Cursives.				Capitals.	Minuscules.	Cursives.		
An	ა	ან	ა	<i>a</i>	1	Ttan	ბ	ბ	ბ	<i>tt</i>	300
Ban	ბ	ბან	ბ	<i>b</i>	2	Un	გ	გ	გ	<i>u</i>	400
Gan	გ	გან	გ	<i>g</i>	3	Vi	დ	დ	დ	<i>vi</i>	
Don	დ	დონ	დ	<i>d</i>	4	Par	ე	ე	ე	<i>p</i>	500
Eni	ე	ენი	ე	<i>e</i>	5	Kan	ვ	ვ	ვ	<i>k</i>	600
Win	ვ	ვინ	ვ	<i>w, v</i>	6	Ghan	გ	გ	გ	<i>gh</i>	700
Zen	ზ	ზენ	ზ	<i>z</i>	7	Qar	ყ	ყ	ყ	<i>q</i>	800
He	ჲ	ჲე	ჲ	<i>h'</i>	8	Shin	შ	შ	შ	<i>sh</i>	900
Than	თ	თან	თ	<i>th</i>	9	Chin	ჩ	ჩ	ჩ	<i>ch</i>	1000
In	ი	ინ	ი	<i>i</i>	10	Tsan	ც	ც	ც	<i>ts</i>	2000
Kan	კ	კან	კ	<i>kk</i>	20	Dzil	ძ	ძ	ძ	<i>dz</i>	3000
Las	ლ	ლას	ლ	<i>l</i>	30	Ttsil	წ	წ	წ	<i>tts</i>	4000
Man	მ	მან	მ	<i>m</i>	40	Ttshar	ჭ	ჭ	ჭ	<i>ttsh</i>	5000
Nar	ნ	ნარ	ნ	<i>n</i>	50	Khan	ქ	ქ	ქ	<i>kh</i>	6000
Ye	ყ	ყე	ყ	<i>y</i>	60	Kkhar	ყ	ყ	ყ	<i>kkh</i>	7000
On	ო	ონ	ო	<i>o</i>	70	Jan	რ	რ	რ	<i>j</i>	8000
Ppar	პ	პარ	პ	<i>pp</i>	80	Hae	ს	ს	ს	<i>h</i>	9000
Zhan	ჟ	ჟან	ჟ	<i>zh</i>	90	Hoe	ვ	ვ	ვ	<i>hoi</i>	10000
Rae	რ	რე	რ	<i>r</i>	100	Fa	ფ	ფ	ფ	<i>f</i>	
San	ს	სან	ს	<i>s</i>	200				ე	<i>ë</i>	

Taking first the Georgian alphabet, it will be seen that a Greek origin is out of the question; letters which had disappeared from the Greek alphabet being retained in their primitive stations. Thus the sixth Georgian character is *v*, a letter which had dropped out of the Greek alphabet nine or ten centuries before the time of Mesrob. It is quite impossible that the *digamma* should have been found in an alphabet obtained from a Greek monk in the 5th century A.D., retaining its primitive alphabetic position, and its ancient value. Yet this is what must be actually maintained if the Georgian alphabet is to be regarded, as Gardthausen contends, as merely a remodelled form of the Greek alphabet. Again, in the Greek alphabet the eighth letter had for many centuries lost its power as an aspirate, and had become simply a vowel, but in Georgian it retains its primitive value. The eighteenth Georgian letter is a dental sibilant, evidently representing the Semitic *tsade*, which disappeared at a very early period from the Greek alphabet. One of the corresponding Armenian characters retains the primi-

2nd century B.C., wrote a compendious Greek Grammar which for several centuries was the standard work used in schools. The Paris manuscript is an Armenian translation of this Grammar, made apparently not long after Mesrob's time, and adapted for teaching Armenian instead of Greek. From this work we learn the number and order of the Armenian letters, and several of their names. See the French translation by Cirbied, *Grammaire de Denis de Thrace* (Paris, 1830), who gives in a note on pp. 9—11 an excellent account of the phonetic powers of the Armenian letters. See also Petermann, *Grammatica Linguae Armeniacae* (Berlin, 1837).

tive name in the easily recognizable form of *ghat* or *ghadh*.

The names of the Georgian letters have undergone so much assimilation that they yield no very certain inferences; but in the Armenian alphabet, though the order has been disturbed, the ancient names are occasionally preserved with so little alteration as to make it possible to identify them. Thus the alphabetic station corresponding to that of 'ayin (Arabic *ghain*) is occupied by an Armenian guttural bearing the name *ghien* or *kien*. Neither the value nor the name could have been obtained from *omicron*, the Greek descendant of this letter. Again, the Armenian *kwo* represents the Semitic *qoph*, a letter long disused in Greek; the name *mien* is also plainly derived from *mim*, and not from the Greek *mu*; while *gim* or *kim*, the third Armenian letter, must have come from *gimel* (Arabic *jim*), and not from *gamma*.

The foregoing considerations prove conclusively that the Greek alphabet could not have been, as Gardthausen contends, the basis on which the Armenian and Georgian alphabets were constructed.¹

¹ Gardthausen's Greek hypothesis hardly requires detailed refutation. His comparison of the forms of the letters is singularly futile. For his Greek prototypes he does not confine himself to contemporary forms, but arbitrarily ranges over all epochs, up to the 2nd century B.C. He seems to be unacquainted with the Pehlevi forms, to which as a rule the Armenian letters bear a closer resemblance than they do to the Greek. The case of the letters ϕ and χ , admittedly added by Mesrob from the Greek alphabet, proves

There is, however, ample evidence that the local alphabets, which were remodelled by Mesrob, were supplemented and completed from Hellenic sources. In both alphabets, Armenian and Georgian, the same Greek letters have been borrowed, and placed after the primitive Iranian or Aramean characters.¹ Thus we have after the letter *t* :—

Armenian.	Georgian.	Greek.
Է <i>u</i>	ჲ <i>v</i>	Υ <i>u</i>
Փ <i>p, ph</i>	ჟ <i>p, ph</i>	Φ <i>ph</i>
Կ <i>k, kh</i>	კ <i>k</i>	Χ <i>kh</i>

In addition to these borrowed letters, the Armenian alphabet appears also to have been remodelled “on the pattern of the Greek writing,” as Moses of Khorene asserts. Mesrob doubtless desired to see the Liturgies and Gospels of the Armenian Churches rivalling in regularity and beauty the books used by the Greeks. The divine vision of which we read in the tradition was doubtless a dream, in which his mind unconsciously

nothing, while the evolution of the Armenian vowels, and the changed direction of the writing, are phenomena in the history of alphabets so familiar as to be of no argumentative importance.

¹ The addition of these Greek letters to the Armenian and Georgian alphabets is paralleled by the introduction of the Greek signs **Y** and **Z** into the Latin alphabet, or by that of six Demotic characters into the Coptic, which in other respects is a Greek alphabet. The Cypriote characters found in the Lycian alphabet, and the Greek vowel signs used in Syriac, are also examples of the process by which defective alphabets are occasionally supplemented.

recalled the appearance of some costly Byzantine codex which had been shown to him by the monk Ruphanus.

Besides adding the three Greek letters, and probably also altering the direction of the writing,¹ Mesrob seems simply to have taken the local Pehlevi alphabet, and conformed it to the style of the contemporary Greek manuscripts, changing the irregular, sloping, cursive Pehlevi forms into a square and regular uncial script, upright and geometrical, and giving definite shapes to the ambiguous characters, so that an ancient Armenian codex is not very dissimilar in general aspect to a Greek uncial manuscript of the same age.

What is called the 'invention' of the Armenian and Georgian alphabets by St. Mesrob must therefore have been an operation analogous to the 'invention' of the Mæso-Gothic alphabet, which is attributed to Ulphilas. We know that Ulphilas took certain Gothic runes and conformed them to the pattern of the contemporary Byzantine alphabet. His letters mostly bear the rune names—several of them are simply the old runes with some trifling change of outline; others were borrowed from the Greek alphabet; and some are compromises, partaking partly of the runic forms, and partly of the Greek. Mesrob's innovations were probably much of the same nature.

The conjecture may also be hazarded that Mesrob's

¹ All the Armenian letters have evidently been reversed, whereas in Georgian this operation seems to have been arbitrarily and partially effected.

Armenian and Georgian alphabets were based respectively on the two contemporary forms of the Pehlevi alphabet. The Armenians, a civilized Christian people, were already in possession of an alphabet which, as we learn from Moses of Khorene, prevailed throughout the greater part of their country. He calls it "Assyrian," a name by which the Arsacidan or Chaldæo-Pehlevi script is plainly meant. But there is no reason to suppose that the Georgians, a rude race of mountaineers, possessed any native alphabet; and it would seem that Mesrob constructed his new Georgian alphabet on the model of the Sassanian, or, as Moses of Khorene calls it, the "Persian" alphabet, the dominant and fashionable script of the Persian and Armenian courts, which was officially used by Mesrob in his office of royal secretary. Doubtless he would have used the same model for the Armenians, had they not been already familiar with the older and ruder Arsacidan forms. To introduce a wholly new alphabet into Armenia would have been impossible, but to remodel the old one was practicable and easy.

This hypothesis accounts for the fact, which hitherto has not been noticed or explained, that the Armenian characters manifestly belong to an earlier alphabetic type than the Georgian; numerous resemblances to the primitive Indo-Bactrian letters being found in Armenian, while in Georgian they are almost wholly absent. Taking, for instance, the letter *m* (no. 13 in the Iranian Table on p. 236), it will be seen that the Indo-

Bactrian form is identical with the Armenian,¹ while the entirely different Sassanian form agrees with the Georgian. So again the Armenian *l* (no. 12) has the Indo-Bactrian and Arsacidan form, while the Georgian can be obtained without difficulty from the Sassanian.

Both alphabets, the Armenian and Georgian, in addition to the letters borrowed from the Greek, contain a number of new characters, evidently obtained by differentiation, in order to provide signs for the peculiar sounds, such as the numerous aspirated and sibilated sounds by which these languages are distinguished.² That these new symbols are later additions to the original alphabet of Mesrob may be conjectured from the order of the Georgian alphabet. It begins with twenty-one characters, answering to the letters of the primitive Aramean alphabet; next in order we

¹ The same comparison may be extended to other letters, such as *g* (no. 3), *z* (no. 7), *k* (no. 11), *p* (no. 17), *ts* (no. 18), *r* (no. 20), and *t* (no. 22). Again, with regard to *n*, *d*, and *r*, and several other letters, it will be seen that the Armenian letters have the Arsacidan form, while the Georgian are Sassanian in type. The Georgian forms are somewhat more difficult to recognize than the Armenian on account of the tendency to form closed loops, which is apparent to some extent in the Sassanian, and which was carried still further in the Zend. We see this exemplified in the case of the letters *m* and *l*, just cited, as well as in *r*, which is **𐌹** in Armenian and **𐌺** in Georgian; *s*, which is **𐌸** in Armenian and **𐌶** in Georgian; and the two dentals *d* and *t*, which are **𐌳** and **𐌴** in Georgian as compared with **𐌱** and **𐌲** in Armenian.

² Thus Georgian has signs for *s*, *z*, *sh*, *zh*, *ts*, *dz*, *tts*, *ttsh*, *j*, *ch*, *kh*, *gh*, *kkh*.

have four letters borrowed from the Greek alphabet, which may be supposed to be additions made by Mesrob; and these are followed by fifteen letters apparently formed by differentiation, making altogether the forty characters of which the alphabet consists.

In the Armenian alphabet the evidence is not so clear, as there has been considerable dislocation in the order of the letters. The new forms obtained by differentiation are usually found in juxtaposition with the old forms from which they were derived. The first thirty-three letters may however be taken to represent the original Pehlevi alphabet with its subsequent expansions; these are followed by the three Greek letters whose introduction may be attributed to Mesrob, while at the end of the alphabet are two additional Greek letters, (O) and (P), which are known to have been added to the others as late as the 12th century.

It is probable that if the differentiated forms had in both cases been added by Mesrob they would have been dealt with in a similar way in the two alphabets—they would either have been placed at the end of the alphabet, as in Georgian, or next to the parent forms, as in Armenian.

Mesrob's Armenian and Georgian alphabets may therefore be held to have consisted of the primitive Iranian letters given in cols. ix. and x. of the Table on p. 236, together with three or four additional letters obtained from the Greek, the remaining characters being merely differentiations.

CHAPTER X.

INDIAN ALPHABETS.

§ 1. *The Multiplicity of Indian Scripts.* § 2. *Asoka.* § 3. *The Primitive Alphabets of India.* § 4. *The Origin of the Indian Alphabets.* § 5. *The Epoch of Transition.* § 6. *The Vernacular Alphabets.*

§ 1. THE MULTIPLICITY OF INDIAN SCRIPTS.

GIBBON estimated the subjects of the Roman empire, at the time of its greatest extension, at 120 millions. The population of India is more than twice as great, being nearly equal to that of Europe. The distinct alphabets employed by this vast aggregate of human beings outnumber all the other alphabets used in the remainder of the world. Many of them are among the most elaborate that have ever been devised. It is therefore obvious that any detailed treatment of so vast a subject would demand a space wholly disproportioned to any interest which it might possess, save to an extremely limited band of specialists. All, therefore, that will be here attempted is a short account of the more important early inscriptions; a discussion of the origin of the primitive alphabet of India; and

a brief outline of the relations and distribution of existing scripts.

A collection of modern Indian handwritings, such, for instance, as may be found in a lithographed volume, recently published, containing upwards of sixty facsimiles of letters detained in the Dead-Letter Office at Agra,¹ not only exhibits the immense variety of the scripts employed,² but discloses the fact that the Indian

¹ Hutchinson, *Specimens of various Vernacular Characters passing through the Post Office in India*. Calcutta, 1877. An earlier and less complete collection was published by the same editor in 1873.

² Taken alphabetically, the chief indigenous scripts included in this collection are:—Arowrah (Sind), Assamese (Assam), Baniah (Sirsa and Hissah), Bengali (Bengal and the great cities of the N. W. P.), Bhawalpuri (Bhawalpur), Bisati (N. W. P.), Devanagari (Hindi literature), Dogri (Kashmir), Grantham (Tamil Brahmans), Gujarati (Gujarat and Rajputana), Gurumuki (Sikhs in the Punjab), Kaithi (Hindus in Oudh and N. W. P.), Kanarese (Kanara and Mysore), Karadi (Baniahs in Sind), Khoja (eunuchs and merchants in native States), Lamawassi (Pindi), Lundi (Sealkote), Malayalim (Malabar and Travancore), Mahrathi (Gwalior and Indore), Marwari (merchants in Rajputana), Modi (Oudh), Multani (Multan), Munipuri (Munipur), Muria (merchants in Behar), Nepali (Nepal), Nimari (central Provinces), Ojha (Brahmans in Behar), Pahari (Kumaon and Gurhwal), Parachi (Bhera), Rori (bankers in the Punjab), Saihsi (servants in N. W. P.), Surafi (bankers in N. W. P.), Sarika (Dehrajat of Punjab), Shikapuri (upper Sind), Singalese (Ceylon), Sindi (Sind), Tamil (South of Madras), Telugu (North of Madras), Thul (Dehrajat of Punjab), Tibetan (Tibet), Tulu (Mangalore), Uriya (Orissa). The Trans-Gangetic alphabets, such as Burmese, Siamese, Laos, Cambodian and Peguan, and the numerous alphabets of Java and the Philippines, all of which belong to the Indian group, might also be included in the list.

alphabets furnish a sort of epitome of Indian history, their development being intimately connected with the religious and political fortunes of the country during the last 2000 years.

It is easy to see that the vernacular scripts divide themselves into four or five great classes ; these classes being essentially coincident with divisions of race, language, or religion.

The non-indigenous handwritings may first be set aside. Through an Indian Post Office may pass letters written in Chinese, Annamese, Armenian, and Syriac (Karshuni), and others in a variety of European scripts which are descended from the Latin alphabet. The next thing to be remarked is the wide-spread influence of the Mohammedan conquest which preceded the English dominion. This is shown by the various adaptations of the Neskhi Arabic to the necessities of non-Semitic speech : such are the Urdu used for Hindustani by the official class, the Persian employed by educated Mohammedans, the Pushtu of the frontier tribes on the Upper Indus, the Baluchi somewhat further to the south, in addition to peculiar local varieties of the Neskhi alphabet which have arisen in Sind, Bombay, Malabar, and Singapore. Coming to the strictly indigenous alphabets, we find, first, nearly a score descended from the sacred Devanagari script in which the Sanskrit literature is mostly conserved ; others derived from the Pali, the old alphabet of the Buddhist scriptures ; at least a dozen belonging to the

southern or Dravidian family of alphabets ; nearly as many to the Gujarati or western type, and others to the eastern or Bengali class.

These multitudinous scripts, extensive as is their geographical range, dissimilar as they are in their superficial aspect, and even in their structural characteristics, may be traced back to one single source, the alphabet used in the most ancient written monuments of India. There is no uncertainty as to the decipherment, date, or authorship of these primæval records. They consist of the Edicts issued by the great Buddhist monarch Asoka, who ruled over the greater part of India in the 3rd century B.C. Most of them were engraved before Hannibal was born ; they are actually older than those primitive monuments of the Latin alphabet, the inscriptions on the tombs of the Scipios. Yet, in spite of this great antiquity, the letters are in many cases as distinct as on the day when they were written : they can be translated with considerable certainty, and it is possible to fix their date almost to a single year.

The difficult study of Indian Epigraphy is greatly facilitated by the fortunate circumstance that all the Indian alphabets have thus diverged from one type of definite date, for the investigation of which such ample materials exist. In other regions the ancient alphabetic forms have to be tentatively deciphered from fragments of mortuary records of conjectural age, or from the curt and obscure legends on battered coins. But in India the

oldest monuments of the primitive writing consist of a magnificent series of contemporaneous inscriptions, written before the divergence of the Indian alphabets began, indisputable in date, in a wonderful state of preservation, repeated again and again, almost in the same words, on rocks and pillars throughout the whole breadth of Hindustan.

The elaborate and beautiful alphabet employed in these records is unrivalled among the alphabets of the world for its scientific excellence. Bold, simple, grand, complete, the characters are easy to remember, facile to read, and difficult to mistake, representing with absolute precision the graduated niceties of sound which the phonetic analysis of Sanskrit grammarians had discovered in that marvellous idiom. None of the artificial alphabets which have been proposed by modern phonologists excel it in delicacy, ingenuity, exactitude, and comprehensiveness.

§ 2. ASOKA.

The darkness and confusion of early Indian history is illumined by one brilliant epoch of about eighty years in duration. Before this period we have to grope in the dim twilight of the Buddhist chronicles, recording mere empty names and uncertain legends; after it comes a great blank of seven centuries, during which we have again to be content with barren catalogues of kings and dynasties compiled from coins and

chronicles, which are hardly more instructive than the lists of Manetho.

The history of our own island only begins when Cæsar stepped upon the Kentish shore. In like manner the charge of the Macedonian cavalry against the elephants of Porus, on the banks of the Jhelum, constitutes the earliest certain landmark in the history of India. Alexander's invasion of the Punjab in 327 B.C. at once brings India into historical relations with the Western world.

In 315 B.C., eight years after the death of Alexander, Chandragupta, a petty Indian Raja, who is to be identified with the *Σανδρόκοττος* of the Greek historians, drove Eudemus and the Macedonian garrisons out of the Punjab. Overthrowing the petty local dynasties, he founded a powerful empire, which extended from the Sutlej to the Ganges. Seleucus, who had accompanied Alexander on his Indian expedition, advanced against Chandragupta as far as the Indus; but finding him too strong to be successfully attacked, he concluded with him a matrimonial alliance, and made a treaty, ceding the mountain territory west of the Indus. Arrian and Strabo have preserved extracts from a work written by Megasthenes, who was sent from Babylon by Seleucus to reside as his ambassador in the court of Chandragupta at Palibothra (Patna), near the confluence of the Ganges and the Sone. These fragments from the writings of Megasthenes, together with Arrian's epitome of the account written

by Nearchus, who commanded Alexander's fleet, furnish the earliest knowledge of India from the side of Western culture.

From the Indian side a still brighter light is shed by the inscriptions of the Raja Piyadasi, as he calls himself, who is to be identified with a Maurya king who goes by the name of Asoka¹ in the Buddhist chronicles. The grandson of Chandragupta, he was the third monarch of the new dynasty, and ruled over the most extensive empire that India had yet known. Asoka has left his handwriting, as it were, in the Edicts which he caused to be engraved on rock and pillar throughout his extensive dominions, and in the tributary states.

These inscriptions contain internal evidence by which their date can be sufficiently ascertained. In the second and thirteenth Edicts, Asoka mentions as his ally and contemporary the *Yona-rajā* or 'Ionian king' Antiyoke (Antiochus Theos, 261-246 B.C.), and also refers to the *chatura rajane*, the 'four Rajas,' Turamaye (Ptolemy II. of Egypt), Antikini (Antigonus of Macedonia), Maka (Magas of Cyrene), and Alikasandare (Alexander II. of Epirus). From these and other indications the date of these Edicts may be fixed between 253 and 250 B.C., the most probable date being

¹ Various spelt Aṣoka, Aśoka, Aṣoka, Açoka, or Asoka, according to the system of transliteration adopted. The Pali form Asoka, which Dr. Hunter adopts, evades typographic difficulties. The second letter is the palatal sibilant ष, which is usually sounded like *s* in *sure*.

the year 251.¹ They connect the confused Indian chronology with that of the Western world, making it possible on the one hand to reckon back to the Buddhist era of the Nirvana of Gautama Buddha, while on the other they afford a fixed point of departure from which the dates of the succeeding dynasties of the Sah and Gupta kings can be approximately ascertained.

These Edicts are chiefly concerned with the practical enforcement of the duties enjoined by the Buddhist faith. Few events have more profoundly affected the human race than the birth and teaching of the Buddha, one of the greatest and most original thinkers the world has ever seen. His grand conception of the foundation of a Kingdom of Righteousness, and the scheme which he propounded of a higher and unworldly life as the right means for the attainment of blessedness, has no parallel in the History of Religions save in the Kingdom of Heaven upon Earth which it was the aim of the Founder of Christianity to establish. Setting aside, on the one hand, the habitual practice of asceticism, and on the other the indulgence of the passions, he invited his disciples to tread the eightfold path to blessedness, striving to fulfil the eight cardinal duties—right views, high aims, kindly speech, upright conduct, a harmless livelihood, perseverance in well-doing, intellectual activity, and earnest thought.

¹ Cunningham, *Corpus Inscriptionum Indicarum*, p. 5. See, however, Rhys Davids' *Coins of Ceylon*, p. 42.

This Gospel of purity, mercy, and unselfishness was rapidly and widely accepted, and eagerly followed. It had a brief period of magnificent success, overshadowed and lost through the blind idolatry paid to its founder's memory. The teacher was deified, while his teaching was forgotten; and, after centuries of decline, Buddhism, with its splendid dawn, has sunk into a wretched and grovelling superstition.¹

It was about two centuries after the death of the Buddha that his religion attained its culminating triumph. Asoka, the greatest of Indian monarchs, embraced its doctrines, and established it as the state religion throughout his vast dominions. He endeavoured to enforce on his subjects the sublime principles of the Buddhist faith, principles so noble that even after eighteen centuries of Christian teaching, to ordinary men they still seem, like the precepts contained in the Sermon on the Mount, ideal and utopian. To compare Asoka with Constantine, as has repeatedly been done, would be to compare him with a man his inferior in every respect, intellectual, moral, and religious; but this is still the closest parallel which history affords. "If a man's fame," says Köppen, "can be measured by the number of hearts which revere his memory, by the number of lips which have mentioned and still

¹ On the doctrines of Buddhism, the standard authorities are Burnouf's *Introduction* and Hardy's *Manual*. Cf. Rhys Davids' *Buddhism*, his *Hibbert Lectures*, and an article by the same writer in the *Fortnightly Review* for December, 1879.

mention him with honour, Asoka is more famous than Charlemagne or Cæsar."

The Edicts of Asoka, which he promulgated from the Indus to Ceylon, enjoin on his subjects the practical exercise of the precepts of goodness, virtue, benevolence, humanity and religion. Dutiful service to parents, kindness to kinsfolk and acquaintance, filial veneration towards spiritual teachers, respectful obedience to masters, kindly consideration for servants and dependents, frugality and temperance in daily life, abstinence from evil speaking and slandering, and a tender regard for the whole animal creation—these are the teachings which Asoka inculcates in his Edicts. They express the universal religion of humanity, and are enforced by the plea that their observance will secure happiness in this world and in the next.

The manifold interest of the inscriptions of Asoka can hardly be exaggerated. They yield a firm standing ground in the vast quagmire of early Indian history; their ethical interest is unique; as authentic records of the primitive Buddhist faith they occupy no mean position in the religious history of mankind; and they are also of supreme palæographical significance, since they conserve in an unimpeachable form the ancient alphabet of India, the source from which have been derived countless Indian scripts of every type—Tibetan, Pali, Nagari, Dravidian, and Malay.

Seventeen versions of the Edicts of Asoka have been discovered. They are engraved on rocks and

pillars in all parts of India, and there are several inscriptions of dedication on caves or rock-cut temples which were constructed by him. There are also six pillar inscriptions, of which the best known are those at Delhi and Allahabad. On five of the pillars are inscribed the six Edicts promulgated in the year 236 B.C., while the rock inscriptions contain copies, more or less complete, of the fourteen earlier Edicts which date from 251 B.C. One of the most perfect covers the eastern face of a huge granite boulder, 75 feet in length and 12 in height, at Girnar, near Junagarh, in Gujarat. There is another copy at Dhauli, in Orissa, on the opposite coast of India. There is a third near Ganjam, 50 miles south of Dhauli; a fourth, in a different alphabet, at Kapur-di-giri, on the frontiers of Afghanistan; and a fifth, 400 miles to the south-east, at Khalsi. There are also six rock inscriptions, containing single Edicts. An imperfect fragment, on which the well-known title of Asoka can however be read, has been brought from Ceylon.¹

¹ Facsimiles of all the inscriptions, with translations, are given in vol. i. of the *Corpus Inscriptionum Indicarum*. These lithographs are greatly inferior to the beautiful phototypes of the Girnar inscription published by Mr. Burgess in the *Indian Antiquary* and the *Archæological Survey of Western India*. See also Professor Dowson's article on Indian inscriptions in the *Encyclopædia Britannica*, vol. xiii., p. 118; Prinsep's *Essays*; Smith's *Life of John Wilson*. The foregoing sketch of Asoka and his times has been abridged from Wheeler's *History of India*, vol. iii., and Duncker's *History of Antiquity*, vol. iv.

The wide range of these inscriptions shows the extent of the dominion or supremacy of Asoka. They are found from Gujarat on the western coast to Orissa on the east; as far north as Peshawar, as far south as the boundary of the Madras Presidency, if not even in Ceylon. They range over 15 degrees of longitude, and 27 of latitude.

§ 3. THE PRIMITIVE ALPHABETS OF INDIA.

The inscriptions of Asoka are written in three local Pali or Prakrit¹ dialects, evidently derived by long continued detrition from the Sanskrit of the Vedas. Two wholly distinct alphabets are employed. The version at Kapur-di-giri, on the north-western frontier of Asoka's realm, is in the Indo-Bactrian alphabet, which belongs, as has been already shown, to the Iranian group. The alphabet used in the other versions of the Edicts is of far greater importance, as it is the source of the existing Indian scripts.

This alphabet defied for many years the efforts of scholars to decipher it. The key was ultimately discovered by the sagacity of Prinsep. While copying a number of short inscriptions from the pillars of a

¹ The word *prakrita* means 'derived' or 'second-hand,' as distinguished from *sanskrita*, or 'perfect.' The Girnar inscription is in a dialect almost identical with the Pali in which the Buddhist scriptures are written. It differs from the dialect of the Kapur-di-giri inscription on the one hand, and from that of the Orissa copy on the other.

temple at Sanchi he noticed that they all terminated with the same two letters. On the assumption that the inscriptions were records of dedication, he conjectured that these two letters represented the word *danam*, 'gift.' He was thus furnished provisionally with the letters *d* and *n*. Supposing that the preceding word would be the name of the donor in the genitive case, he obtained the letter *s*. Applying this key to the inscription on one of the Delhi columns, he made out the frequently recurring name of Piyadasi, by which Asoka designates himself, and enlarged his conjectural alphabet by the aid of analogies supplied by the older forms of the Nagari alphabet. He then found himself able to transliterate and translate the longer and more important set of Edicts engraved on the Girnar rock.¹ Hence the Delhi pillar and the granite boulder at Girnar may fairly take their place in the history of Epigraphy beside the bilingual inscription of Malta, the Rosetta stone, and the rock of Behistun.

The ancient alphabet, thus happily recovered, having been deciphered by Prinsep from an inscription on a *lat* or 'pillar,' was called by him the Lat Alphabet. For obvious reasons this provisional appellation is now generally discarded. The kingdom of Magadha (now Behar) having been the early home of the Buddhist faith, and the seat of the Maurya dynasty to which

¹ See Prinsep's Paper in *J. R. A. S.*, vol. vi.; reprinted in the collected *Essays*.

THE PRIMITIVE ALPHABETS OF INDIA.

	I. GUTTURALS.	II. PALATALS.	III. CEREBRALS.	IV. DENTALS.		V. LABIALS.		VI. SEMI-VOWELS.	VII. SIBILANTS.	VIII. VOWELS.		
	Indo-Bactrian.	Asoka.	Nagari.	Jones.	Max Müller.		Indo-Bactrian.	Asoka.	Nagari.	Jones.	Max Müller.	
	h h	+	क	k	k	V. LABIALS.	h	८	प	p	p	
	ś ś	ॠ	ख	kh	kh		+	ॡ	फ	फ	ph	ph
	g	ॡ	ग	g	g		ॢ	ॢ	ब	b	b	b
	gh	ॣ	घ	gh	gh		ॣ	ॣ	भ	bh	bh	bh
		।	ङ	ñ	ñ		।	।	म	m	m	m
	ç ç ç	d	च	ch	ç	VI. SEMI-VOWELS.	^ ०	॥	य	y	y	
	ç ॢ ॣ ।	॥	छ	chh	hh		१ ॢ	१	र	r	r	r
	ç ॣ । ॥	॥	ज	j	g		१	ॣ	ल	l	l	l
	ç ॣ	ॣ	झ	jh	gh		ॣ	॥	व	v	v	v
	ç	ॣ	ञ	ñ	ñ		ॣ	ॣ	श	ś	ś	ś
	+	ॣ	ट	t	t	VII. SIBILANTS.	↑	ॣ	ष	sh	sh	
	+	ॣ	ठ	th	th		ॣ ॣ ॣ ॣ	ॣ	स	s	s	s
	ॣ ॣ	ॣ	ड	d	d		ॣ ॣ	ॣ	ह	h	h	h
	ॣ	ॣ	ढ	dh	dh		ॣ	ॣ	अ	a	a	a
	ॣ	ॣ	ण	ṇ	n		ॣ	ॣ	आ	â	â	â
	ॣ	ॣ	त	t	t	VIII. VOWELS.	ॣ	ॣ	इ	i	i	i
	ॣ ॣ ॣ	ॣ	थ	th	th		ॣ ॣ	ॣ	उ	u	u	u
	ॣ ॣ	ॣ	द	d	d		ॣ	ॣ	ए	e	e	e
	ॣ ॣ	ॣ	ध	dh	dh		ॣ	ॣ	ओ	o	o	o
	ॣ	ॣ	न	n	n		ॣ ॣ	ॣ	अ	an	an	an
I.		II.	III.	IV.	V.		I.	II.	III.	IV.	V.	

Asoka belonged, the names Magadhi and Maurya¹ are sometimes used to designate this alphabet. It often goes by the name of the South Asoka, in contradistinction to the Indo-Bactrian or North Asoka. M. Senart calls it simply the Indian Alphabet: General Cunningham has invented the name Indo-Pali, which has been very commonly adopted. As, however, it was undoubtedly the alphabet used at Asoka's court and throughout the greater portion of his dominions, there can be no great objection to retaining the familiar name of the ASOKA for the alphabet in which, with one single exception, all the numerous inscriptions of the greatest of Indian monarchs are conserved.

For the purpose of comparison, the two ancient alphabets of India, the Indo-Bactrian and the Asoka,² are here given side by side, in the order in which the

¹ I am inclined to think that 'Maurya' would be the best of all possible names for this alphabet, but I have refrained from adopting it because it is unfamiliar.

² The Table exhibits the two usual systems of Indian transliteration. The adaptation of the system of Sir W. Jones adopted for the *Numismata Orientalia* is better known than any other, and has therefore been employed for the Indian alphabets in the present work. The systems of Dr. Burnell and Professor Monier Williams, partly based on the 'Standard Alphabet' of Lepsius, possess obvious advantages, and might be preferred if the Jonesian system had not been in possession of the ground. Professor Max Müller's 'Missionary Alphabet,' used for the *Sacred Books of the East*, though theoretically excellent, is practically inconvenient, since the italics by which the palatals and cerebrals are distinguished are constantly required for other purposes. The same objection applies, though in a less degree, to the Glossic and Palæotype of Mr. Ellis.

letters are now arranged.¹ The classification is highly artificial, and bears evident tokens of having been the work of scientific grammarians. According to the organs of speech by which they are pronounced, the consonants are placed in seven groups (*varga*)—gutturals, palatals, cerebrals,² dentals, labials, semivowels, and sibilants. In each class the tenuis is placed first, followed by its aspirated form. Then comes the corresponding soft consonant, also followed by its aspirate, with the nasal last.³ Initial vowels are represented by

¹ This arrangement must be very old, as the ancient Tibetan version of the *Lalita Vistara*, recording the legend that the youthful Buddha was taught the Indian alphabet, arranges the letters in the present order. The date at which this chronicle was composed is unknown, but it must have acquired considerable repute before 76 A.D., when it was translated into Chinese. See Max Müller's *Ancient Sanskrit Literature*, p. 517, seq.

² The cerebrals are more correctly called linguals. They are pronounced by keeping the tongue as far back as possible. The palatals are modified or softened gutturals. The cerebrals are usually distinguished from the corresponding dentals by a subscript dot, *ṭ*, *tḥ*, *ḍ*, *ḍḥ*, *ṇ*, or in the 'Missionary Alphabet' by italics. Lepsius uses *č*, *čh*, *ǰ*, *ǰh*, *ń*, for the palatals, and *ṣ̌*, *ṣ̌h*, *s*, for the sibilants; Prof. Williams *č*, *čh*, *j*, *jh*, *ñ*, and *ś*, *śh*, *s*; Dr. Burnell *č̣*, *č̣h*, *j*, *jh*, *ñ*, and *ś*, *śh*, *s*; Holle has *tj*, *tjh*, *dj*, *djh*, *nj*, and *ś*, *śh*, *sj*.

³ Nasal sounds are modified according to the organ employed in uttering the contiguous consonant. In the words *ink*, *inch*, *under*, *plinth*, we employ the same symbol, *n*, to express four distinct nasals, whereas Indian languages have separate symbols for the guttural, palatal, cerebral and dental sounds. The guttural nasal ञ, which has the sound of *ng* in *sing*, is usually transliterated by *ñ*, but also by *n* and *ng*. The palatal nasal ण has the sound of *gn* in the French *campagne*; the usual transliteration is *ñ*, but *ń*, *ng*, *nj*, *gn* are used.

independent characters. Medial vowels, other than *ā*, are denoted by strokes, variously disposed, which are normally attached to the preceding consonant. When no vowel is expressed the fundamental vowel *ā* is taken as inherent, a manifest survival pointing to a primitive consonantal or syllabic script.

As to the origin and relations of the two alphabets, they present points, both of agreement and of difference, which are significant and instructive in the highest degree. A careful comparison yields the following results.

1. The Indo-Bactrian and the Asoka must have been developed out of two earlier alphabets, both of which possessed an insufficient number of characters for the necessities of Indian speech.¹

The cerebral nasal **᳚** is usually transliterated by *ṇ*, but Max Müller uses *n*, and Sir W. Jones *ñ*. The dental nasal **᳚** is represented in all systems by *n*. The ordinary English *n*, however, is probably nearer to the Indian cerebral than to the dental.

¹ The Asoka alphabet has been plainly enlarged by differentiation. Thus **᳚** *ch* and **᳚** *chh*, **᳚** *th* and **᳚** *thh*, **᳚** *ḍ* and **᳚** *ḍh*, **᳚** *ḍ* and **᳚** *ḍh*, **᳚** *t* and **᳚** *t*, **᳚** *p* and **᳚** *ph*, **᳚** *y* and **᳚** *v*, **᳚** *b* and **᳚** *bh*, seem to be related forms, and it is difficult to believe that **᳚** *n*, **᳚** *ṇ* and **᳚** *ñ* can be of independent origin. So also with the eight vowels. From the three primitive types **᳚** *a*, **᳚** *e* and **᳚** *u*, all the rest may be easily deduced. Numerous Indo-Bactrian letters were similarly obtained by differentiation. Thus the forms of the letters **᳚** *d*, **᳚** *t*, **᳚** *ḍh*, **᳚** *th*, **᳚** *t*, **᳚** *t*, are so much alike that they cannot all be of independent origin. The same is the case with **᳚** *p* and **᳚** *ph*, **᳚** *ñ* and **᳚** *ṇ*, **᳚** *j* and **᳚** *jh*, **᳚** *s* and **᳚** *sh*, as well as **᳚** *a*, **᳚** *e*, **᳚** *i*, **᳚** *o*, **᳚** *u*. The aspirates *th*, *jh*, *sh*, *ph*, *ḍh*, differ from the letters *t*, *j*, *s*, *p*, *ḍ*, by the addition of a bar; others, as *gh*, *dh*, and *bh*, are apparently ligatures obtained by adding a subscript *h* to the unaspirated letters. See p. 260, note.

2. The two primitive alphabets were in many respects independent and dissimilar. The Indo-Bactrian is slanting, cursive, and irregular, singularly free from looped forms, and written from right to left. The Asoka is written in the opposite direction; it is regular, upright, and rigid, with numerous looped forms. Not only do the two alphabets differ in general aspect, but there is hardly any appreciable resemblance in the forms of the corresponding letters.¹

3. Though the two primitive alphabets were morphologically different, yet structurally they were identical. It may be affirmed that they differ in points in which Semitic alphabets of separate families differ from each other, while they agree in those characteristics as to which all Semitic alphabets are alike.²

¹ It is true that in both alphabets there are characters of nearly identical shape, and this could hardly be otherwise, the possible number of simple symbols being extremely limited, but it is important to note that when the symbols chance to be similar they express different sounds. Thus + denotes *k* in one alphabet and *tʰ* in the other, ʎ is *kʰ* in the Asoka and *a* in Bactrian, ʎ is *ñ* in Asoka and *k* in Bactrian. Thus such similarity as exists between the forms of the letters, tells strongly against the identity of the primitive sources.

² Both alphabets have upwards of forty symbols, about half of which are plainly of secondary origin, obtained by differentiation, in order to express peculiar Indian sounds. Excluding these secondary letters, it appears that both primitive alphabets must have had similar deficiencies, namely, in the nasals, the aspirated consonants, the cerebral and dental series, and the initial vowels. In both alphabets the notation for medial vowels is plainly a supplementary device of late introduction.

4. There are evident signs that the Indian redactions of the two earlier alphabets were to some extent systematic, and not altogether independent.¹

5. The priority of the Asoka is implied by the fact that characters were apparently borrowed from the Asoka by the Indo-Bactrian, while the Asoka exhibits no certain signs of Indo-Bactrian influence.²

The conclusion seems to be that two distinct and ancient types of the primitive Semitic alphabet were independently introduced at distant points of Indian

¹ This is shown by the similarity of the methods employed for vocalic denotation, and for obtaining the additional consonants required. Thus in both alphabets η was obtained from n , ph from p , and bh from b . It is hardly possible that the vowel systems can have been independent. In both alphabets the fundamental vowel \tilde{a} , which in Indian languages constitutes thirty-five per cent. of all the vowels, is not expressed at all, except at the beginning of words, being regarded as inherent in the preceding consonant. In both alphabets the other medial vowels are expressed by a short stroke (-) attached to the covering consonant, and varying in position according to the nature of the vowel to be denoted. In both alphabets the initial vowels are expressed by independent characters. Hence it may be concluded that final redactions of both alphabets were effected by scientific grammarians, aiming at similar objects and working by similar methods.

² The Indo-Bactrian letters $\text{X } ch$, and $\text{Y } chh$ seem to have been respectively obtained from the Asoka $\text{Q } kh$ and $\text{+ } k$, with $\text{L } h$ superimposed. The Asoka alphabet contains no forms which can be assigned to the Indo-Bactrian, but several, such as $\text{O } th$, $\text{O } t'h$, and $\text{D } dh$, which may possibly have been derived from the Greek. As to the vowel notation, the Indo-Bactrian is more primitive and imperfect, the Asoka more elaborate and complete. The Indo-Bactrian looks like a make-shift adaptation of the Asoka method.

territory, that both underwent a gradual evolution, and that finally a systematic redaction and arrangement was effected by scientific grammarians who were acquainted with both alphabets.

§ 4. THE ORIGIN OF THE INDIAN ALPHABETS.

During the last half century the origin of the Asoka alphabet has been the subject of a keen and protracted controversy. The problem is still as far as ever from a solution, as appears from the fact that the two most recent writers on the question, Dr. Burnell and Professor Dowson, specialists whose names carry the greatest weight, have espoused views diametrically opposite.

Three theories have been propounded. Prinsep, followed by Otfried Müller, was inclined to attribute the peculiarities of the Asoka alphabet to Greek influences, an opinion still upheld by M. Senart and M. Joseph Halévy. Dr. Wilson's guess was that "Asoka's Buddhists derived their letters from Greek or Phœnician models." A Semitic origin had, however, been already suggested by Sir William Jones in 1806, and supported by Kopp in 1821.¹ In 1834 Lepsius published his adhesion to this opinion, which was afterwards espoused by Weber, who was the first

¹ Kopp, *Bilder und Schriften*, vol. ii. pp. 348, 374. The acuteness of Kopp appears from the fact that out of the five affiliations of Indian letters which he suggested, only two appear to be erroneous.

to bring forward in its favour arguments of real cogency.¹ Benfey, Pott, Westergaard, Bühler, Max Müller, Friedrich Müller, Sayce, Whitney, and Lenormant have given a more or less hesitating adhesion to the Semitic hypothesis, but without adding any arguments of importance to those adduced by Weber. The most recent advocates on this side are Dr. Deecke, who has marred what might have proved a valuable contribution to the controversy by the introduction of the untenable theory of an ultimate derivation from the Assyrian cuneiform, through the south Semitic alphabet,² and Dr. Burnell,³ who prefers to resort to a hypothetical Aramean alphabet, which may, he thinks, have been "used in Persia, or rather in Babylonia."

A third theory, that of an indigenous origin, is upheld by specialists of nearly equal authority. This solution was first suggested by Lassen. He was followed by Mr. Edward Thomas, who decisively rejects every Semitic source, attributing the invention to the Dravidian races of Southern India. General Cunningham⁴ has propounded an elaborate scheme as to the mode in which, as he considers, the Asoka

¹ In the *Z. D. M. G.*, vol. x. (1856), an essay reprinted in the *Indische Skizzen*, pp. 127—150.

² Deecke, in *Z. D. M. G.*, vol. xxxi.

³ Burnell, *Elements of South Indian Palæography*, Second Edition, 1878.

⁴ Cunningham, *Corpus Inscriptionum Indicarum*, vol. i.

alphabet may have originated out of a primitive Indian picture-writing. The final contribution to the argument is from the pen of Prof. Dowson,¹ whose opinions are entitled to great consideration. His conclusion is that "the peculiarities of the Indian alphabet demonstrate its independence of all foreign origin," and that "it may be confidently urged that all probabilities and inferences are in favour of an independent invention."

Such are the views of the most distinguished specialists who have devoted their attention to the subject. In face of such radical diversity of opinion it may be deemed a bold attempt to pronounce any confident judgment on a matter of such difficulty. There are, however, certain considerations to which due weight does not seem to have been attached, which it seems desirable to submit to the consideration of the reader.

A Greek source may be dismissed without serious examination, as it is beset by difficulties, both chronological and phonological, of a most formidable nature.

As to the more weighty hypothesis of a native origin, it is necessary to bear in mind the actual conditions of the problem, and the extreme slowness of the only process by which, as far as we know, an independent alphabet could have been evolved.

The arbitrary 'invention' of an alphabet may be set aside as contrary to all experience and analogy. The

¹ Dowson, *The Invention of the Indian Alphabet*, in *J. R. A. S.*, N. S., vol. xiii., p. 119. 1881.

history of the various primitive graphic systems, such as the Chinese, the Cuneiform, or the Egyptian, shows that the art of writing has invariably begun with hieroglyphic ideograms, slowly developed into phonograms, and passing gradually through syllabism towards alphabetism, the successive stages of the process occupying in every instance vast periods of time. If then the Indian script arose, as in all other cases, out of a primitive picture-writing, the operation must have been in progress for very many centuries. We should expect therefore to discover survivals of the primitive pictures among the characters used in Asoka's time, as well as actual examples of the earlier hieroglyphs, such as those which have been so abundantly found in Mexico, China, Egypt, Carchemish, and Babylonia.¹ No vestiges of any such primitive

¹ The only attempt to show how the Indian alphabet could have originated out of a primitive picture-writing is that which has been made by General Cunningham. His scheme is, however, wholly conjectural, being unsupported by any known facts. The earlier forms of the Indian letters are actually more alphabetic and less pictorial in appearance than those which subsequently grew out of them. General Cunningham's method, moreover, is so loose and vague, that if it proves anything it proves too much. Thus he contends that the Asoka character δv , is an acrologic picture which may have been intended either for a 'lute,' *vina*, or an 'arm,' *va*, or a 'bamboo,' *vena*, or a 'drop of water,' *vindee*, or an 'arrow,' *van*. So again the letter λt , he thinks, may have been derived from one or other of the words *tan*, 'to spread,' *talah*, 'hand,' *tala*, 'fan-palm,' *tara*, 'a star,' *tarang*, 'a wave,' or *tri*, 'three.' Such an elastic method may establish anything, or—nothing.

devices have come to light in any part of India.¹ On the contrary, the Indian alphabet, when first we meet with it, exhibits no signs of adolescence or imperfection, but is already among the most beautiful and finished of known alphabets. Moreover, we gather from Nearchus and Megasthenes that though the art of writing was not unknown in India in the 4th century B.C., yet the knowledge of it was not generally diffused, being confined to a small class of learned men. Again, the absolute uniformity of the Asoka characters, from the most distant provinces of India, is difficult to explain except on the hypothesis of a comparatively recent importation of a foreign alphabet. If it had been invented in India, then during the prolonged period needed for its evolution a number of variant types would almost infallibly have arisen in a region nearly as large as Europe. The examples of Greece and Italy show that in small independent states, such as prevailed in India prior to the Mauryan empire, alphabetic diversities originate in a time comparatively brief, while in India itself the inscriptions of the three or four centuries subsequent to Asoka's reign do not fail to exhibit the growth of numerous local types. The prolonged period of alphabetic evolution. de-

¹ No conclusions can be drawn from the Harapa seal, said to have been found in the Punjab. Nothing is known about its date, and there is no reason to suppose that it is even of Indian workmanship. The six unknown symbols which it bears are believed by M. de la Couperie to be ancient forms of Chinese characters. See Cunningham, *Corpus*, vol. i., p. 61.

manded by the theory is, therefore, a very formidable objection.

The peculiar structure of the Asoka alphabet is also difficult to reconcile with an Indian origin. It was evidently evolved, as we have already seen (p. 301), out of a parent script possessing a smaller number of graphic signs, which were augmented by means of differentiation, so as to express the numerous sounds of Indian speech. Now we have had frequent occasion to notice how the repeated transmissions of the Semitic alphabet have, almost invariably, involved a similar evolution of additional characters, whereas the analogies supplied by graphic systems of independent origin, such as the Egyptian, the Cuneiform, the Chinese, the Japanese, and the Cypriote, suffice to indicate that an alphabet evolved by means of a syllabary out of a primitive picture writing would, almost inevitably, possess a much larger number of characters than would be required for the purposes of alphabetic writing.

Any hypothesis as to the indigenous origin of the Indian alphabet being beset by grave difficulties, and based wholly on mere conjecture, it cannot at the utmost be considered as more than a bare possibility; while, on the other hand, the analogy afforded by the repeated transmissions of the Semitic alphabet, by means of commercial intercourse, establishes a strong *prima facie* probability of a derivation from a Semitic source.

This general probability is increased by various

particular considerations. Of the two primitive alphabets of India, the Semitic origin of the Indo-Bactrian type has been universally admitted. It is also conceded on all hands that the Iranian prototype of this alphabet underwent extensive amplifications and modifications to fit it for the needs of Indian speech. Most of the arguments which have been held to establish the Semitic origin of the Indo-Bactrian alphabet apply also to the Asoka. In both cases, as we have seen (p. 302), some primitive alphabet, comprising about twenty characters, has been largely increased by differentiation. In both alphabets the additional characters, which bear marks of secondary origin, express precisely those sounds which are not represented in Semitic alphabets, namely, the nasals, the cerebrals, and the aspirated consonants.¹ The two Indian systems of vowel notation have been shown to be especially significant.² In any Indian alphabet of indigenous origin the vowels, we may be sure, would have been fully expressed. But the Semitic alphabet was arrested in the process of transition from the syllabic to the alphabetic stage—it is neither absolutely syllabic nor purely alphabetic, but essentially consonantal. The two primitive Indian scripts are manifestly based upon alphabets which had reached the Semitic stage of evolution, their partial notation of the medial vowels being non-alphabetic in its character, while the

¹ See p. 301, *supra*, note.

² See p. 303, *supra*, note.

emphatic initial vowels are more fully expressed, as in early Semitic inscriptions. (See vol. i., pp. 182, 280.). In the Asoka alphabet the vocalic system, as well as the characters representing non-Semitic sounds, are as clearly of secondary origin as they are in the Indo-Bactrian.

It is in the highest degree improbable that the structural parallelism which is exhibited by the Indo-Bactrian and the Asoka alphabets should be due to mere accident. The conditions under which the Semitic alphabet arose were unique. It is immensely more probable that an alphabet of the very peculiar Semitic style should have been borrowed than that it should have been reinvented from independent germs.

Hence it may be confidently affirmed that both of the primitive Indian scripts exhibit features which cannot easily be explained, except on the hypothesis of a development out of an earlier alphabet of the Semitic type.¹

In fact, the only argument of any real weight which has been advanced by the opponents of the Semitic origin of the Asoka, is the difficulty of pointing out any particular Semitic alphabet to which the parentage

¹ The foregoing arguments against the indigenous origin of the Indian alphabet apply with nearly equal force to a derivation from any non-Semitic source, such as the Lolo or Chinese, as has been suggested by M. Terrien de la Couperie.

can be reasonably ascribed.¹ If this can be done the prolonged controversy must infallibly collapse.

There are three possible Semitic sources from which the Asoka alphabet might have been obtained. India, prior to the third century B.C., had been in commercial or political connection with Phœnicia, Babylonia, and Arabia: from any one of these regions the art of alphabetic writing might have been transmitted.

1. Benfey's conjecture that it came direct from the Phœnicians is open to fatal objections. The trade of the Phœnicians with India, which commenced in the time of Solomon, ceased as early as the year 800 B.C. If the alphabet had been communicated at this early

¹ General Cunningham argues that "if the Indians did not borrow their alphabet from the Egyptians, it must have been the local invention of the people themselves, for the simple reason that there was no other people from whom they could have obtained it. Their nearest neighbours were the peoples of Ariana and Persia, of whom the former used a Semitic character, reading from right to left, and the latter a cuneiform character formed of separate detached strokes, which has nothing whatever in common with the compact forms of the Indian alphabet."—*Corpus Inscriptionum Indicarum*, p. 61. Mr. Thomas rejects a Semitic origin for the Asoka alphabet, (1) because of the different direction of the writing, (2) because of the insufficient resemblance of the forms of the letters, (3) because the Indo-Bactrian, which is of Semitic origin, is inferior to the Asoka for the expression of the sounds of Indian languages.—Prinsep's *Essays*, vol. ii., p. 43. Professor Dowson, in like manner, boldly challenges those who claim a foreign origin for the Indian alphabet "to show whence it came."—*J. R. A. S.*, N. S., vol. xiii., p. 112. It will presently be seen that none of these writers have taken into account the one probable and sufficient Semitic source to which the Indian alphabet may be assigned.

period a variety of Indian scripts would in all probability have sprung up during the long interval which elapsed before the time of Asoka, whereas, in the 3rd century B.C. a uniform alphabet prevailed over a vast Indian area. Moreover, as will presently be shown, there is reason for believing that the art of writing was not practised in northern India¹ before the 6th century B.C. A further difficulty, which seems conclusive, is the want of any appreciable resemblance between the Asoka characters and the early Phœnician types.

2. Dr. Burnell's hypothesis of a Babylonian or Persian origin for the Asoka alphabet is open to a similar objection. The ancient Iranian alphabet belonged to the Aramean type, in which the loops of the letters had been opened, whereas in the Asoka alphabet they are closed. Moreover, this Iranian alphabet had already reached India through Afghanistan, and is known to us as the Indo-Bactrian alphabet of the Kapur-di-giri inscription. The Indo-Bactrian of the Punjab, and the Asoka of the Ganges valley, are of

¹ The Tamil alphabet exhibits forms which Dr. Burnell has traced to the Vatteluttu, a very ancient Dravidian alphabet of obscure origin, which, however, appears from the system of vowel notation to be derived from a Semitic source, and may possibly have been obtained from the Phœnician traders. That the Phœnicians traded with Southern India may be gathered from the fact that the peacocks, *tuki*, brought by Hiram's ships to Solomon, are designated by a loan-word obtained from the Tamil, *togai*. See Burnell, *South Indian Palæography*, p. 4 and plate 17.

such very different types that it is impossible to admit, as the hypothesis demands, that they were both of Iranian origin, one coming overland to India through Bactria, and the other by sea, by the way of the Persian gulf.

3. There remains only one possible source, the ancient alphabet of Arabia Felix.¹ The transmission of the Semitic alphabet could only have been effected through some nation which was in commercial or political contact with India prior to the expedition of Alexander. Then, as now, India had intercourse with the Western world through two channels—by land and by sea. Her northern alphabet, the Indo-Bactrian of the Punjab, plainly came to her through the Khyber; her southern alphabet, that of the inscriptions on the western coast, as manifestly must have come by sea. Now, from the 10th to the 3rd century B.C. Yemen was the great central mart in which Indian products were exchanged for the merchandize of the West. Egypt would send cloth, papyrus, and glass; Syria, wine, oil, and brass; Phœnicia, weapons and purple stuffs; while, in exchange, the Indian coasting vessels brought ivory, gold, precious stones, and Indian wares.

¹ This solution was suggested by Weber, a quarter of a century ago, at a time when so little was known of South Semitic Epigraphy as to make an absolute demonstration impossible. Both Lenormant and Deecke may, however, claim the merit of having seen that Weber's hypothesis is open to fewer objections than any other that has been proposed.

For a prolonged period this lucrative traffic was in the hands of the Sabeans, and was the main source of their proverbial opulence. The trade between Egypt and Yemen began as early as 2300 B.C., and that between Yemen and India was established not later than 1000 B.C. Even in the time of the Ptolemies the Indian trade was not direct, but passed through the hands of the Sabeans, who possessed extensive commerce and large vessels. Their ports were frequented by trading vessels from all parts; from the Red Sea, the Persian Gulf, the coast of Africa, and especially from the mouth of the Indus. From the Periplus we learn that Aden was a great entrepôt of this commerce, while at the beginning of the 2nd century B.C. the island of Dioscorides, off the Somali coast, was the centre of exchange for Indian products.¹

There was therefore ample opportunity for the transmission to India of the Sabean alphabet, which must have branched off from the Phœnician stem at some time not later than the 6th century B.C. It is to this very period that the origin of the Indian alphabet must be assigned. The question has been carefully discussed by such competent authorities as Professors Max Müller and Dowson.² They urge that though the Vedic poems were doubtless orally transmitted, yet

¹ See Bunbury, *History of Ancient Geography*, vol. i., p. 580, *seq.*, vol. ii. p. 582; Duncker, *History of Antiquity*, vol. ii., p. 297 to 323.

² Müller, *Ancient Sanskrit Literature*, pp. 502, *seq.*; Dowson, *Invention of the Indian Alphabet*, *J. R. A. S.*, N. S., vol. xiii., p. 103, *seq.*

certain Sutras, assigned to the 6th century B.C., imply a knowledge of the art of writing ; which is also mentioned in the Institutes of the lawgiver Manu, and is referred to in the poem of the Maha-bharata, and in the Grammar of Panini, compositions which may be of the same date, and cannot be very considerably later.

Assuming that the Sabeian alphabet was introduced into India as early as the 6th century B.C., sufficient time would be obtained for the development of the characteristic peculiarities of the Indian alphabet, while the period would not be so remote as necessarily to involve the development of numerous diverse scripts. This date agrees also with the indications afforded by the Indo-Bactrian alphabet, which, as we have seen (p. 261), was most probably introduced soon after the Persian conquest of the Punjab, at the beginning of the 5th century B.C. If the Asoka alphabet, better adapted as it was for the expression of Indian speech, had been at that time in possession of the north-western region, the Indo-Bactrian would assuredly have been unable to displace it; while, on the other hand, the Indo-Bactrian would infallibly have extended itself over the rest of India had it not been for the nearly simultaneous introduction of another alphabet in the south. In the 3rd century B.C., when epigraphic evidence first becomes available, the two alphabets, spreading from different and remote centres, had come into contact, actually overlapping each other

to some extent on the eastern frontier of the Punjab.¹ That the Asoka alphabet had at this time gained possession of the more extensive region may indicate a certain priority in date; and its earlier development is implied by the fact that the northern alphabet seems to have been affected by the alphabet of the south, while no trace of any reciprocal influence can be detected.²

Thus the geographical and chronological conditions present no difficulties in the way of the hypothesis of a derivation of the Indian alphabet from the Sabeian. To this hypothesis the crucial test remains to be applied. General considerations are insufficient unless

¹ The point of contact of the two alphabets is indicated by Buddhist coins from Behat, which have biliteral legends, in the Asoka alphabet on one side and in the Indo-Bactrian on the other. The kingdom in which they were current appears to have extended from the Doab of the Jumna and Ganges, westwards to the Punjab. In this region the two alphabets must have overlapped. The moneyers were evidently not very familiar with the Indo-Bactrian letters, as mistakes are occasionally made. Mr. Thomas attributes these coins to a very early date, prior to the occupation of India by the Bactrian Greeks, as is indicated by the character of the art. Thomas, *Ancient Indian Weights*, p. 47; Prinsep's *Essays*, vol. i., p. 208.

² That the Asoka alphabet was well established on the lower Ganges in the 4th century B.C. is indicated by the account given by Megasthenes of the treatises written by the Buddhist monks (gymnosophists). The matrimonial alliance between Seleucus and Chandragupta and the prolonged residence of a Greek ambassador at the court of Pataliputra, would probably have led to the introduction of the Greek alphabet, if a native alphabet had not already been in possession.

it can be shown that the two alphabets exhibit such structural resemblances, and such agreement in the forms of the individual letters, as to bring the suggested origin within the bounds of reasonable probability.

A very superficial examination will suffice to show that the Asoka alphabet, though it offers hardly any appreciable resemblance to any of the North Semitic alphabets, agrees in a very remarkable way with the general type of the alphabets of the South Semitic family.

The common characteristics of the Indian and South Semitic alphabets are their monumental style, the direction of the writing, the vocalization, and the retention of the primitive looped and zigzag forms.

The general aspect of the Sabeian inscriptions agrees so remarkably with those of Asoka that the resemblance cannot fail to strike the most careless observer. In both alphabets the letters are symmetrically constructed out of combinations of straight lines and arcs of circles. Hence the writing is rigid, regular, and monumental, all slanting and cursive forms being absolutely excluded. The Sabeian inscriptions are written from left to right as well as from right to left, while in India the more convenient option has been preferred. No importance, however, can be attached to the remarkable agreement between the Ethiopic and Indian systems of vocalic notation, since the Ethiopic alphabet is later in date than the other.

Finding, as we do, that the Asoka alphabet belongs,

so far as its general characteristics are concerned, to the South Semitic group, it only remains to examine the forms of the individual letters in order to see if probable prototypes can be found for those characters which appear to have constituted the primitive alphabet of India. These we may reckon at twenty-two, the rest, to all appearance, having been developed on Indian soil in order to express peculiar Indian sounds.¹

From the following Table the reader will be able to judge whether the Sabeian letters offer an approximation to the Indian forms sufficiently close to make

¹ The developed alphabet of ancient India contained forty-two characters, of which thirty-three are consonants and nine are vowels. Prinsep thought that the consonants might be reduced to ten primitives, *k, ch, t, d, n, p, m, r, v, s*. Without going so far as this, it may be admitted that the four Indian nasals *ñ, ñ, ṅ, n*, are manifestly differentiations of a single primitive letter, corresponding to the Semitic nasal **נ**. In like manner the eight Indian cerebrals and dentals *t, ṭ, th, ṭh, d, ḍ, dh, ḍh*, resolve themselves into three primitive types corresponding to the three Semitic dentals **ט, צ, ד**. So the nine Indian vowels *a, â, e, ai, i, u, û, o, au*, are derived from only three types, answering to **א, י, ו**. The aspirated consonants *bh, ph, ch, sh*, are also evidently of secondary origin. To repeat one or two former instances, it is impossible to deny that such symbols as **⊙ th**, and **⊙ ṭh**; or **⊥ n**, and **⊥ ṅ**; or **⊔ p**, and **⊔ ph**; or **⊔ ch**, and **⊔ chh**, some of which express distinctions of sound so delicate as hardly to be perceptible to an untrained ear, and whose forms are so similar, are simply variants of primitive letters, and not independent characters (see note on p. 301). Deducting from the forty-two letters those which are obviously of secondary origin, twenty-two primitive characters are left to be identified with the twenty-two letters of the Semitic alphabet.

AFFILIATION OF THE ASOKA ALPHABET.

JOKTANITE.				INDIAN.		
Names.	Values.	Safa.	Saba.	Primitives.	Derivatives.	
Alf	'a	𑀘 𑀙	𑀛	𑀅 a	𑀅 ā	1
Bet	b	𑀚 𑀜	𑀞 𑀟	𑀆 b	𑀆 bh	2
Gēmel	g	𑀝	𑀟	𑀇 g		3
Dent	d	𑀞 𑀟	𑀛	𑀈 d	𑀈 ḍ 𑀈 ḍh	4
Hoi	h	𑀠	𑀡 𑀢	𑀉 h		5
Wawe	w	𑀣 𑀤	𑀥	𑀊 u	𑀊 ū 𑀊 o	6
Zai	z	𑀦	𑀦	𑀋 jh (dzh)		7
Kharm	kh	𑀧	𑀨	𑀌 gh		8
Ṭait	t	𑀩	𑀪	𑀍 th	𑀍 ṭh 𑀍 dh	9
Yaman	y	𑀫 𑀬	𑀫	𑀎 v	𑀎 y	10
Kaf	k	𑀭 𑀮	𑀯	𑀏 kh		11
Lawe	l	𑀰	𑀱	𑀐 r		12
Mai	m	𑀲	𑀳 𑀴	𑀑 m		13
Naḥas	n	𑀵	𑀶	𑀒 n	𑀒 ṇ 𑀒 ṇ̄ 𑀒 ṇ̄̄	14
Sat	s	𑀷 𑀸	𑀹	𑀓 s		15
'Ain	'a	𑀺	𑀻	𑀔 e	𑀔 ai 𑀔 i	16
Ef	f	𑀼	𑀽 𑀾	𑀕 p	𑀕 ph	17
Tsadai	ts	𑀿	𑀿 𑀽	𑀖 ṣ	𑀖 ṣ	18
Qaf	q	𑀽 𑀾	𑀽	𑀗 chh	𑀗 ch + k	19
Rees	r	𑀿 𑀽	𑀿 𑀽	𑀘 l		20
Saut	sh	𑀿 𑀽	𑀿	𑀙 j	𑀙 sh	21
Tawe	t	𑀿 𑀽	𑀿	𑀚 t	𑀚 t	22

I.

II.

III.

IV.

it probable that the vexed question of the origin of the Asoka alphabet has at last been set at rest.¹

In comparing the Indian and Sabean forms it must be borne in mind that no south Semitic inscriptions have as yet been discovered of a date sufficiently remote to supply the absolute prototypes of the Asoka letters. Of the inscriptions which accident has preserved, none probably are older than the middle of the 2nd century B.C., a period later by about a century than the earliest Indian inscriptions, and later by several centuries than the type from which the Asoka alphabet was actually derived. It must therefore be remembered that it is only possible to compare sister alphabets derived from a common but unknown source.²

This obvious consideration meets the objection urged by Prof. Max Müller against a Sabean source, that there are no inscriptions from Arabia of a date so early as to be the prototypes of the Indian letters. The actual ancestral type of the Asoka alphabet is

¹ In this Table a typical selection has been made from the South Semitic letters given in vol. i., p. 338. Transitional forms, approximating either to the earlier north Semitic, or to the later Ethiopic types, have been excluded, as well as characters facing in the direction opposite to that which was adopted in India. In three cases, however, *hoi*, *ef*, and *tsadai*, the later Ethiopic forms have been added, not as prototypes, but as illustrative cases of parallel morphologic development.

² In several cases, such as *alf*, *wawe*, *kharm*, *yaman*, *kaf*, *lawe*, *sat*, *'ain*, *qof*, the Indian forms are most easily explained by means of the transitional alphabet of Safa.

unknown,¹ but there is no reason why it should not be ultimately discovered in the unexplored regions of Oman or Hadramaut, or among the ruins of Ormus, Bahrein, Gerrha, or some other centre of primitive commerce on the shores of the Persian Gulf.

The Table as a rule speaks for itself, but there are two or three points which may require a word of explanation.

In the first place, the signs for *r* and *l* appear to have been interchanged. The Asoka *l* agrees with the Sabeian *r* in having the lower hook turned to the left, while the Asoka *r*, like the Joktanite *l*, is either straight or has a hook to the right. The interchange of the two forms presents no difficulty, as there are many Prakrit words in which the use of *r* and *l* is indifferent. In copies of Asoka's Edicts, obtained from different provinces, the letters are interchanged, *raja* in one version being represented by *laja* in another.²

On a bilingual coin of Agathokles, a Greek king of Bactria who was a contemporary of Asoka, the Indian *ε*, *j*, represents a Greek *sigma*. Hence there is no

¹ On a Babylonian cuneiform tablet belonging to the 5th century B.C., Professor Sayce has recently discovered a docket in an alphabet which, as Dr. Burnell considers, may prove to be the prototype of the Indian script.

² See Prinsep's *Essays*, vol. ii., p. 35. In numerous languages, such as old Egyptian and several Polynesian dialects, we find this confusion. It has already been shown (vol. i., p. 38) that the Japanese *r* was obtained from a Chinese *l*.

phonetic difficulty in referring this letter, and its derivative Σ *sh*, to the Sabean *shaut*, Ξ *sh*.

Some of the identifications proposed in the Table are only tentative, but there are hardly more than half a dozen of the forty-two Indian letters whose affiliation presents any very serious difficulty.¹ But if all these doubtful cases, which must await the discovery of more primitive forms of the Sabean alphabet, be put aside, the evidence which can be brought forward seems still to be sufficient to establish the origin of the Indian alphabet.

Of the forty-two Indian letters, the parentage of about four-fifths can be assigned with reasonable certainty, while there is no character to which a plausible south Semitic parentage cannot be attributed. I confess that it seems to me that the resemblances between the forms of the Arabian and Indian letters, as set forth in the Table, are as conclusive as those which have won universal assent to the derivation of the Indo-Bactrian letters from the Iranian, or of the Pehlevi from the Aramean.

¹ The source of the Indian *k* is somewhat obscure, but it seems probable that both *k* and *chh* were obtained from the two variant forms of *qaf* in the Safa alphabet. It may also be open to question whether *g* and *kh* are independent, or only differentiated forms; whether *ṭ* was differentiated from *t* or from *dh*; and whether *y* comes ultimately from *wawe* or *yaman*. The affiliation of *p* is also difficult. In the Ethiopic alphabet *pa* **T** is believed to have been borrowed from the Greek, while *pait* **ጸ** is a differentiated form of *bet* **Π**. The Asoka **ᵐ** *p* was probably derived from the prototype of the Ethiopic **ፈ**, *f*, which may be a descendant of either *pe* or *vau*.

§ 5. THE EPOCH OF TRANSITION.

The formation of the various vernacular scripts of India out of the primitive alphabet has now to be traced with the aid of such materials as are available.

The process of evolution occupied about twelve centuries. It begins with the Edicts of Asoka in 250 B. C., and ends in the 10th century, A.D. In three cardinal inscriptions of this epoch, namely, the Kutila or Bareli inscription of 992, the Chalukya or Kistna inscription of 945, and a Kawi inscription of 919, the characteristic features of the three great alphabetic types of India, the Nagari, the Dravidian, and the Pali, can unmistakably be recognized.

Of epigraphic material there is no lack. The indefatigable zeal of Indian antiquaries, among whom the names of Burnell, Burgess, Fleet, Rice, Thomas, Elliott, Cohen-Stuart, Dowson, and Cunningham merit conspicuous mention, has made available numerous coins, copper-plate grants, and inscriptions from topes and temples, belonging to various Indian dynasties. The work of arranging this vast mass of material has not, however, progressed with equal rapidity, though order is gradually emerging out of chaos. Only a few years ago any systematic account of Indian Epigraphy during the transitional period would have been impossible, and even now any arrangement that may be attempted must be considered to some extent as merely provisional.

One great difficulty in dealing with the epigraphic material arises from the uncertainty of early Indian chronology. Numerous dated inscriptions have been discovered, but much doubt attaches to the determination of the various eras to which the dates refer.¹ Hence many important records can only be classified according to the dynasties to which they are assigned, with the expectation that the chronology of these dynasties may hereafter be determined with greater precision than is now possible.

The chief early Indian dynasties² are as follows :—

1. The Maurya kings of the empire founded by Chandragupta, and extended by Asoka.
2. The Turushka dynasty of Indo-Scythic kings who ruled in the Punjab.
3. The Sah kings who reigned on the Western Coast.
4. The Gupta dynasty of Magadha.
5. The Valabhi kings of Kathiawar.
6. The Cera and Vengi kings who ruled in the valleys of the Kistna and the Godavari.
7. The Chalukya dynasty of the Deccan.

The vast empire of Asoka did not long remain

¹ See note on p. 328, *infra*.

² The obscure Andhra dynasty, known by inscriptions at Nanaghat and elsewhere, has not been taken into account by reason of its uncertain date. Mr. Burgess assigns the beginning of the dynasty to 22 B.C., whereas Dr. Bühler thinks that the Maurya and Andhra inscriptions represent sister alphabets, derived from a common source, the Andhra being the older of the two, and dating from about 300 B.C. For my own part, I confess I do not see the force of Dr. Bühler's arguments. See *J. R. A. S.*, N. S., vol. xiv., p. 340, and *Arch. Survey, Kathiawad*, p. 131.

intact. In the 1st century B.C. the great Scythian inroad expelled the Macedonians from Bactria, driving them first into Afghanistan, then into the Punjab, and onwards as far as Gujarat. About half a century before the Christian era, Kanishka, king of the Tochari Scythians, who had embraced the Buddhist doctrine, established the Turushka empire, which extended over Afghanistan and the Punjab. The Indo-Scythic dynasty lasted between three and four centuries. The coins and inscriptions of their kings are mostly in the Indo-Bactrian alphabet, but in the ruins of the Buddhist temples at Mathura, on the eastern border of their realm, some of their inscriptions have been found written in a slightly developed form of the Asoka alphabet. The alphabet of the Mathura inscriptions is connected with that of Asoka by numerous records in Buddhist cave-temples. Of these caves, some of the earliest, those in Behar and Cuttack, were constructed by Asoka himself, and contain his inscriptions of dedication. There are numerous inscriptions of somewhat later date in caves at Khandagiri, Ajanta, Nasik, Junir, and elsewhere. The typical alphabet of the inscriptions at Mathura and in the Buddhist caves will be found in line 2 of the Table on p. 336. The approximate date is the 1st century of our era.

While the Indo-Scythians were ruling in the Punjab the contemporaneous dynasty of the Sah kings, who called themselves Kshatrapas or Satraps, was established on the western coast. Some of their coins have Greek

legends. Several brief records of dedication in the caves at Nasik and Junir are attributed to them. The most important monument which they have left is an inscription of Rudra Dama, the seventh king of the dynasty, engraved alongside of the edicts of Asoka, on the western face of the historic rock of Girnar. It commemorates the reconstruction of an embankment or dam, and records the fact that the dam had previously been repaired by the "Maurya raja Chandragupta," who is known to us as the contemporary of Alexander. Mention is also made of Piyadasi, who here goes by the name of "Asoka Maurya," by which he is designated in the chronicles. The alphabet of this inscription, which may be assigned to the 2nd century A.D., is given in line 3 of the Table on p. 336.¹

The alphabet exhibited in the inscriptions of the shadowy dynasty of the Sah kings is succeeded by that of the great Gupta dynasty which reigned in Magadha over the central portion of the dominions of Asoka. That they followed the Sah kings in Gujarat, is shown by a third inscription on the Girnar rock,² in

¹ This alphabet, which is the Sah alphabet of Mr. Thomas, and the Kshatrpa of Mr. Burgess, is the Junogarh of Prinsep. It is unaccountably called the 'Aśoka' by Faulmann, *Buch der Schrift*, p. 126, and the 'Tsandra Gupta' alphabet in his *Geschichte der Schrift*, p. 460.

² The rock on which these memorable records are engraved is about a mile east of Junogarh, and four miles from the base of the hill of Girnar. It probably marked the extreme precinct of the sacred mountain. The rock contains three successive inscriptions, the Asoka

which Skanda-Gupta, the seventh Gupta king, records another reparation of the dam. Hence the Girnar rock testifies to the evolution of the Indian alphabet during four or five centuries.

It is not only at Girnar that the records of the Maurya and Gupta dynasties appear side by side. Immediately below the well known copy of the six shorter edicts of Asoka, on the Allahabad lat, is the most interesting of all the records of the great Gupta dynasty.¹ This celebrated monument is a shaft of

edicts on the east, the Sah inscription on the west, and the Skanda-Gupta inscription on the south. It need hardly be said that there is no connection between the Gupta dynasty, to which Skanda-Gupta belonged, and the Maurya king Chandragupta, the contemporary of Seleucus. They are separated by an interval of several centuries.

¹ The alphabet of this inscription is given in line 4 of the Table on p. 336. It is usually assigned to the 5th century, but according to the views of Mr. Thomas (*Numismata Orientalia*, vol. i., p. 45, and *J. R. A. S.*, N. S., vol. xiii., p. 549) it was the extinction and not the rise of the Gupta dynasty which took place in 319 A.D. The names of eight Gupta kings are known to us, of whom Samudra-Gupta is believed to have been the fourth. Hence the date would be the middle of the 3rd century A.D., or even earlier. Cf. Prinsep, *Essays*, vol. i., pp. 233 to 235; Cunningham, *Corpus*, vol. i., p. 37. Prof. Oldenburg has recently put forward in the *Zeitschrift für Numismatik* a reconstruction of Indian chronology, making the Kshatrapa era commence about 100 A.D., the Gupta era in 319 A.D., the Valabhi in 480, and identifying the Saka era with that of the Indo-Scythian king Kanishka, which he dates from 78 A.D. See *Indian Antiquary*, August, 1881. Mr. Burgess, adhering to the chronology usually accepted, assigns the Rudra Dama inscription to 150 A.D., and the Skanda-Gupta inscription to 450—470 A.D. According to Mr. Thomas the date of Rudra Dama is

polished sandstone, 35 feet in height, its capital bearing traces of the influence of Greek art. The edicts of Asoka are engraved in continuous lines running horizontally round the column. Portions of the third and fourth edicts have been cut away to make room for an inscription of the Moghul emperor Jehangir, dated in 1605 A.D. Immediately below the Asoka edicts comes a long inscription commemorating the deeds of Samudra-Gupta, the fourth of the Gupta kings. We are told that "this lofty pillar is, as it were, the arm of Samudra-Gupta, who when alive filled the earth with the fame of his conquests, and is now departed to enjoy the bliss of Indra's heaven." The inscription goes on to say "how his wife, having seen his former good acts, delightful as nectar, was much pleased; how his Majesty exults in the princes, endued with hundreds of virtues and good qualities, prostrate at his feet: a man inspiring fear as of instant annihilation: altogether incomprehensible, yet tender minded to those who are submissive and bow before him: how he with the mighty chest, who is able to engage in a hundred battles, received as tribute from the king of kings (King of Persia), from the Scythians and the Huns, maidens, jewels, money, horses, and ornaments: how his person became beautiful from the marks of wounds

about 40 A.D., of Samudra-Gupta 160 A.D., and of Skanda-Gupta 209 A.D. See Prinsep's *Essays*, vol. ii., pp. 55, 68, plate 38; Burgess, *Archaeological Survey (Kathiawad)*, pp. 94—134; *Indian Antiquary*, vol. v., pp. 257—275.

received and the scratches caused by his wielding the battle-axe, the arrow, the poniard, the elephant spike, the cestus, the scimitar, the javelin, the club, the iron dart, the dagger, and other weapons; who, mounted on his war-chariot, has no competitor in the world, who from his skill in making verses is called the king of poets; a man who strictly keeps his word, a very god among men."

Very significant is the contrast between the audacious grandiloquence of this record, and the noble modesty and serenity of the older inscription on the same pillar, in which the truly great emperor Asoka, abstaining altogether from vaunts of his power and dignity, enjoins on his subjects the humane treatment of animals, and the duties of benevolence, morality, temperance, and universal toleration.

The Guptas were followed by the Valabhi kings, who also ruled in Kathiawar. No lapidary inscriptions of this dynasty are known, but some of their copper grants, which go by the name of the 'Gujarat plates,' have been discovered. The date is Samvat 380, probably corresponding to 323 A.D. The alphabet of these plates,¹ which is given in line 5 of the Table on p. 336, is a somewhat developed form of the alphabet of the Sah dynasty which preceded the Valabhi kings in this

¹ See Prinsep's *Essays*, vol. ii., p. 40, and plate 38, line 4. The Valabhi alphabet is erroneously called 'Džirnar' in one of Faulmann's books, and 'Gudžarat' in the other. It is nearly the same as the alphabets Nos. 28 and 29 in Mr. Burgess' plate.

region, but is in some respects more archaic than the alphabet of the earlier Gupta inscriptions. This, however, may only prove that alphabetic development was more retarded in a remote region like Gujarat than in the valley of the Ganges, where a higher civilization prevailed.

The earliest historical dynasty of the Deccan is that of the Chalukyas, which was established towards the end of the 6th century. It was preceded by a dynasty of Vengi kings, conjecturally assigned to the 4th or 5th century, who used an alphabet nearly identical with that of the later cave inscriptions. The earliest Chalukya inscriptions are dated in the years 578 and 634 A.D. The alphabet is a slightly developed form of that of the Valabhi dynasty given in line 5 of the Table. This may be compared with the later Chalukya alphabet dated in 945 A.D., which is given in line 6. It frequently goes by the name of the Kistna alphabet, having been obtained from inscriptions found at Amaravati, a town on the Kistna river to the west of Nagpur, in the province of Berar.¹ It is remarkable not only for its singular symmetry and elegance, but as exhibiting forms which are transitional between the inscriptions of the Gupta and Valabhi dynasties, and the Dravidian alphabets of Southern India.² It may

¹ It was first published in the *Journal of the Asiatic Society of Bengal*, vol. vi., plates x. and xi.

² The letters *n, t, y, r, l, kh, th, dh, bh*, are nearly identical with the older Carnatic forms.

be regarded as the source of the Canarese and Telugu alphabets.

The 'Nerbudda' alphabet, given in line 7 of the Table, is probably of similar date. It is derived from a set of copper-plate grants found at Seoni in the Saugor and Nerbudda territories.¹ The letters, though somewhat fanciful and artificial, are most ingeniously and beautifully constructed, and are valuable as constituting another link between the Nagari alphabets of Northern India on the one hand, and the Dravidian alphabets of the South on the other. More especially they help to explain the origin and gradual development of the finials, which are so characteristic of Indian alphabets. This will be seen by comparing the forms of one or two letters. Almost any of them would serve, but we may take *n* and *p* as fair examples of the process. We have:—

	Asoka.	Gupta.	Kutila.	Devanagari.	Nerbudda.	Kistna.	Telugu.	Tamil.
<i>n</i>	⊥	𑀓	𑀓	न	𑀓	𑀓	న	ந
<i>p</i>	𑀕	𑀕	𑀕	प	𑀕	𑀕	ప	ப

It will be observed that the Asoka, a lapidary character, has no finials. In the Gupta, when the letters begin with a vertical line, a small cross stroke indicates the commencement of the letter. This probably arose from a slight thickening of the line where the pen was

¹ See *Journal of the Asiatic Society of Bengal*, 1836, vol. v., p. 726. See also the type Table given by Mr. Thomas in Prinsep's *Essays*, vol. ii., which is repeated in Professor Monier Williams' *Sanskrit Grammar*, 2nd ed.

first applied to the paper. In the Kutila this develops into a short horizontal bar, which, in the Devanagari, becomes a continuous horizontal line, connecting the letters. In the Nerbudda it becomes a small oblong; in the Kistna a bifoil; in the Telugu a fork, frequently detached, and formed by a separate movement; and in the Tamil it is developed into a small circle, wholly detached from the letter. Originating in the convenience of the scribe, it subsequently served to show where the letter began, and ultimately became meaningless, both in the northern and southern alphabetic regions. It may be paralleled by the thick and thin strokes of our Roman capitals, which, as in the familiar cases of W, M, K, or Y, now only serve to show the direction taken by the pens of mediæval scribes in forming their characters.

The celebrated 'Kutila' inscription is of great importance in Indian epigraphy, not only from its precise date, but from its offering a definite early form of the standard Indian alphabet, the Devanagari. This inscription was found on a stone dug up at Illahabas, a village in the Bareli district, fifteen miles from Visalapur. It belonged to a temple built by a petty local raja. The inscription informs us that the writer, an artist from Kanauj, was "a proficient in the Kutila character." The date is the Samvat year 1049, answering to 992 A.D.¹ The alphabet is a connecting link between the

¹ See Prinsep's *Essays*, vol. i., p. 322, plate xxxviii., line 7. Cf. vol. ii., p. 53, line 6.

modern Devanagari and the Gauri or old Bengali character, used in the same region about a century later, from which the modern Bengali is descended.

The alphabet given in line 8 is from an inscription found in Assam, which may probably be assigned to the 9th century.¹ This inscription is of great palæographic significance, as it establishes the existence of an ancient cursive alphabet, which helps to explain the origin of various isolated alphabets found in remote regions, such as the Eastern Malay alphabets, the alphabets of Sind and Multan, as well as the cursive scripts of Assam, Pegu, and Siam.

The Assam and Kutila inscriptions may be taken as the early forms of the cursive and literary alphabets of Northern India. It will hereafter be shown that across the whole breadth of India two alphabetic types are superimposed—one was a cursive script, early forms of which may be seen in the Assam and Vatteluttu inscriptions; the other being a literary alphabet, represented in the north by the Devanagari, in the south by the Grantha, and in the east by the Pali. It has often been assumed that the more cursive Indian scripts are only degraded forms of the Nagari and the Pali alphabets: it would, however, rather appear that

¹ In the Assamese inscription the finials at the top of the letters are not much more developed than in the Gupta alphabet, but we may observe increasing indications of the tendency to form the letters with a vertical stroke to the right, which is characteristic of the Devanagari and Bengali alphabets.

the popular scripts represent an older writing, on which a literary calligraphic style has been superimposed.

The following Tables¹ exhibit the chief alphabets of the Indian group. The Vernacular Alphabets, arranged geographically, come last. They are preceded by a Table of the older alphabets, arranged chronologically, as follows :—

1. The Maurya alphabet from the inscription of Asoka at Girnar.
2. The Andhra alphabet of the Western Caves. It is nearly identical with that of the Mathura inscriptions.
3. The alphabet of the Sah or Kshatrapa inscription at Girnar.
4. The Gupta alphabet from the pillar at Allahabad.
5. The Valabhi alphabet from the Gujarat plates.
6. The Chalukya or Kistna alphabet from the Amaravati plates.
7. The Nerbudda alphabet from the Seoni plates.
8. The alphabet of the Assam inscription.
9. The Kutila alphabet from Bareli.
10. The Kioussa or lapidary Pali.
11. The alphabet of Tibet.
12. The Passepa.
13. The Devanagari.

¹ The successive stages in the evolution of the Indian alphabets can be conveniently represented with approximate accuracy by means of the excellent types cut at the Imperial Printing Office at Vienna for the purpose of illustrating Indian Epigraphy. For the use of these, and many other types, I have to thank Prof. Friedrich Müller and Hofrath Ritter von Beck, the Director of that unrivalled establishment. These alphabets are only intended to be typical: for the more minute local distinctions the reader may be referred to the lithographed Table of thirty-two Indian alphabets from 250 B.C. to 800 A.D. given in Burgess' *Archæological Survey*, or to the very useful collection of 198 Indian alphabets, ancient and modern, compiled by Holle, *Tabel van oud en nieuw Indische Alphabetten* (Batavia, 1882). The student of Indian alphabets will find in this little book the most complete and convenient collection of materials that has yet appeared.

THE ANCIENT ALPHABETS

	Gutturals.	Palatals.	Cerebrals.	Dentals.
	<i>k kh g gh ñ</i>	<i>ch chh j jh ñ</i>	<i>t th d dh n</i>	<i>t th d dh n</i>
1	+ 𐀀 𐀁 𐀂 𐀃	𐀄 𐀅 𐀆 𐀇 𐀈	𐀉 𐀊 𐀋 𐀌 𐀍	𐀎 𐀏 𐀐 𐀑 𐀒
2	𐀓 𐀔 𐀕 𐀖	𐀗 𐀘 𐀙 𐀚 𐀛	𐀜 𐀝 𐀞 𐀟 𐀠	𐀡 𐀢 𐀣 𐀤 𐀥
3	𐀦 𐀧 𐀨 𐀩 𐀪	𐀫 𐀬 𐀭 𐀮	𐀯 𐀰 𐀱 𐀲 𐀳	𐀴 𐀵 𐀶 𐀷 𐀸
4	𐀹 𐀺 𐀻 𐀼 𐀽	𐀾 𐀿 𐁀 𐁁	𐁂 𐁃 𐁄 𐁅 𐁆	𐁇 𐁈 𐁉 𐁊 𐁋
5	𐁌 𐁍 𐁎 𐁏 𐁐	𐁑 𐁒 𐁓 𐁔	𐁕 𐁖 𐁗 𐁘 𐁙	𐁚 𐁛 𐁜 𐁝 𐁞
6	𐁟 𐁠 𐁡 𐁢 𐁣	𐁤 𐁥 𐁦 𐁧	𐁨 𐁩 𐁪 𐁫 𐁬	𐁭 𐁮 𐁯 𐁰 𐁱
7	𐁲 𐁳 𐁴 𐁵 𐁶	𐁷 𐁸 𐁹 𐁺	𐁻 𐁼 𐁽 𐁾 𐁿	𐂀 𐂁 𐂂 𐂃 𐂄
8	𐂅 𐂆 𐂇 𐂈 𐂉	𐂊 𐂋 𐂌 𐂍	𐂎 𐂏 𐂐 𐂑 𐂒	𐂓 𐂔 𐂕 𐂖 𐂗
9	𐂘 𐂙 𐂚 𐂛 𐂜	𐂝 𐂞 𐂟 𐂠	𐂡 𐂢 𐂣 𐂤 𐂥	𐂦 𐂧 𐂨 𐂩 𐂪
10	𐂫 𐂬 𐂭 𐂮 𐂯	𐂰 𐂱 𐂲 𐂳 𐂴	𐂵 𐂶 𐂷 𐂸 𐂹	𐂺 𐂻 𐂼 𐂽 𐂾
11	𐂿 𐃀 𐃁 𐃂 𐃃	𐃄 𐃅 𐃆 𐃇		𐃈 𐃉 𐃊 𐃋
12	𐃌 𐃍 𐃎 𐃏 𐃐	𐃑 𐃒 𐃓 𐃔		𐃕 𐃖 𐃗 𐃘 𐃙
13	𐃚 𐃛 𐃜 𐃝 𐃞	𐃟 𐃠 𐃡 𐃢 𐃣	𐃤 𐃥 𐃦 𐃧 𐃨	𐃩 𐃪 𐃫 𐃬 𐃭

OF INDIA. (3rd cent. B.C. to 10th cent. A.D.)

Labials.	Semivowels.	Sibilants.	Vowels.	
<i>p ph b bh m</i>	<i>y r l v</i>	<i>ś sh s h</i>	<i>a i u e ā</i>	
८ ८ ० १ ४	𑀓 𑀣 𑀤 𑀥	𑀧 𑀨 𑀩 𑀪	𑀫 𑀬 𑀭 𑀮 𑀯	Asoka.
𑀲 𑀳 𑀴 𑀵	𑀶 𑀷 𑀸 𑀹	𑀺 𑀻	𑀼 𑀽 𑀾 𑀿	Cave.
𑀿 𑁀 𑁁 𑁂	𑁃 𑁄 𑁅 𑁆	𑁇 𑁈 𑁉 𑁊	𑁋 𑁌 𑁍 𑁎	Sah.
𑁏 𑁐 𑁑 𑁒	𑁓 𑁔 𑁕 𑁖	𑁗 𑁘 𑁙 𑁚	𑁛 𑁜 𑁝 𑁞	Gupta.
𑁟 𑁠 𑁡 𑁢	𑁣 𑁤 𑁥 𑁦	𑁧 𑁨 𑁩 𑁪	𑁫 𑁬 𑁭 𑁮	Valabhi.
𑁯 𑁰 𑁱 𑁲	𑁳 𑁴 𑁵 𑁶	𑁷 𑁸 𑁹 𑁺	𑁻 𑁼 𑁽 𑁾	Chalukya.
𑁿 𑂀 𑂁 𑂂	𑂃 𑂄 𑂅 𑂆	𑂇 𑂈 𑂉 𑂊	𑂋 𑂌 𑂍 𑂎	Nerbudda.
𑂏 𑂐 𑂑 𑂒	𑂓 𑂔 𑂕 𑂖	𑂗 𑂘 𑂙 𑂚	𑂛 𑂜 𑂝 𑂞	Assam.
𑂟 𑂠 𑂡 𑂢	𑂣 𑂤 𑂥 𑂦	𑂧 𑂨 𑂩 𑂪	𑂫 𑂬 𑂭 𑂮	Kutula.
𑂯 𑂰 𑂱 𑂲	𑂳 𑂴 𑂵 𑂶	𑂷 𑂸 𑂹 𑂺	𑂛 𑂜 𑂝 𑂞	Kionasa.
𑂻 𑂼 𑂽 𑂾	𑂿 𑃀 𑃁 𑃂	𑃃 𑃄 𑃅 𑃆	𑃇 𑃈 𑃉 𑃊	Tibet.
𑃋 𑃌 𑃍 𑃎	𑃏 𑃐 𑃑 𑃒	𑃓 𑃔 𑃕 𑃖	𑃗 𑃘 𑃙 𑃚	Passepa.
𑃛 𑃜 𑃝 𑃞	𑃟 𑃠 𑃡 𑃢	𑃣 𑃤 𑃥 𑃦	𑃧 𑃨 𑃩 𑃪	Nagari.

VERNACULAR ALPHABETS OF

	Gutturals.	Palatals.	Cerebrals.	Dentals.
	<i>k kh g gh ñ</i>	<i>ch chh j jh ñ</i>	<i>t th ḍ ḍh n</i>	<i>t th ḍ dh n</i>
8	క ఖ గ ఘ ణ	చ ఛ జ ఝ ఞ	ట ఠ డ ఢ న	త థ ద ధ న
9	క గ ఘ ఙ	చ ఛ ణ	ఠ ఠ డ ఢ ణ	త థ ద ధ క
14	క ఖ గ ఘ ఙ	చ ఛ జ ఝ ఞ	ట ఠ డ ఢ ణ	త థ ద ధ న
15	క ఖ గ ఘ ఙ	చ ఛ జ ఝ ఞ	ట ఠ డ ఢ ణ	త థ ద ధ న
16	క ఖ గ ఘ ఙ	చ ఛ జ ఝ ఞ	ట ఠ డ ఢ ణ	త థ ద ధ న
17	క ఖ గ ఘ ఙ	చ ఛ జ ఝ ఞ	ట ఠ డ ఢ ణ	త థ ద ధ న
18	క ఖ గ ఘ ఙ	చ ఛ జ ఝ ఞ	ట ఠ డ ఢ ణ	త థ ద ధ న
19	క ఖ గ ఘ ఙ	చ ఛ జ ఝ ఞ	ట ఠ డ ఢ ణ	త థ ద ధ న
20	క ఖ గ ఘ ఙ	చ ఛ జ ఝ ఞ	ట ఠ డ ఢ ణ	త థ ద ధ న
21	క ఖ గ ఘ ఙ	చ ఛ జ ఝ ఞ	ట ఠ డ ఢ ణ	త థ ద ధ న
22	క ఖ గ ఘ ఙ	చ ఛ జ ఝ ఞ	ట ఠ డ ఢ ణ	త థ ద ధ న
23	క ఖ గ ఘ ఙ	చ ఛ జ ఝ ఞ	ట ఠ డ ఢ ణ	త థ ద ధ న
24	క ఖ గ ఘ ఙ	చ ఛ జ ఝ ఞ	ట ఠ డ ఢ ణ	త థ ద ధ న

THE PENINSULA OF INDIA.

Labials.	Semivowels.	Sibilants.	Vowels.	
<i>p ph b bh m</i>	<i>y r l v</i>	<i>ʃ sh s h</i>	<i>a i u e ā</i>	
प वरुम	य र ल व	श स ह	अ इ उ ए आ	Aasam.
प फ ब क म	य र ल व	श स ह	अ इ उ ए आ	Kutila.
प ढ घ ड भ	ज र ल व	म	उ म	Gurumukhi.
प फ ब म म	य र ल व	श स ह	अ इ उ ए आ	Nagari.
प फ व ड म	य र न व	श स ह	अ ऐ उ ए आ	Bengali.
प ष ब ड म	य र ल व	श स ह	अ इ उ ए आ	Orissa.
प फ ब म म	य र ल व	श स ह	अ इ उ ए आ	Gujarati.
प फ क ग	य र ल व	श स ह	अ इ उ ए आ	Sindi.
प फ ड ग	य र ल व	श स ह	अ इ उ ए आ	Maltani.
ప ఖ బ భ మ	య ర ల వ	శ స హ	అ ఇ ఉ ఎ ఆ	Telugu.
ವ ಫ ಬಿ ಭಿ ಮ	ಯ ರ ಲ ವ	ಶ ಸ ಹ	ಅ ಇ ಉ ಎ ಆ	Canarese.
प ढ ष ड म	य र ल व	श स ह	अ इ उ ए आ	Grantha. (Tulu.)
पं	यं	शं	अ इ उ ए आ	Tamil.

VERNACULAR ALPHABETS OF

	Gutturals.	Palatals.	Cerebrals.	Dentals.
	<i>k kh g gh ñ</i>	<i>ch chh j jh ñ</i>	<i>t th d dh n</i>	<i>t th d dh n</i>
10	ක කඞග ඞ	ච ජචඞ ජ ජඞ	ට ඨ ඳ ධ ඞ	ට ඨ ඳ ධ ඞ
25	ක ක ඞ ග ජ	ච ජ ට ඨ ඳ	ට ඨ ඳ ධ ඞ	ට ඨ ඳ ධ ඞ
26	ක ක ඞ ග ජ	ච ජ ට ඨ ඳ	ට ඨ ඳ ධ ඞ	ට ඨ ඳ ධ ඞ
27	ක ක ඞ ග ජ	ච ජ ට ඨ ඳ	ට ඨ ඳ ධ ඞ	ට ඨ ඳ ධ ඞ
28	ක ක ඞ	ච ජ ට	ට ඨ ඳ	ට ඨ ඳ
29	ක ක ඞ	ච ජ ට	ට ඨ ඳ	ට ඨ ඳ
30	ක ක ඞ	ච ජ ට	ට ඨ ඳ	ට ඨ ඳ
31	ක ක ඞ	ච ජ ට	ට ඨ ඳ	ට ඨ ඳ
32	ක ක ඞ	ච ජ ට	ට ඨ ඳ	ට ඨ ඳ
33	ක ක ඞ	ච ජ ට	ට ඨ ඳ	ට ඨ ඳ
34	ක ක ඞ	ච ජ ට	ට ඨ ඳ	ට ඨ ඳ
35	ක ක ඞ	ච ජ ට	ට ඨ ඳ	ට ඨ ඳ
36	ක ක ඞ	ච ජ ට	ට ඨ ඳ	ට ඨ ඳ
37	ක ක ඞ	ච ජ ට	ට ඨ ඳ	ට ඨ ඳ

FURTHER INDIA AND THE ISLANDS.

Labials.	Semivowels.	Sibilants.	Vowels.	
p ph b bh m പ ഹ ഡ ധ മ	y r l v യ റ ല വ	s sh s h ശ ഷ സ ഹ	a i u e ā അ ഇ ഉ ഏ ഐ	Kiousa.
p p h b b h m ပ ပ ဟ ဝ	y r l v ယ ရ လ ဝ	s sh s h သ ဟ	a i u e ā အ ကို ဥ ဝ အ	Burmese.
p p h b b h m ပ ပ ဝ ဝ	y r l v ယ ရ လ ဝ	s sh s h မ မ	a i u e ā " င ဇ ဈ	Square Pall.
p p h b b h m ပ ပ ဝ ဝ	y r l v ယ ရ လ ဝ	s sh s h မ မ ဝ ဝ	a i u e ā අ ဝ ဇ ဝ	Singalese.
p p h b b h m ပ ပ ဝ ဝ	y r l v ယ ရ လ ဝ	s sh s h က ဟ	a i u e ā က	Pegu.
p p h b b h m ပ ပ ဝ ဝ	y r l v ယ ရ လ ဝ	s sh s h က ဟ	a i u e ā က	Ahom.
p p h b b h m ပ ပ ဝ ဝ	y r l v ယ ရ လ ဝ	s sh s h က ဟ	a i u e ā က	Battak. (Old.)
p p h b b h m ပ ပ ဝ ဝ	y r l v ယ ရ လ ဝ	s sh s h က ဟ	a i u e ā က	Battak. (New.)
p p h b b h m ပ ပ ဝ ဝ	y r l v ယ ရ လ ဝ	s sh s h က ဟ	a i u e ā က	Rejang.
p p h b b h m ပ ပ ဝ ဝ	y r l v ယ ရ လ ဝ	s sh s h က ဟ	a i u e ā က	Lamong.
p p h b b h m ပ ပ ဝ ဝ	y r l v ယ ရ လ ဝ	s sh s h က ဟ	a i u e ā က	Tagala.
p p h b b h m ပ ပ ဝ ဝ	y r l v ယ ရ လ ဝ	s sh s h က ဟ	a i u e ā က	Bisaya.
p p h b b h m ပ ပ ဝ ဝ	y r l v ယ ရ လ ဝ	s sh s h က ဟ	a i u e ā က	Macassar.
p p h b b h m ပ ပ ဝ ဝ	y r l v ယ ရ လ ဝ	s sh s h က ဟ	a i u e ā က	Bugi.

§ 6. THE VERNACULAR ALPHABETS.

The inscriptions which have been discussed in the last section prove that as early as the 10th century A.D. the leading alphabetic types of India had already been evolved.

The chief vernacular alphabets of the Indian family are given in the preceding Tables. It will be seen that they constitute four well marked groups—the Pali, the Nagari, the Dravidian, and the Malay—occupying distinct geographical regions. The Nagari alphabets prevail in the north of India, and the Dravidian in the south; while the Pali type is confined to Ceylon and the regions beyond the Ganges, and the Malay to the islands of the Asiatic archipelago.

It will be observed that this classification of alphabets is essentially coincident with the great lines of linguistic and ethnologic demarcation:¹ the Pali alphabets being used for the isolating tongues of Burma, Siam, and Pegu; the Nagari for the inflectional Aryan speech; while the agglutinative languages of the Dravidian and Malay races are expressed by ancient alphabetic types, distinct but not unrelated.

The Pali Alphabets.

It is more than a mere accident that the Pali script,

¹ See Cust, *The Modern Languages of the East Indies*; and Sayce *Science of Language*, vol. ii., pp. 46 to 49.

which represents the old Indian alphabet of Asoka in the line of most direct descent, should now prevail only in lands beyond the confines of ancient India. The Hindus had a curious repugnance to the art of writing; oral transmission of the Vedic hymns was considered imperative; and even so late as the 8th century A.D., as Max Müller has pointed out, Kumarila mentions writing only to condemn its use, and can only conceive the Veda as existing in the minds of men. It was quite otherwise with the founders of the Buddhist faith. Buddhism, a missionary religion rather than an ancestral cultus, eagerly availed itself of the art of writing for the propagation of its doctrines. Hence the primitive monuments of the Indian alphabet are mostly due to Buddhist princes, and high among the claims which this creed has upon the gratitude of posterity is the part it played in the diffusion of alphabetic writing over India, Eastern Asia, and the islands of the China Sea. Trampled out and expelled from the land of its origin, Buddhism achieved its greatest triumphs among alien races, to whom Sanskrit and the Prakrits were unfamiliar tongues. The Buddhist scriptures were preserved in Ceylon and the lands beyond the Ganges, and the ancient alphabet in which they are written became the parent of alphabets which prevail in these regions.

Hence the description of the vernacular alphabets of the Indian family naturally commences with non-Indian scripts, used to express the sounds of isolating lan-

guages strange to Indian ears, since it is these foreign alphabets which, by a curious chance, exhibit the most archaic existing types of the ancient Indian letters.

The old Pali language and alphabet, which conserve the Buddhist scriptures, are no longer anywhere vernacular. Pali was one of the Prakrit dialects of India, derived from Sanskrit by attrition, and bearing to it much the same relation that Italian bears to Latin. Further decay was arrested on its becoming a dead language, reserved for ecclesiastical use. Pali was probably the vernacular of the kingdom of Magadha¹ (Behar), the cradle of Buddhism, and hence it naturally became the sacred language of the new faith, just as the dialect of Mohammed's tribe, the Koreysh of Mecca, became the classical Arabic of the Koran.

The Buddhist tradition asserts that at the time of the persecution of their faith they took the Pali language and alphabet with them to Ceylon, whence, probably about the end of the 4th century A.D. or the beginning of the 5th, they crossed over to Aracan and the neighbouring lands.

Even among the Trans-Gangetic nations the Pali alphabets are not universal. The Annamese possess a script which has been adapted from the Chinese phonograms; alphabets of the Malay family are used

¹ The question is not free from difficulty. See Sayce, *Science of Language*, vol. ii., p. 75. Westergaard and Kuhn consider Pali to represent the dialect of Malava in the 3rd century B.C.

in the Philippines; while other regions—Burma, Siam, Pegu, and Cambodia—employ the Pali alphabet in conjunction with another character apparently of somewhat different origin.

There are three Burmese scripts, very dissimilar in appearance, but essentially identical. The alphabet given as no. 10 in the Table on p. 340 is called the *Kyouk-tsa* (Kiousa), or 'stone writing.' It is a lapidary character, known only from ancient inscriptions, the oldest of which is from a ruined pagoda at Bangkok. Hence the forms of the letters are, as in other lapidary alphabets, angular, linear, and monumental—presenting a great contrast with the 'square,' or standard Pali (no. 26, p. 340), used in the sacred books of the Buddhists, which being painted in, with Indian ink, by means of a brush, is characterized by thick strokes and rounded angles. The ordinary Burmese character (no. 25), called *tsa-lonh*, or 'round writing,' is scratched with a point on palm-leaves. It is symmetrical and elegant, the letters being formed, as in all palm-leaf scripts, of circles, or portions of circles in combination, straight horizontal lines being inadmissible, as they would cause the leaf to split. The three Burmese alphabets form an instructive illustration of the differences necessarily arising from the nature of the writing materials employed.

The three forms of the Pali alphabet which are found in Burma appear to have supplanted a primitive alphabet of a different type, which seems to have prevailed

throughout the Trans-Gangetic regions. The ancient alphabet of Burma was probably identical, or nearly so, with the Ahom alphabet¹ (given in line 29) still used in Assam, which is closely related to the Pegu or Mon alphabet (line 28), whose former prevalence is evidenced by the nature of the cursive scripts of the neighbouring lands.

The old Pali, as exhibited in the Kiousa character of Burma, and the Kawi inscriptions of Java, seems to have been derived from a very ancient type of the western alphabet of India; whereas the Trans-Gangetic script, which survives in the Ahom and Pegu alphabets, and in the cursive Siamese, belongs to a less primitive type of the Indian alphabet, which prevailed in eastern India, and is exhibited in the Assam inscription.²

The Siamese use the square Pali for their sacred books, but have an elegant cursive character for ordinary

¹ Ahom is a dialectic Pali form of the name of the country called Assam in the Sanskrit languages. The modern vernacular script of Assam may therefore be conveniently designated as the 'Ahom' alphabet, the name 'Assam' being reserved for the ancient alphabet of this region, which is given in line 8, p. 336, from the Assam inscription.

² An examination of the Kiousa letters in line 10 on p. 336 shows that for the forms of \square *g*, \sqcup *y*, and especially of \mathfrak{Z} *d*, we must go back to the cave characters, several, such as \mathfrak{a} *kh*, \mathfrak{p} *ph*, and \mathfrak{n} *n*, being of the Gupta or Valabhi type, while others, such as \mathfrak{m} *k*, \mathfrak{c} *ch*, \mathfrak{t} *t*, \mathfrak{n} *n*, \mathfrak{a} *a*, and \mathfrak{u} *u*, may most easily be explained by reference to the later eastern type shown in the Assam inscription.

use. Its formation can be explained by the aid of two ancient Siamese MSS. now at Paris. One of these, the Patimokkha MS., exhibits forms clearly akin to those of the Assam inscription. The Boromat MS. is somewhat similar, but more fanciful and angular in style.¹

The Laos, a Siamese race, have also two alphabets, the ecclesiastical and the secular ; and the same is the case with the Cambodians.² All these scripts seem to be related to the Khomen alphabet of the Boromat MS., and confirm the conclusion that an ancient cursive alphabet prevailed in these regions prior to the introduction of the Square Pali.

The affinities of the curious Leptsha or Rong alphabet,³ used by the inhabitants of Sikim, have not been precisely determined, but it belongs apparently to the Ahom group.

The complicated Javanese letters, which at first sight seem to be hopelessly unintelligible, resolve themselves, on examination, into an alphabet of the Pali type.⁴ The old Kawi, on which the modern Javanese

¹ The alphabets are given in plate v. of Burnouf and Lassen's *Essai sur le Pali*, and are repeated by Faulmann, *Buch der Schrift*, p. 149.

² An excellent Table of the Laos and Cambodian alphabets accompanies Dr. Bastian's important paper, *Remarks on the Indo-Chinese Alphabets*, in *J. R. A. S.*, N. S., vol. iii., 1868.

³ Given by Faulmann, *Buch der Schrift*, p. 135.

⁴ See Holle, *Tabel*, p. 7, and plates 6, 7, 16.

is based, is known from copper-plate grants of the 9th and 10th centuries, facsimiles of which are given in Cohen-Stuart's *Kawi Oorkonden*.¹ The alphabet of these inscriptions is a legible Pali of the same general type as the Burmese Kioussa alphabet. This ancient Kawi alphabet of Java is there called the Akchara Buddha, or 'Alphabet of Buddha,' a name which proclaims its introduction by the Buddhist missionaries. The modern Javanese has additional letters derived from an earlier alphabet, belonging to the type exhibited in the Assam inscription, to which the Malay and the cursive Siamese also belong.

The Singalese, like the Javanese, is an isolated alphabet of the Pali class, modified however by early Grantha influences. It is confined to the southern half of Ceylon, the northern region being occupied by the intrusive Tamil alphabet and language.

The alphabet of Corea,² which was formerly supposed to have been developed from Chinese, through the medium of the Japanese syllabaries, is really a primitive form of the Indian alphabet, introduced doubtless by Buddhist teachers. The alphabetic arrangement decisively establishes its Indian origin, while the forms of several of the letters prove that it was derived from an ancient Pali or Tibetan type.

A still more startling proof of the wide reaching activity of the early Buddhist missionaries has recently

¹ See also Burnouf and Lassen, *Essai sur le Pali*, plate v.

² This alphabet will be found in Faulmann, *Buch der Schrift*, p. 64.

come to light.¹ An ancient MS. has lately been brought from Japan, from which M. de Rosny concludes that prior to the development of the Japanese syllabary from the Chinese the Japanese possessed an ancient alphabet, ultimately of Indian origin, but probably introduced from Corea.²

The Nagari Alphabets.

The most important group of Indian alphabets is the Nagari,³ or, as it is usually called, the Devanagari.⁴

¹ See *Academy*, June 18, 1881.

² Mr. Satow has shown that the art of printing with moveable types was practised in Corea at the beginning of the 14th century, before it was known in Europe. See *Athenæum*, March 18, 1882.

³ The meaning of the term Nagari has been much disputed. It has been conjectured that it was originally the local alphabet of Benares, and has been explained as the 'city alphabet,' from *nagara*, 'a city.' Dr. Burnell is inclined to believe that it was the *naga-lipi* or 'serpent writing' (Cf. vol. i., pp. 286, 318; and Burnell, *S. Indian Pal.*, p. 52). It was thus understood and translated at the time when the ancient Tibetan version of the *Lalita Vistara* was made. A third hypothesis explains it as the writing of the Nagara Brahmans of Gujarat, and a fourth as that of the Sah kings, who were called the nagas, or 'snakes.'

⁴ The term Devanagari, which would mean the divine or sacred Nagari, is not used by the natives of India, and seems to have been invented by some ingenious Anglo-Indian about the end of the last century. It has, however, established itself in works on Indian Palæography, and may be conveniently retained to denote that particular type of the Nagari character employed in printed books for the sacred Sanskrit literature, while the generic term Nagari may serve as the designation of the whole class of vernacular alphabets of which the Devanagari is the literary type.

Their range is almost conterminous with the Bombay and Calcutta Presidencies. They are employed in the Central Provinces, the Punjab, Kashmir, Rajputana, Gujarat, the North-West Provinces, Oudh, the Maharratta country, Behar, Bengal, and Orissa. The Tibetan alphabets also belong essentially to this group.

The Devanagari is the most important of Indian alphabets, not only from its great geographical extension, but because it is the chief character in which the Sanskrit literature is conserved. It is the sacred alphabet of the Brahmans, just as Pali is that of the Buddhists. It is sometimes loosely called 'Sanskrit,' a term which correctly applies to the language only, and not to the script. The distinction should be carefully observed, Sanskrit being one of the oldest of known languages, while its vehicle, the Devanagari, is of comparatively modern origin.

In comparing the Devanagari letters with those of other Indian alphabets it is often necessary to leave out of consideration the two rigid lines which, as a rule, form the contour of the Devanagari letters. In the Kutila, and other still earlier prototypes, the germs of the horizontal line which connects the letters may be detected. This ligature arose, as has been already shown, out of a slight thickening of the stroke which marked the commencement of each letter, and may be compared to the foot and head lines seen in most of our modern Roman capitals, such as H, I, or K. In the classical Devanagari script this horizontal line

assumes great regularity, and connects all the letters ; in Eastern alphabets belonging to the Nagari family, such as the Bengali, it is less uniform ; and in the western group, of which the Gujarati is the type, it is entirely absent. The vertical line forms part of the letter, and is sometimes radical, as in *a* and *n*, but is often merely calligraphic, or due to assimilation, in which case it is usually absent from the corresponding Bengali, Gurumukhi, and Gujarati letters. Hence these more cursive alphabets are useful in determining what portions of the Devanagari characters are radical, and what are merely due to a desire for symmetry.

The alphabets of the Nagari group may now be briefly catalogued. (See Table, p. 338.)

The Gurumukhi character used by the Sikhs is transitional between the Gujarati and the classical Devanagari.

In Kashmir two alphabets are employed, the Sarada and the Thakuri, one nearly identical with the Devanagari, and the other inclining to the Gurumukhi type.

The Mahratta conquest of the northern portion of the Deccan extended the southern limit of the Nagari alphabets, intruding a linguistic and alphabetic wedge into the Dravidian territory. Mahratti is written in two characters ;—that used for books is called Balbodh, or 'intelligible to a child,' and is nearly the same as the Devanagari ; the other, called Modi, is a cursive script of the Gurumukhi type.

The Bengali is the most important of the eastern alphabets of the Nagari family. Its prototype is to be sought in old Gauri inscriptions, which date from the 10th century.

The Uriya, or Orissa, belongs to the same class, but has many archaic forms, explained by the characters of the Assam inscription. The peculiar aspect is to be ascribed to the practice of writing on palm-leaves with an iron stile.

In Nepal four scripts are used—the Nevari, which is nearly the same as the Devanagari, the Banjin-Mola belonging to the Bengali type, while the Kaiti-Nagari and the Ranja are of intermediate character, the former approximating to the Nevari, and the latter to the Banjin-Mola.

The Sindi and Multani alphabets are very curious and interesting. Several characters, such as *n*, *p*, *b*, *bh*, and *r*, have evidently been borrowed from the contiguous Gurumukhi or Gujarati alphabets, but in other cases we find letters, such as *j*, *th*, *n*, which seem to be isolated survivals from the old cursive alphabet of northern India. This was afterwards overlaid and supplanted throughout extensive regions by the Devanagari, the literary alphabet of the Brahmans. This hypothesis disposes of sundry theories which have been founded on the resemblances between the Sindi alphabet on the one hand and the Siamese and Malay alphabets on the other. Beyond the Ganges the primitive alphabets were overlaid by the clas-

sical Pali, and in Hindustan by the classical Devanagari, just as the Roman and Greek cursives were overlaid by the calligraphic book-hands.

The Tibetan alphabets constitute a sub-family of the Nagari, which branched off at a very early period. Three alphabets are used in Tibet. The ecclesiastical script is called the Utshen or Dvoujam (no. 11). It retains faithfully the primitive forms, which are said to have been cut on wooden blocks for printing in the 7th century, soon after the Indian alphabet was introduced by the Buddhists into Tibet. The Umin is a cursive script used for secular purposes, while the Khyugagi is still more cursive. The Utshen preserves a very early type of the northern alphabet of India, as appears from the fact that for the prototypes of several letters, such as *chh*, *j*, and *l*, we have to go back to the inscriptions of the Gupta dynasty.

The internal evidence supplied by the Tibetan shows that an early Indian alphabet was first simplified by the omission of several letters, and afterwards expanded by differentiation, a phenomenon observed also in the Mongolian and Runic alphabets. Thus the cerebrals *ṅ*, *ṭ*, and *ṭh*, are not the Indian cerebrals, but have been obtained by inverting the dentals *n*, *t*, *th*, while *ṣ*, *z*, a sound unknown in Sanskrit, is an inversion of the Gupta letter *ṣ*.

The Kchab or Passepa alphabet (no. 12) was derived from the Tibetan. It is said to have been invented by the Grand Lama Bachspa (Pa-sse-pa) in 1259 A.D.,

during the reign of Kublai Khan.¹ Five of the letters, added to the Mongol Galik alphabet, are still used by the Kalmuks on the lower Volga.

The Dravidian Alphabets.

The History of the Alphabets of Southern India has been investigated with such success by Dr. Burnell, that it will be unnecessary to do more than briefly to summarize the results at which he has arrived, and for the details to refer the student to his book.²

Dr. Burnell shows that the Dravidian alphabets of Southern India were derived from the character of the western caves. As early as the 4th century A.D. this gave birth to separate types, the first of which, represented by the inscriptions of the Vengi and Chalukya dynasties who ruled in the Deccan, was the source of the Telugu and Canarese alphabets; while from the other, represented by the Cera inscriptions, proceeded the great Tamil alphabet on the one hand, and on the other the group which comprises the Tulu, the Malayalim and the Grantha.

The alphabet of the 10th century Chalukya inscrip-

¹ See Burnouf and Lassen, *Essai sur le Pali*, plate v.; Abel-Remusat, *Recherches sur les langues Tartares*; and Poole, *Cat. of Oriental Coins in B. M.*, vol. vi. This alphabet is embroidered on an ancient pall in the Lamasary of Yung-Ho-Kung in Pekin. A facsimile is given by Mr. Thomas in the *Numismata Orientalia*, p. 49.

² Burnell, *Elements of South-Indian Palæography*, second edition, 1878.

tion from Amaravati, given in line 6, p. 336, represents the type from which both the Telugu and the Canarese alphabets were derived. The Telugu, with its graceful curves, is a beautiful specimen of a palm-leaf character. Its elegant symmetry, and the ingenious denotation of the aspirated letters by means of a subscript dash, are worthy of note.

The Canarese alphabet prevails on the plateau of Mysore, in the western districts of the Nizam territory, and to a small extent in the Canara district on the Malabar coast.

The Telugu language is spoken by 14 millions of people, who occupy the basins of the Kistna and Godavari, the eastern coast from Madras northwards to the Godavari, and extend inland to the boundary of the Mahratta country.

These two alphabets, the Telugu to the east, and the Canarese to the west, occupy the northern portion of the Madras Presidency. A reference to the Table on p. 338 will show their essential identity. In the latter, a few variants have been derived from an old form of the Grantha alphabet with which it is conterminous.

The southern Dravidian types may be traced back to the Cera inscription of 467 A.D. From this lapidary alphabet two scripts were developed, a cursive and a literary script. The first is represented by the Tamil, while the other has developed into the Grantha or 'book' alphabet used by the Tamil Brahmans for the

Sanskrit transcriptions of their sacred books. From it are derived two vernacular alphabets which are used on the Malabar coast; one is the Tulu Grantha (line 23), and the other the Malayalim, from which several characters were borrowed by the Christians of St. Thomas in order to supplement the Syriac (Karshuni) alphabet which they obtained from the Nestorian missionaries (see vol. i., p. 293.)

The great Tamil alphabet occupies the extreme south of India. From a point somewhat north of Madras it extends along the eastern coast beyond Cape Comorin, it prevails throughout the plain of the Carnatic, and extends over the northern portion of Ceylon, dividing the island nearly equally with the Singalese, an isolated alphabet of the Pali type. The Tamil script presents one of the most curious problems in the history of the Indian alphabets. Most of the letters are descended, like those of the other Dravidian alphabets, from the character of the western caves, but several letters have been shown by Dr. Burnell to be derived from the nearly extinct Vatteluttu, or "round hand," an independent alphabet known to us from inscriptions of the 7th century A.D. The Vatteluttu is apparently the survival of a very ancient cursive alphabet of unknown origin. It may have been derived from the primitive alphabet of India at a time prior to the redaction exhibited in the inscriptions of Asoka, or possibly it may have been an independent branch of the Semitic alphabet, intro-

duced into Southern India by early Phœnician traders. Dr. Burnell doubts whether the Maurya alphabet of the 3rd century B.C., which was the parent of every other Indian alphabet, can have been the source of those of the Tamil characters which were derived from the Vatteluttu.

Another curious problem is offered by the scripts used in the Maldives, a group of almost innumerable coral islands, politically dependent on Ceylon, from which they are distant some 500 miles.

There are two Maledevi alphabets, the old and the

THE MALEDEVI ALPHABETS.

Old.	New.	Values.	Old.	New.	Values.	Old.	New.	Values.
	1	h		2	k			t
	3	th		4	a			l
	5	ni		6	w			g
	7	r		8	m			n
	9	b		10	ph			s
	11	l		12	dh			d

new, which are plainly unrelated, and not, as is usual in such cases, successive deformations of the same script. The more ancient, called the Dewehi Hakura, is written like other Indian alphabets, from left to right. It is still in use in the Southern Atolls, though

extinct, or nearly so, in the Northern Islands.¹ It is only a degraded type derived from the Dravidian alphabets of the mainland, as appears from the resemblance of several letters, such as *r, b, n, a, ph, l*, to the corresponding Canarese characters; and of others, such as *h, ñ, l, k, t, g*, to the Tulu.²

The more recent alphabet, which prevails chiefly in the Northern Atolls, is said to have been introduced when the Maldives were reconquered by the Mohammedans from the Portuguese. It is called the Gabali Tana, and is written, like the Neskhi alphabets, from right to left. It is plainly, however, neither an Arabic nor an Indian alphabet. Of the eighteen letters of which it consists, the first nine, as Prinsep acutely suggested, are merely the Gobar, or Arabic ciphers, with phonetic values assigned to them. The other nine letters, which have not hitherto been explained, seem to be the old Telugu-Canarese numerals³ used in like manner as substitutes for letters. It may be conjectured that the Mohammedan invaders, finding the forms of the vernacular letters unfamiliar, numbered them, using the numerals instead. If this explanation be correct, the Gabali Tana is unique among alphabets in its method of formation, the nearest analogue being the Irish Oghams, or the ciphers used in signal codes and cryptographic messages.

¹ See Cust, *Languages of East Indies*, p. 64.

² See lines 22, 23, p. 338, and Burnell, *S. Indian Pal.*, pl. xvi.

³ See Burnell, *S. Indian Pal.*, pl. xxiii.

The Malay Alphabets.

The modern alphabet of Java, which is also used in Borneo,¹ is proved by the old Kawi inscriptions to belong to the Pali class.² The Malay alphabets, which extend over the other islands of the Asiatic archipelago, are of more doubtful origin.

The principal alphabets used by the Malayan races are the Battak in central Sumatra, the Rejang and the Lampong in south-eastern Sumatra, the Bugi and the Macassar in Celebes, the Tagala and the Bisaya in the Philippines.³

These alphabets appear to have been derived from at least two distinct sources. Holle has shown reasons for supposing that the alphabets of Sumatra are only degraded types of the old Kawi.⁴ The Eastern Malay alphabets have a different history. Their prototype seems to be the Eastern cursive alphabet, which is represented by the Vengi and Chalukya⁵

¹ See Holle, *Tabel*, no. 141.

² See Holle, *Tabel*, p. 7, and Alphabets, nos. 38 to 75. Two inscriptions from East Java are of the Nagari type. See Holle, *Tabel*, nos. 49, 50 compared with nos. 12 and 16.

³ See p. 340, nos. 29 to 37; and Cust, *Languages of the East Indies*, pp. 131-143.

⁴ Holle, *Tabel*, p. 8.

⁵ Holle gives the alphabets of two inscriptions from West Java (nos. 80 and 81) which are almost identical with no. 179, which is Burnell's Chalukya alphabet of 578 A.D. Cf. the Vengi and Cera inscriptions, nos. 143 and 147 in Holle.

inscriptions in the South and by the Assam inscription in the North.¹ Thus in the Tagala, which may be taken as the type of the Eastern Malay alphabets, we have the following correspondencies.² The resemblance between the Assam and Tagala forms is singularly close.

	<i>g</i>	<i>k</i>	<i>ng</i>	<i>t</i>	<i>m</i>	<i>h</i>	<i>u</i>
Kistna,	𑀓	𑀕	𑀭	𑀔	𑀠	𑀡	
Assam,	𑀓	𑀕	𑀭	𑀔	𑀠	𑀡	𑀢
Tagala,	𑀓	𑀕	𑀭	𑀔	𑀠	𑀡	𑀢

The Tagala alphabet must have been obtained from the Eastern Coast of Bengal at some time prior to the 8th century A.D. That it was conveyed by mariners who ventured on distant voyages is indicated by the fact that the oldest forms of the Malay letters are found in the islands which are most remote from the Indian shores. A glance at the Table on p. 340 will

¹ Dr. Friedrich Müller, in his tract *Ueber die Schrift der malayischen Völker* (Transactions of the Anthropological Society of Vienna, 1870), derives the Malay alphabets directly from the alphabet of Asoka, at a period prior to the Christian era. The comparison between the Assam and Tagala letters made in the text renders Dr. Müller's theory extremely improbable. That a precisely parallel development of the forms of so many letters should have taken place independently is contrary to all experience and analogy. Any comparison between the Asoka and the abraded and almost formless Battak and Bugi letters, which are plainly degraded types, is of little worth. If the Asoka and Tagala alphabets are compared, the resemblances become inconspicuous.

² These correspondencies are better seen in the more elaborate Vengi and Chalukya alphabets given by Burnell and Holle.

show that the Tagala, which occupies the region most remote from India, is the prototype from which the alphabets of Celebes and Macassar have been derived.

It may be a matter of surprise that the number of these Malay alphabets, of which only the leading types are represented in the Table, should be so great. This can, however, be easily explained. In barbarous and isolated communities the growth of innumerable dialects is a matter of course. In the Polynesian archipelago neighbouring islands speak different dialects, and possess different animals and plants. In Melanesia every small island has its own language. It is the same with the alphabets. With high civilization and extended means of communication a uniform alphabetic type may prevail over wide areas, whereas among insular races with a low type of culture a variety of degraded scripts are certain to arise. Thus the more civilized people of Manilla and Macassar have preserved a primitive type of the Malay alphabet, which has degenerated into a variety of almost formless scripts among the ruder tribes of Celebes and the Moluccas. A similar fate overtook the great Punic alphabet in Numidia and Spain. Very striking is the general similarity of the Bugi alphabet, the most remote and degenerate form of the Indian script, with the degraded alphabet of the Spanish coins (vol. i., pp. 227, 230), the moribund type in which the great Phœnician alphabet expired in the extreme west.

CHAPTER XI.

THE EPILOGUE.

IT is only within the last few years that the discovery of immense stores of Palæographic material has made possible a history of the Alphabet. Without the evidence afforded by the Papyrus Prisse, the Moabite stone, the Baal Lebanon vessels, the Assyrian docket, the Himyaritic inscriptions, the records from Safa, the papyri from Egyptian tombs, the epitaphs from Thera, the graffiti from Abu Simbel, the abecedaria from Etruria, the Pompeian tablets, the coins of Bactria and the Satrapies, the Persepolitan monuments, the Runic torques and broaches, and the Edicts of Asoka, all of which have been brought to light within the present century, any attempted determination of the relations and affiliations of the great alphabetic families would necessarily be little more than guess work. How great has been the advance may be seen by a reference to the works of Kopp, the founder of scientific Palæography, which were published little more than fifty years ago. In numberless cases his conjectures have been replaced by certainties.

But the advantages enjoyed by the modern palæographic student do not consist only in the priceless epigraphic treasures which now fill the Museums of Europe. It is owing chiefly to the discovery and application of modern principles and methods that Epigraphy and Palæography can claim to be ranked among the exact Sciences. The analogies supplied by the comparative method of research make it possible to obtain that grasp of general principles which serves as the safest guide in the investigation of details.

Of these principles the most important is the doctrine of Evolution. The scientific revolution, of which Darwin has been the great apostle, is rapidly extending itself to all departments of human knowledge. Discarding the obsolete notion of arbitrary invention or creation, we seek for self-acting causes adequate to produce the results which are detected by minute research. We ask, not only what a thing is, but how it came to be what it is. And we find that the greatest changes have been effected by the accumulation of variations in themselves almost imperceptible. The great Law of Continuity, first formulated in the axiom of Leibnitz, *natura non facit saltum*, holds good in every science. Slow differentiation by minute variations, as Geiger well observes, proves historically to have been the method by which the transformations of alphabets, as well as of languages, of animals, of plants, and even of the surface of the globe itself, has been effected. More than twenty years ago Ritschl laid

down the law that Scientific Palæography rests on the assumption that no alphabetical changes are ever accidental or arbitrary, as was formerly assumed, but are the result of evolution taking place in accordance with fixed laws.

It is not difficult to determine the nature of these general laws which govern the evolution of alphabets. A script, like the speech of which it is the vehicle, is the expression of human character. Both of them, there is reason to believe, arose at first out of very simple beginnings—language from almost inarticulate cries, writing from rude pictures, at first barely phonetic. Both are in a state of continuous mutation. Both are subject to continual processes of development, deformation, and regeneration. The object, in either case, is the communication of ideas with the greatest attainable ease and certainty. The law of least effort brings about the attrition and degradation of the forms of words as well as of letters. Thus they become gradually less and less intelligible, the object for which they exist is defeated, till at last the law of efficiency comes into play, and regeneration ensues by means of minute differentiation, and by the survival of the fittest forms, and the disappearance of the less fit.

Another important principle is the law of correlated variation. Any change, however brought about, tends to produce other changes. Just as the introduction of a new animal or plant into an island or a continent disturbs the balance of nature, either causing the extermi-

nation of species unable to cope with it in the struggle for existence, or bringing about modifications in their habits or structure to fit them for the new conditions, so we find that a change in any one letter constantly produces related changes in other letters—they have to be differentiated in order to maintain an adequate dissemblance.

Of an opposite tendency is the principle of assimilation, which often produces curious superficial resemblances among letters belonging to the same alphabet, affecting, more especially, contiguous letters such as *m* and *n*, *p* and *q*, *E* and *F*.

This assimilation is no doubt partly caused by the love of symmetry and the tendency to unconscious imitation, but it is due, to no small extent, to the nature of the writing materials used. Just as *habitat* affects wholly different animals in the same way, giving in the arctic regions a white coat to the fox as well as to the hare, and stripes both to the zebra and the tiger, so a script will be influenced by the fact of the material employed being costly or abundant, facile or difficult to use. Stone, wood, metal, clay, wax, palm-leaves, bark, parchment, papyrus, paper, give a special character to any script for which they are habitually used. So also it is possible to recognize certain unmistakable characteristics which are consequent on the graphic implement employed, whether it be the chisel, the brush, the reed, the stile, or the quill. Scripts of such different pedigree as lapidary Greek and Himyaritic, or Orissa

and Singalese, or Arabic and Uigur, may become curiously assimilated in general appearance, and even in the outline of individual letters, owing to the use of the same material. Thus a lapidary script tends to become square and angular, it eschews irregular forms, the letters are of nearly uniform size, and destitute of oval loops or sweeping tails. A xylographic script, such as the runic writing, is also rectilinear, but prefers triangles to squares, complicated forms disappear, it becomes elongated and narrow, it avoids curves and horizontal lines, and adopts in place of them diagonals running obliquely across the grain of the wood. A palm-leaf script, on the other hand, prefers arcs of circles and vertical lines, lending itself readily to intricate convolutions, but rigorously eschews straight horizontal lines, which would cause the leaf to split. On metal we get scratches and intersecting lines, the angles are not joined with precision, and circles tend to become ovals. On clay the strokes are separated, loops are opened, and intersecting lines, which on metal are so common, are as a rule avoided. Books written on parchment, a costly material, exhibit an elaborate calligraphic style, the letters being upright, separately formed, regular in size, with symmetrical curves, and elliptical rather than circular arcs being preferred. The up-strokes are fine, and the down-strokes of uniform thickness. It is easy to see that our capitals O B D on the one hand, or W M K on the other, have arisen out of a parchment script. But if papyrus, a

cheap and rough material, is ordinarily used, the writing tends to become careless and cursive, easily degenerating into an almost illegible scrawl, the letters being joined by ligatures, and exhibiting blotted loops and elongated tails, without the fine up-strokes which distinguish a parchment script. The qualities of paper are intermediate between those of parchment and papyrus, and hence a paper script may be either cursive or calligraphic.

Again, the character of the writing and the forms of the letters are influenced by the quality of the ink, and still more by the nature of the pen, whether brush, or reed, or quill, or stile. It is impossible to mistake the cause of the broad blobs and dashes which characterize a script formed with a brush and thick glutinous ink, such as the square Pali, the Siamese, the Chinese, or the Hieratic of the Papyrus Prisse. The employment of a brush causes the writing to be upright, broad, and horizontally extended. If a reed be used the writing usually slopes to the left, while with a quill it slopes to the right. It is possible to trace the influence on English handwriting of the substitution of steel pens for quills, and also the effects of the stylographic pens now coming into use.

As in Geology the great solutions of continuity in the succession of forms may be traced to changes of climate, or to alterations in the distribution of land and water, so the greater alphabetic changes—which concern not the mere outward form of the letters, but the

nature, the value, and the number of the symbols—are usually consequent on the transmission of a script from one nation to another, and its consequent adaptation as the vehicle of a different form of speech. Each language being governed by its proper phonetic laws, the transmitted script has to conform itself to their requirements. A language may be rude or cultivated, it may either have a simple phonology like the Finnic or the Peguese, which do not possess more than a dozen consonants, or it may have a delicate gradation of sounds like the Sanskrit, which requires no less than thirty-three consonants and fourteen vowels for its adequate expression. Some languages are especially rich in sibilants, others in gutturals, or nasals, or dentals, or liquids, or vowels. Hence either more or fewer symbols of a particular class are required. Some of the letters of a transmitted script will usually be found to be superfluous; consequently they will either disappear altogether, or be appropriated as the symbols of approximate sounds. The additional symbols which will generally be required are never deliberately invented, but are either borrowed from some contiguous or competing alphabet as in the case of Lycian and Coptic, or are evolved by differentiation of forms as in Greek and Latin, or are denoted by tags as in Ethiopic and Mongolian, or by diacritical points as in Arabic and Bohemian, or by hooks and bars as in the Indian scripts, or they may arise out of ligatured letters as in the Slavonic and Albanian alphabets. The arbitrary invention of new

symbols, which in the pre-scientific stage of Palæography was constantly called in requisition as the ready explanation of every difficult or anomalous form, proves to be the one method historically unknown.

Just as climate or rainfall may accelerate or retard the rapidity of geological change, so the rate of alphabetic variation will differ under different external conditions. A language widely diffused, a common literature, an aggressive creed, an active commerce, an extended empire,—these are causes which exert a conservative influence, as is seen in the case of the alphabets of Athens, Mecca, Rome, or London. Or, as in the case of the Samaritan and Coptic alphabets, similar results may be produced by such an opposite cause as the religious or political isolation of small communities, just as the fauna of large continents as well as of oceanic islands tends towards stability. On the other hand, the competition of independent communities, destitute of a common literature, favours the multiplication of new forms, as is seen in the case of the early alphabets of Greece prior to the Persian war, or of the national alphabets of mediæval Europe before the rise of the Carolingian Empire; while, on the other hand, national and ecclesiastical unity reacts on local peculiarities, and causes the ultimate disappearance of local alphabets as well as of local dialects.

The transmission of alphabets has been largely affected by trade-routes, conquest, colonization, and religion. The effect of commercial intercourse on the

diffusion of alphabets is seen in the transmission of the Phœnician alphabet to Hellas, of the Sabeian to India, and of the Greek to the Scandinavian races. Similar results have been brought about by colonies planted among barbarous tribes by more civilized races, as in the case of the Carthaginian colonies in Spain, or the Greek colonies in Italy. The influence of conquest is usually more transient, as is shown by the speedy disappearance of the scripts which followed in the wake of the Macedonian conquests in Bactria and Persia, or those of the Achæmenian kings in India, or of the Mongolian Khans in Central and Eastern Asia. But when the conquerors introduce a new religion, as was the case when the Khalifs overran the East, permanent changes may be effected. Of great potency are ecclesiastical influences of every kind, especially those exerted by aggressive missionary religions. The rapid spread of the Nestorian script among the Tartaric and Mongolian hordes, the extension of the Buddhist alphabet to Ceylon and Burma, to Java and Tibet, the propagation of the alphabet of Mecca over such vast regions in Africa and Asia, the transmission of the Greek alphabet to the Slaves, or of the Irish alphabet to England and Germany, and in more recent times of the Latin alphabet to so many remote and semi-savage tribes, furnish striking examples of the power exerted by the Religion of a Book in promoting the wide diffusion of local alphabetic types.

Again, the circumstance that alphabetic transmissions have frequently taken place during obscure epochs of history, may supply valuable evidence as to commercial intercourse, transmitted culture, and ethnical relations. Thus the affiliation of the runes throws unexpected light on the intercourse between the Greek colonies on the Euxine and the northern lands, and shows the importance of the great Olbian trade-route by the water-way of the Dneiper, which is otherwise known only by a chance notice in Herodotus. The Oghams serve to establish the fact of primitive Teutonic settlements, probably Jutish, in South Wales, and possibly in Ireland, as to which the chroniclers are silent; from the peculiarities which distinguish the early alphabets of Italy we learn the ancient predominance of Chalcis, and the extent of her colonies and her commerce; the nature and distribution of the primitive alphabets of Greece supply evidence unattainable from direct historical sources as to Phœnician colonization in the Ægean, while the transmissions to India of the alphabets of Iran and of Yemen are facts of no small significance.

The transmission of a script implies, in turn, the diffusion of other forms of culture. Thus the Greek type which characterizes the East German house is explained by the Greek origin of the Gothic runes, while the adoption, in different parts of Greece, of the two metric standards in use among the Semitic races of Western Asia must be taken in connection with the

twofold character exhibited by the names and forms of the Greek letters of the earliest epoch.

Again, starting from the axiom that alphabetic development is slow, gradual, and progressive, it is plain that the style of the letters on coins and inscriptions of personages otherwise unknown to history may furnish important chronological data, and may bring what would otherwise be mere legend within the domain of exact knowledge. Examples are supplied by the coins of the Arsacidan, Bactrian, and Indo-Scythian kings, of the Nabathean and Numidian princes, or of the chiefs who ruled in Gaul and Britain prior to the Western extension of the dominion of Rome. Facts not without importance relating to the date and extent of Phœnician influence in Greece, or to the early intercourse between India and the western world, may be obtained from a consideration of the period required for the evolution of the peculiarities of the transmitted alphabets.

It must, however, be remembered that in the scientific investigation of the affiliation of alphabets, chronological and geographical considerations are of primary importance. It is labour thrown away to compare, as used formerly to be done, alphabets belonging to different or undetermined epochs. A surprising dissimilarity may easily and rapidly arise in the forms of the letters. No one ignorant of the historical connection between the modern cursive German script and the Latin, or between the Arabic and the square Hebrew, would

imagine it possible that they could be closely related scripts. Mere resemblances or dissemblances may therefore easily prove misleading. In attempting any such comparisons it must be shown that the supposed parent script was actually prior to that which it is proposed to derive from it. Hence extreme attention must be paid to any indications of date contained in the inscriptions or manuscripts with which we deal.

The geographical limitations of the problem demand no less caution. It is futile to attempt to affiliate the alphabets of races not in geographical contact, or enjoying commercial intercourse. The path by which an alphabet may have travelled, and the precise period at which this can have occurred, must be distinctly shown.

With such limitations, it is evident, from the foregoing considerations, not only that Epigraphy and Palæography may claim, no less than Philology or Biology, to be ranked among the Inductive Sciences, but that they are able, in their turn, if studied on scientific principles, to throw no inconsiderable light on other departments of knowledge, and to elucidate numerous obscure problems in the early history of mankind.

INDEX OF ALPHABETS.

[The figures within brackets refer to the tables. Additional references will be found in the General Index.]

- | | |
|---|---|
| <p>Abu Simbel (Phœnician), i. 203, [227].
 Abu Simbel (Greek), ii. 11, [59].
 Abyssinian, i. 350.
 Achæan, ii. 125, [60].
 Ægean, ii. 64, [60].
 Afghan, i. 317.
 Ahom, ii. 346, [340].
 Albanian, ii. 207, [209].
 Amharic, i. 350, [338].
 Anban, ii. 275, [277].
 Andhra, ii. 335.
 Anglo-Saxon, ii. 179.
 Arabia Felix, ii. 314.
 Arabic, i. 314 [326].
 Aramean, i. 245, [250].
 Argive, ii. 64, [60].
 Ariano-Pali, ii. 257, [298].
 Armenian, ii. 268, [276].
 Arsacidan, ii. 243, [236].
 Asia Minor, ii. 108.
 Asoka, ii. 289, [298, 320, 336].
 Assam, ii. 354, [338].
 Assyrian, ii. 282.
 Athenian, ii. 55, [59, 60].
 Axum, i. 350, [338].
 Azbukvica, ii. 198.
 Babylon, i. 274, [270].
 Bactrian, ii. 257, [236].
 Baluchi, ii. 287.
 Banjin-mola, ii. 352.
 Battak, ii. 359, [340].
 Bengali, ii. 352, [338].
 Bethluisnion, i. 110.
 Bisaya, ii. 357, [340].</p> | <p>Bobeloth, i. 119.
 Bœotian, ii. 68, [60].
 Bohemian, ii. 207.
 Borneo, ii. 359.
 Buddha, ii. 348.
 Bugi, ii. 359, [340].
 Bulgarian, ii. 207.
 Burmese, ii. 345, [340].
 Cadmean, ii. 28, [59].
 Cambodian, ii. 347.
 Canarese, ii. 355, [338].
 Cappadocian, ii. 110.
 Carian, ii. 110.
 Caroline, ii. 181.
 Carthaginian, i. 229, [227].
 Cave, ii. 326, [336].
 Chalcidian, i. 73; ii. 131, [60].
 Chaldæo-Pehlevi, ii. 244.
 Chaldean, i. 296, [338].
 Chalukya, 331, [336].
 Cilician, ii. 109.
 Coptic, ii. 191, [194].
 Corean, ii. 348.
 Corinthian, ii. 67, [59, 60].
 Crete, ii. 64.
 Cuneiform, i. 51.
 Cyrillic, ii. 195, [196].
 Devanagari, ii. 349, [338].
 Dewehi Hakura, ii. 357.
 Dorian, ii. 94.
 Dravidian, ii. 354.
 Edessa, i. 284.
 Egyptian (hieroglyphic), i. 61, [66, 99]. 270].
 Egyptian (Aramean), i. 259, [250].</p> |
|---|---|

- Elean, ii. 54.
 English, i. 70; ii. 183.
 Estranghelo, i. 285, [288].
 Ethiopic, i. 349, [338, 352].
 Etruscan, ii. 79, 128. [126].
 Eubœan, ii. 66, [60].
 Faliscan, ii. 127, [126].
 Gabali Tana, ii. 358.
 Gaulish, ii. 125.
 Gauri, ii. 334.
 Geez, i. 350, [338].
 Georgian, ii. 268, [236, 277].
 Glagolitic, ii. 158, [203].
 Glossic, i. 177.
 Gothic, ii. 210, [218].
 Grantha, ii. 356, [338].
 Greek, i. 73; ii. 1—123, 145,
 [i. 72, 75, 78; ii. 59, 60, 154].
 Gujarati, ii. 351, [338].
 Gupta, ii. 328, [336].
 Gurumukhi, ii. 351, [338].
 Halicarnassus, ii. 48, [59].
 Hauran, i. 328, [326].
 Hebrew, i. 266, [73, 75, 270].
 Herodian, i. 273.
 Hierosolymitan, i. 295.
 Hinyaritic, i. 339, [338].
 Hindustani, i. 318.
 Iberian, ii. 125.
 Indian, ii. 285, [298, 320, 336—341].
 Indo-Bactrian, ii. 256, [236, 298].
 Indo-Pali, ii. 299, [298, 320].
 Ionian, ii. 4, 49, [60].
 Italic, ii. 124, [126].
 Irish, ii. 178, [164].
 Iranian, ii. 228, [236].
 Israelite, i. 230, [227, 243, 270].
 Jacobite, i. 290, [288].
 Japanese, ii. 349.
 Javanese, ii. 348.
 Jeresi, i. 319.
 Jerusalem, i. 271, [250, 270].
 Joktanite, i. 336, [338].
 Judæa, i. 232, [227].
 Kaiti-nagari, ii. 352.
 Kalmuk, i. 294, 302.
 Kapur-di-giri, ii. 257, [236].
 Karshuni, i. 293.
 Kawi, ii. 357.
 Kchab, ii. 353.
 Khomen, ii. 347.
 Khyugagi, ii. 353.
 Kioussa, ii. 345, [336].
 Kistna, ii. 331, [338].
 Kufic, i. 317, [326].
 Kutila, ii. 333, [336].
 Lampong, ii. 359, [340].
 Lat, ii. 297.
 Latin, ii. 136, [126, 164].
 Leptsha, ii. 347.
 Libyan, i. 153.
 Lycian, ii. 108.
 Lydian, ii. 108.
 Macassar, ii. 359, [340].
 Maccabean, i. 240, [227].
 Maghrebi, i. 318.
 Mahratti, ii. 351.
 Malay, ii. 359, [340].
 Malayalim, ii. 354.
 Maledevi, ii. 357.
 Manchu, i. 303, [308].
 Maronite, i. 290.
 Maurya, ii. 299.
 Maya, i. 24.
 Mecca, i. 327.
 Melos, ii. 38, [59].
 Mendaite, i. 328, [288].
 Messapian, ii. 127, [126].
 Miletus, ii. 46, [59].
 Missionary, i. 177, [176].
 Moabite, i. 200, [227].
 Modi, ii. 351.
 Mœso-Gothic, ii. 223, [218].
 Mongol-Galik, i. 302.
 Mongolian, i. 297, [308].
 Multani, ii. 352, [338].
 Mysian, ii. 108.
 Nabathean, i. 328, [326, 338].
 Nablus, i. 243, [227].
 Nagari, ii. 349, [336].
 Nerbudda, ii. 332, [336].
 Neskhi, i. 317, [315, 326].
 Nestorian, i. 290, [288].
 Nevari, ii. 352.
 Nineveh, i. 252, [227, 250].
 Numidian, i. 229.

- Odessa codex, i. 276, [270].
 Ogham, ii. 225.
 Orissa, ii. 352, [338].
 Oscan, ii. 128, [126].
 Pali, ii. 342, [340].
 Palmyrene, i. 263, [250, 270, 288].
 Palæotype, i. 177, [176].
 Pamphylian, ii. 108.
 Paros, ii. 107.
 Parsi, ii. 250, [236, 252].
 Passepa, ii. 353, [336].
 Peguan, ii. 346, [340].
 Pehlevi, ii. 238, [236].
 Pelasgic, ii. 130, [126].
 Peloponnesian, ii. 64, [60].
 Persian (Aramean), ii. 229.
 Persian (Cuneiform), i. 51.
 Persian (Arabic), i. 317.
 Peshito, i. 294, [288].
 Petra, i. 329, [326].
 Phœnician, i. 197, [227].
 Phrygian, ii. 109.
 Proto-Pehlevi, ii. 244, [336].
 Punic, i. 226, [227].
 Rabbinic, i. 278, [270].
 Ranja, ii. 352.
 Rejang, ii. 359, [340].
 Romaic, ii. 163.
 Roman, ii. 183.
 Rome, ii. 136.
 Romic, ii. 186.
 Runic, ii. 210, [218].
 Russian, ii. 195, [196].
 Ruthenian, ii. 205, [196].
 Sabeian, i. 345, [338].
 Sah, ii. 326, [336].
 Samaritan, i. 242, [227, 243].
 Samos, ii. 103.
 Sanskrit, ii. 349.
 Sarada, ii. 351.
 Sassanian, ii. 244, 247, [236].
 Satrapies, i. 258, [250, 270].
 Serta, i. 286, [288].
 Servian, ii. 207.
 Siamese, ii. 346.
 Sidonian, i. 200, 220, [227, 250].
 Sikh, ii. 347, [338].
 Sikim, ii. 347.
 Siloam inscription, i. 232, [243].
 Sinaitic, i. 330, [326].
 Sindi, ii. 352, [338].
 Singalese, ii. 348, [340].
 Slavonic, ii. 195, [196, 201, 206].
 Spain, i. 229, [227].
 Spartan, ii. 55, [59].
 Square Hebrew, i. 268, [270].
 Square Pali, ii. 345, [340].
 Standard, i. 177; ii. 186.
 Sumatra, ii. 359, [340].
 Syracusan, ii. 52, [59].
 Syriac, i. 283, [288, 308].
 Syro-Chaldaic, i. 292.
 Syro-Palestinian, i. 295, [288].
 Tagala, ii. 360, [340].
 Tamashek, i. 229.
 Tamil, ii. 348, [338].
 Telugu, ii. 354, [338].
 Thakuri, ii. 351.
 Thamudite, i. 345, [338].
 Thera, ii. 29, [59].
 Thrace, ii. 217.
 Tibetan, ii. 353, [336].
 Tulu, ii. 356, [338].
 Turkish, i. 301.
 Tyrian, i. 205, [227].
 Uigur, i. 300, [288, 308].
 Ulphilas, ii. 224, [218].
 Umbrian, ii. 71, [126].
 Umin, ii. 353.
 Utshen, ii. 353.
 Valabhi, ii. 330, [336].
 Vatteluttu, ii. 356.
 Wallachian, ii. 207, [196].
 Zend, ii. 249, [236, 252].

GENERAL INDEX.

- A, letter, i. 164, 182; ii. 188.
 Aahmes, i. 151.
 Abbot Robert's Bible, ii. 181.
 Abbreviations, Latin, ii. 141, 171.
 Abdalmalik, i. 322.
 Abecedaria, Etruscan, ii. 79; Greek, ii. 69—78. Cf. i. 185; ii. 96, 140, 143, 169.
 Abel Remusat, i. 298, 299, 304.
 Abushadr, inscription from, i. 296, 326, 329.
 Abu Simbel, inscriptions from, ii. 5—18. Cf. i. 203, 204, 225, 227; ii. 59, 70, 104, 109.
 Abydos, inscriptions from, i. 225, 257; ii. 110.
 Abyssinians, i. 292, 336, 350, 351.
 Accadian cuneiform, i. 39, 42, 43, 55.
 Achæan colonies, alphabet of, ii. 60, 125.
 Acrology, i. 43, 147; ii. 307.
 Acrologic letter names, i. 120, 167, 354; ii. 200.
 Acrostics, i. 185.
 Adam, Book of, i. 296.
 Aden, inscriptions at, i. 275; ii. 315.
 Ægean alphabet, ii. 60, 64, 66, 71.
 Æschrion, ii. 105.
 Afghan alphabet, i. 317, 318.
 Africa, name of, ii. 19.
 Agatharchides, i. 342.
 Agathokles, ii. 233, 258.
- Agra Post Office, ii. 286.
 Ahab, i. 209.
 Ahaz, i. 238.
 Ahom alphabet, ii. 346, (table), 340.
 Akchara Buddha, ii. 348.
 Alarodians, i. 46; ii. 122.
 Albanian alphabet, i. 81; ii. 207; (table), 209.
 "Alcove," i. 322.
 Alcuin, ii. 180.
 Aldine type, ii. 183.
 Aldus, ii. 183.
 Aleph, letter, i. 41, 74, 76, 85, 87, 114, 115, 148, 169, 180, 239, 263, 266, 280, 296, 309; ii. 15, 24, 81, 253.
 Aleppo, i. 284.
 Alexander in India, ii. 290.
 Alexandria, i. 290.
 Algarve, ii. 20.
 Algeria, inscriptions in, i. 264, 318.
 Allahabad, inscriptions at, ii. 295, 328.
 Al-Mamun's inscription, i. 322.
 Alpha, letter, i. 41, 74, 76; ii. 24, 81.
 Alphabet, its origin, i. 4, 70—155; ii. 19; arrangement, i. 85, 186—189; name, i. 41, 74, 169, 302; scientific, i. 189; for the Blind, ii. 186; of the future, ii. 185. See LETTERS, WRITING, NAMES.
 Alphabets, List of, ii. 374—376; genealogical table of, i. 81.

- Amaravati, inscription at, ii. 331, 355.
- Amari, i. 320.
- Ambrosian Gospels, ii. 167.
- America, Indian records in, i. 19.
- Amharic alphabet, i. 35, 81, 350, 356; (table), 338.
- Anastasi papyrus, i. 92.
- Anban, ii. 275.
- Andhra dynasty, ii. 325, 335.
- Anglian runes, ii. 210, 223; (table), 218.
- Anglo-Saxon alphabet, ii. 179.
- Annamese syllabary, i. 37, 39; ii. 344.
- Anquetil Duperron recovers the Zendavesta, ii. 253, 254.
- Antioch, i. 284.
- Arabia Felix, i. 341; alphabet of, ii. 314.
- Arabic, i. 163; alphabet, 312—334. Cf. i. 81, 159, 162, 248, 268, 280, 297; ii. 63, 102, 243; (tables), i. 315, 326, 333; transliteration, i. 333; letters, i. 177; illegibility of, i. 252; ciphers, i. 8; ii. 263—268, 358; cryptograms, ii. 226; Kufic, i. 317; Neskhi, i. 317; ii. 229; vowel points, i. 281.
- Aram, i. 245—252.
- Aramean alphabets, i. 245—334. Cf. i. 81, 186, 198, 230, 283; ii. 24, 68, 228—236, 283; (tables), i. 250, 251, 270, 288, 326; ii. 236.
- Archinus, ii. 69.
- Ardeshir, ii. 241, 242, 247, 248.
- Argos, alphabet of, ii. 43, 64, 67; (table), 60.
- Ariano-Pali alphabet, ii. 257.
- Arles, inscription at, i. 274.
- Armenian cuneiform, i. 14, 46; alphabet, i. 81; ii. 235, 268—284; (tables), ii. 236, 276; codices, ii. 274; grammar, ii. 275.
- Armorial bearings, i. 8.
- Arndt, ii. 146.
- Arniadas, epitaph on, ii. 42.
- Arrian, ii. 290.
- Arsaces, ii. 240.
- Arsacidan alphabet, ii. 236, 243, 273, 282, 283.
- Artabanus, ii. 241.
- Artaxerxes Ochus, i. 258.
- Artemidorus, i. 342.
- Aryan alphabets, i. 152, 159, 165, 184; letters, i. 163, 164; vowels, i. 157.
- Asia, ii. 19. [—123.
- Asia Minor, alphabets of, ii. 108
- Asmonean coins, i. 186, 240.
- Asoka, inscriptions of, ii. 256—262, 288—296; alphabet, i. 346, 357; ii. 233, 296—319; (tables), ii. 298, 320, 336.
- Assam inscription, ii. 334; alphabet, ii. 335, 336, 346, 360; (table), ii. 336.
- Assemani, i. 285.
- Assimilation, ii. 365.
- Assouan, inscription at, i. 325.
- Assyrian alphabet, ii. 271, 273, 282; cuneiform, i. 14, 46; ii. 114; scripts, i. 247; ii. 230, 231; tablets, i. 252, 253; talent, ii. 25, 26.
- Astle, ii. 147.
- Athenæus, ii. 94.
- Athens, Phœnician inscriptions, i. 199, 225; Greek inscriptions, ii. 35, 36, 56, 57; alphabet, ii. 28, 43, 49, 64, 67, 71; (tables), ii. 59, 60.
- Augustine codex, ii. 165, 167, 181.
- Augustine's Gospels, ii. 179; Psalter, ii. 179.
- Aurelius Pachymius, ii. 160.
- Avaris, i. 143.
- Avitus papyrus, ii. 165, 176.
- Axum, inscriptions at, i. 350; alphabet, 338.
- Ayin, letter, i. 114, 115, 118, 173, 180, 215, 239, 263, 267, 337; ii. 15, 81, 87, 279.

- Azbukvica, ii. 198.
 Aztec ideograms, i. 14, 23.
- B, letter, i. 102, 162; ii. 174, 177, 186.
- Baal Lebanon inscription, i. 210
 —216; ii. 38.
- Baal Tars, i. 258.
- Baal, inscription to, at Jerusalem, i. 232.
- Babylon, inscribed bowls, i. 270, 274; bricks, i. 247; tablets, i. 253; ii. 322; cuneiform writing, i. 14, 40; metric standards, ii. 25, 26.
- Bachspa, ii. 354.
- Bactrian alphabet, i. 81; ii. 232, 233, 240, 257.
- Ballymote, book of, ii. 227.
- Baluchi alphabet, ii. 287.
- Bankes papyrus, ii. 150.
- Baradeus, i. 272, 294.
- Bar-Cochab, revolt of, i. 241.
- Bareli, inscription at, ii. 333.
- Barred letters, i. 251; ii. 181.
- Barsumus, i. 290.
- Bast, ii. 160.
- Barthélemy, i. 225.
- Battak alphabet, ii. 337, 359; (table), 340.
- Bayley, Sir E., ii. 267.
- Beaconsfield, Lord, i. 156.
- Bede, ii. 177, 181.
- Behistun inscription, i. 54; ii. 232.
- Ben Asher codex, i. 276.
- Benfey, ii. 312.
- Bengali alphabet, i. 81; ii. 288, 352; (table), ii. 338.
- Berger, i. 163, 178, 221.
- Berlin papyrus, i. 94.
- Bertin, ii. 267.
- Beta, letter, i. 74, 76, 103; ii. 24, 43, 107, 219.
- Beth, letter, i. 74, 76, 87, 102, 118, 148, 169, 239, 244; ii. 24.
- Bethluisnion alphabet, i. 119; ii. 224.
- Bible, original alphabet of, i. 231.
- Bibliography, i. 96, 167, 175, 188, 216, 222, 257, 287, 307, 344; ii. 2, 8, 30, 42, 52, 54, 80, 146, 204, 224, 268, 295, 335.
- Birch, ii. 146.
- Bisaya alphabet, ii. 359; (table), 340.
- Blacas papyrus, i. 261, 263.
- Black-letter, i. 277; ii. 165, 184.
- Block books, ii. 182.
- Bobbio, ii. 172, 175.
- Bobeloth alphabet, i. 119.
- Böckh, ii. 1, 2, 34, 39, 47.
- Bœotian alphabet, ii. 21, 41, 64, 68; (table), 60.
- Bohemian alphabet, i. 317; ii. 207.
- Bokhara, i. 300.
- Bonaparte, Prince L. L., ii. 186.
- Book hand, Roman, ii. 171.
- Borneo alphabet, ii. 359.
- Boromat MS. ii. 347.
- Böttcher, i. 167, 170.
- Boustrophedon writing, Greek, ii. 33, 49; runic, ii. 217.
- Bowls, Jewish, from Babylon, i. 274, 275.
- Bozra, i. 329.
- Branchidæ, temple at, ii. 45; inscriptions, ii. 17.
- Brandis, ii. 113, 114.
- Breaths, i. 113, 193.
- British coins, i. 347; inscription, i. 265.
- Brosset, ii. 272, 275.
- Brugsch, i. 150, 152; ii. 195.
- Bubastis, inscription at, ii. 110.
- Buddha, ii. 292, 293, 300; alphabet of, ii. 348.
- Buddhism, i. 298, 313; ii. 343, 344.
- Budrum, inscription from, ii. 48.
- Bugi alphabet, ii. 359, 361; (table), 340.
- Buki, letter, i. 119.
- Bulgarian alphabet, ii. 207.
- Bulls, Papal, ii. 172.

- Burgess, ii. 328.
 Burgon vase, ii. 36.
 Burmese alphabet, i. 81; ii. 343;
 (table), ii. 340.
 Burnell, ii. 264, 268, 299, 304,
 305, 313, 349, 354.
 Burnouf, ii. 254, 354.
 Buzeo torque, ii. 211, 215.
 Byblos, inscriptions, i. 274.
 Byzantium, inscription, ii. 51.
- C, letter, ii. 100, 108, 128, 140;
 Roman numeral, ii. 139.
 Cabiri, worship of, ii. 21, 22.
 Cadmean alphabet, i. 81; ii. 28
 —43, 61, 70.
 Cadmus, ii. 18—28.
 Cære, abecedarium of, i. 185; ii.
 140.
 Cæsar, handwriting of, ii. 199.
 Cagliari, ii. 175.
 Calligraphic scripts, i. 266, 277,
 318; ii. 147, 160, 172, 173, 366.
 Cambodian alphabet, ii. 347.
 Camel, i. 148.
 Canaan, i. 245; books in, i. 136.
 Canarese alphabet, ii. 354, 355;
 (table), ii. 338.
 Canting arms, i. 8.
 Caphor, i. 150, 154.
 Capitals, ii. 147; Greek, ii. 148;
 Latin, ii. 163—167; Roman, i.
 71; rustic, ii. 163—165.
 Cappadocian alphabet, ii. 108—
 110.
 Capricornus, sign of, i. 8.
 Carchemish, ii. 122; inscriptions,
 ii. 120.
 Carians, ii. 20; alphabet, i. 81;
 ii. 108—110; inscriptions, ii.
 9, 14, 15.
 Caroline Minuscule, ii. 165, 181.
 Carpentras, inscription at, i. 260.
 Carthage, i. 212; alphabet, i. 227;
 inscriptions, i. 199, 228.
 Carvilius, ii. 142.
 Carvoran, i. 265.
 Cassiodorus codex, ii. 181.
- Causin de Perceval, i. 344.
 Cave alphabet, ii. 326; (table),
 336.
 Cave men, i. 17.
 Caxton, ii. 183.
 Cedilla, ii. 188.
 Celebes, ii. 359.
 Cera dynasty, ii. 325; inscrip-
 tions, ii. 355.
 Cerastes, hieroglyph of, i. 72.
 Cerebrals, ii. 300, 319, 353.
 Cervetri, abecedarium from, ii. 74.
 Ceylon, ii. 343, 344.
 Chad's Gospels, ii. 177, 179.
 Chalcedon, council of, i. 291; ii.
 192, 193.
 Chalcis, ii. 26, 67, 134; colonies,
 ii. 125, 134; alphabet, i. 73;
 ii. 60, 103, 131, 132.
 Chaldean alphabet, i. 296, 338.
 Chaldeo-Pehlevi alphabet, ii. 244.
 Chalukya dynasty, ii. 325; in-
 scriptions, ii. 331, 354, 360;
 alphabet, ii. 335; (table), 336.
 Chandragupta, ii. 200, 290, 328.
 Char, i. 150, 151.
 Characene, coins of, i. 296, 329.
 Chares, inscription of, ii. 46.
 Charlemagne, ii. 180.
 Charnay, battle of, ii. 212.
 Chassant, ii. 147.
 Cheops, cartouche of, i. 61.
 Cheth, letter, i. 114, 148, 171,
 181, 215, 239, 266, 267, 332,
 353, 356; ii. 15, 39.
 Chi, letter, ii. 16, 31, 32, 40, 67,
 76, 90—93, 117, 129, 139, 220.
 Chigi vase, ii. 73.
 China, Nestorians in, i. 299.
 Chinese writing, i. 14, 25—38,
 155, 304; ii. 309, 311, 344;
 keys. i. 30, 189; ideograms, i.
 21, 26; styles, i. 27, 35; print-
 ing, ii. 182, 349.
 Chiusi, abecedarium at, ii. 79.
 Christians of St. John, i. 296.
 Christians of St. Thomas, i. 293;
 ii. 355.

- Chronology, Egyptian, i. 56;
Greek, ii. 10, 16, 39; Indian,
ii. 328.
- Chwolson, i. 273.
- Cilician script, ii. 108.
- Ciphers, ii. 263, 358.
- Cirbied, ii. 278.
- Clermont-Ganneau, i. 210, 211,
262, 271, 272.
- Clog almanacks, ii. 221.
- CODICES:—
- Alexandrinus, ii. 152—155, 195.
- Anglo-Saxon, ii. 179—181.
- Argenteus, ii. 223, 224.
- Armenian, ii. 269.
- Augustine, ii. 165, 167, 181.
- Ben Asher, i. 263.
- Bezæ, ii. 155, 176.
- Cassiodorus, ii. 181.
- Corpus Christi Gospels, ii. 167.
- Claromontanus, ii. 155, 176.
- Clozianus, ii. 199.
- Coptic at Rome, ii. 193.
- Dioscorides, ii. 152.
- Ephraemi, ii. 153.
- Glagolitic, ii. 199.
- Hilary, ii. 177.
- Irish, ii. 177.
- Latin, ii. 165.
- Odessa, i. 276, 281.
- Palatinus, ii. 165.
- Romanus, ii. 165.
- Sinaiticus, ii. 104, 152, 153.
- Syriac, i. 287, 293, 295, 305.
- Uncial, ii. 152.
- Vaticanus, ii. 152, 155.
- Cohen-Stuart, ii. 348.
- COINS:—
- Agathokles, ii. 322.
- Armenian, ii. 246, 269.
- Asmonean, i. 186, 240.
- Bactrian, ii. 233, 258, 259.
- British, i. 347.
- Carthaginian, i. 229.
- Characene, i. 296, 329; ii. 246.
- Chalcis, ii. 132.
- Chosroes, ii. 251.
- Cilician, ii. 109.
- Corinthian, ii. 104.
- Cypriote, ii. 112.
- Edessa, i. 285.
- Greek, ii. 216, 245.
- Halicarnassus, ii. 42.
- Heracleon, ii. 86.
- Himyaritic, i. 347.
- Indian, ii. 233, 259, 317.
- Jewish, i. 240.
- Kufic, i. 324.
- Malaga, i. 230.
- Mauretanian, i. 230.
- Motyā, i. 229.
- Nabathean, i. 331.
- Naxos, ii. 92.
- Numidian, i. 229.
- Parthian, ii. 233, 244—246.
- Pehlevi, ii. 243.
- Persian, i. 256.
- Pharæ, ii. 89.
- Phœnician, i. 225, 226, 229.
- Populonian, ii. 103, 134.
- Posidonian, ii. 132.
- Rhegium, ii. 132, 140.
- Sanabares, ii. 246, 248.
- Satrapies, i. 258; ii. 246.
- Sicilian, i. 228.
- Simon Bar-Cochab, i. 241.
- Thrace, ii. 88, 95.
- Tibet, ii. 182.
- Colonies, Greek, ii. 124—135;
Phœnician, ii. 23, 29, 41.
- Colle, abecedarium at, ii. 78.
- Colon, ii. 190.
- Columbanus, ii. 175.
- Comma, ii. 190.
- Commerce, Greek, ii. 216, 371.
- Complementary vowels, i. 63.
- Consonants, Semitic, i. 166, 183;
names of, i. 169—174; ii.
143; Lycian, ii. 118; Greek,
ii. 32, 88—108, 161; Egyptian,
62—64, 156; Japanese, i. 35;
Mongolian, i. 309; Indian, ii.
300, 319; Armenian, ii. 275;
Pehlevi, ii. 251; Slavonic, ii.
198; English, ii. 186—191.
- Constantine, letter of, ii. 158, 205.

- Constantinople, council of, ii. 159, 205; inscription at, ii. 51.
- Continuants, i. 193; ii. 143, 144.
- Contract tablets, Assyrian, i. 236, 252.
- Copts, i. 292; ii. 192.
- Coptic alphabet, i. 14, 181; ii. 191—195; (table), ii. 194.
- Corcyra, inscription at, ii. 42.
- Corean alphabet, i. 36, 81; ii. 348.
- Corinth, ii. 22; coins of, ii. 104; vases, ii. 129; alphabet, i. 103, 115, 171; ii. 28, 43, 59, 60, 64, 67, 68, 104—107.
- Corpus Christi Gospels, ii. 167.
- Corpus inscriptionum Græcarum, ii. 1, 2; Semiticarum, i. 188, 216, 222.
- Correlation, ii. 364.
- Corsen, ii. 94.
- Cothon at Carthage, ii. 134.
- Council of Chalcedon, i. 291; ii. 192, 193; of Constantinople, ii. 159, 205; of Ephesus, i. 290, 298.
- Courthand, ii. 190.
- Crete, alphabet of, ii. 64.
- Crimean inscriptions, i. 273; MS., i. 276.
- Croatians, ii. 199, 205, 207.
- Cross of letter *t*, ii. 188.
- Cryptograms, Runic and Arabic, ii. 226.
- Cumæ, i. 73; ii. 133; battle of, ii. 52; inscriptions from, ii. 131, 132.
- Cuneiform writing, i. 14, 39—55, 217, 248, 253; ii. 230, 231; determinatives, i. 31, 47; ideograms, i. 41; Armenian, i. 46; Assyrian, i. 44; Babylonian, i. 40; Elamite, i. 48; Persian, i. 50—54.
- Cunningham, ii. 260, 305, 307, 312.
- Cursive characters, i. 126; Arabic, i. 162; Syriac, i. 289; Greek, ii. 147, 155—158, 162; (tables), ii. 154, 203; Latin, i. 289; ii. 147, 165, 168—170.
- Cust, R. N., ii. 342, 357, 359.
- Cuthbert's Gospels, ii. 177, 179.
- Cyprus, i. 224; inscriptions from, i. 199, 210, 225; ii. 112—114.
- Cypriote characters, i. 14, 132; ii. 82, 116, 117, 119; (tables), ii. 116, 123.
- Cyril's Gospels, ii. 197; alphabet, i. 81; ii. 195—200; (table), 196.
- D, letter, i. 105, 163, 164; ii. 187; Roman numeral, ii. 139.
- Dagesh, i. 179.
- Dal, letter, i. 317—320.
- Daleth, letter, i. 105, 87, 148, 170, 215, 244, 337, 353.
- Dali inscription, ii. 113.
- Daric, Persian, i. 256.
- Darius, i. 256; ii. 229, 232, 261.
- Datames, i. 258.
- Deccan, ii. 331.
- Deecke, i. 49, 131, 132; ii. 114, 117, 305, 314.
- De la Couperie, ii. 308, 311.
- Delhi, inscription at, ii. 295, 297.
- Delphi, ii. 51.
- Delta, letter, i. 119; ii. 33, 161.
- De Luynes, i. 225, 258.
- Demotic writing, i. 9, 14, 90; ii. 193.
- Dendera, zodiac of, i. 7.
- Dentals, i. 104, 193; ii. 300, 319.
- De Rosny, i. 25; ii. 349.
- De Rougé, his discovery of origin of the alphabet, i. 88—92; statement of his argument, i. 98—116; its difficulties, i. 117—128.
- De Sacy, i. 320; ii. 254.
- De Saulcy, i. 240, 272.
- Determinatives, i. 30, 47, 59.
- Devanagari alphabet, ii. 287, 335, 349, 350; (table), ii. 338.

- De Vogüé, i. 199, 320, 321; ii. 112.
- Dewehi Hakura, ii. 357.
- Diacritical points, i. 160, 165.
- Dibon, i. 206.
- Dieterich, ii. 213.
- Digamma, ii. 84, 138, 278.
- Dillmann, i. 354, 355.
- Diodorus Siculus, i. 73, 83, 329.
- Diodotus, ii. 240.
- Dionysius Thrax, ii. 275.
- Dioscorides codex, ii. 152.
- Direction of writing, i. 159, 303; ii. 281, 317, 318, 357, 358.
- Dnieper, ii. 213, 215.
- Dodwell vase, ii. 42.
- Donaldson, i. 194.
- Dorians, ii. 94, 125.
- Dot of letters *i* and *j*, ii. 189, 190.
- Dowson, ii. 295, 304, 306, 312, 315.
- Drabescos, ii. 56.
- Drake, Mr., ii. 119.
- Dravidian alphabets, i. 81; ii. 288, 331, 342, 354—356; (table), 338.
- Dynasties, Indian, ii. 325.
- Dzappa, letter, i. 356.
- E, letter, i. 271; ii. 85, 148.
- Easterlings, ii. 20.
- Edessa, alphabet of, i. 284, 285.
- Edkins, Dr., i. 25.
- Edomites, i. 135, 151, 152.
- Egibi tablets, i. 253.
- Egypt, i. 141, 142; civilization of, i. 143; hieroglyphic writing, i. 9—12, 14, 55—69, 82, 99, 147; demotic writing, i. 90; hieratic writing, i. 90—94; letters, names of, i. 84, 85; Aramean writing, i. 250, 270; Coptic, ii. 19; numerals, ii. 267; vowels, i. 65.
- Elamite cuneiform, i. 48.
- Elean treaty, ii. 54.
- Elegy, origin of word, ii. 36.
- Eleuts, i. 302.
- Elis, alphabet of, ii. 54; (table), ii. 59.
- Ellis, A. J., i. 175, 177, 181; ii. 186, 299.
- English alphabet, i. 81; ii. 183—190; genealogy of, i. 70; advantages of, i. 33; ii. 184; spelling, i. 29.
- Ephesus, council of, i. 290, 298; inscriptions at, ii. 107, 108.
- Ephraem, St., i. 281; ii. 153.
- Epicharmus, ii. 70.
- Epicurus, MS. of, ii. 152.
- Epigraphy, ii. 263; Greek, ii. 1.
- Epsilon, letter, i. 115, 171; ii. 42, 85, 105, 162.
- Erectheum inscription, ii. 57.
- Eretria, ii. 133.
- Esarhaddon, i. 237.
- Eshmunazar's sarcophagus, i. 93, 200, 220—224.
- Estranghelo alphabet, i. 81, 275, 285—289, 294, 299, 319, 320; (table), i. 288.
- Eta, letter, ii. 16, 17, 31, 33, 41, 53, 66, 85, 220.
- Ethiopic alphabet, i. 81, 159, 188, 197, 336, 338, 349—358; ii. 321—323; (tables), i. 338, 352; names of letters, i. 353; order, i. 355; vowels, i. 357.
- Etruscan alphabet, i. 81; ii. 71, 79, 94, 128, 130; (table), 126; numerals, i. 7.
- Eubœan alphabet, i. 71; ii. 60, 64—68, 128.
- Euhoic standard, i. 257; ii. 25, 134.
- Euclid, MS. of, ii. 160.
- Euclidian decree, ii. 49, 69.
- Euripides, ii. 245.
- Europa, ii. 19, 20.
- Eusebius, i. 82; ii. 133.
- Euting, i. 279, 307; ii. 252.
- Eutyrians, i. 291.
- Evolution, ii. 363.
- Ewald, i. 139, 155, 190.

- Exorcisms, i. 274, 275.
 Explosives, ii. 144.
 Eyuk, inscriptions at, ii. 110, 120.
 Ezra, i. 240, 247, 268.
 [191.
 F, letter, i. 12; ii. 131, 167, 184,
 Faliscan alphabet, i. 81; ii. 126
 —128.
 Faucal breaths, i. 160, 179, 180.
 Fellowes, Sir C., ii. 111.
 Fenekh, i. 151.
 Fergusson, i. 323.
 Final forms, i. 289, 307, 332; ii.
 162, 187.
 Firkowitz, i. 273, 276.
 "Fish" ideogram, i. 41.
 Florentine bankers, ii. 263.
 "Foot" ideogram, i. 45, 53.
 Formello abecedaria, ii. 73, 104,
 140.
 Francia, ii. 183.
 Franz, ii. 1, 2, 65, 68.
 Futhorc, ii. 210; Anglian, ii. 223;
 Gothic, ii. 211, 223; Scan-
 dinavian, ii. 211, 223.
 G, letter, i. 104, 163; ii. 140—
 142, 188.
 Gabali Tana, ii. 358.
 Gamma, letter, ii. 52, 107, 210.
 Gardner, Prof., ii. 245, 255.
 Gardthausen, ii. 146, 153, 158,
 160, 272, 278, 279.
 Garomond, ii. 163.
 Gaul, Phœnician inscriptions in,
 i. 199, 228.
 Gaulish alphabet, ii. 125.
 Gauri alphabet, ii. 334, 352.
 Gebal inscription, i. 220, 236.
 Ge'ez, i. 350; alphabet, 338.
 Geghs, ii. 207.
 Geiger, ii. 363. [247.
 Gems, Jewish, i. 231; Persian, ii.
 Genealogy of English alphabet,
 (table), i. 72; Semitic alpha-
 bets, (table), i. 81.
 Genghis Khan, i. 300.
 Geometric papyrus, i. 94.
 Georgian alphabet, i. 81, 190; ii.
 122, 235, 268—284; (table),
 277; manuscripts, ii. 274.
 German school of Hebrew calli-
 graphy, i. 277, 288.
 German script, i. 81; ii. 190; type,
 ii. 184.
 Gesenius, i. 86, 130, 132, 199,
 231.
 Gimel, letter, i. 87, 104, 127, 148,
 170, 175, 201, 204, 267, 332,
 339; ii. 279.
 Ginsburg, i. 282.
 "Giraffe" ideogram, i. 60.
 Girnar inscriptions, ii. 295, 297,
 327, 328.
 Glagolitic, ii. 198; alphabet, i. 81;
 ii. 158, 200—205; (tables), 196,
 203.
 Glossic, i. 177; ii. 186.
 Gobar numerals, ii. 264, 268, 358.
 Gospels, St. Augustine's, ii. 167.
 Gotarzes, ii. 245.
 Gothic letter, ii. 182.
 Goths, ii. 211, 213, 215; alpha-
 bet, 219—223; (table), 218.
 Graffiti, Pompeian, ii. 158, 168.
 Grantha alphabet, i. 81; ii. 334,
 354, 356; (table), 338.
 Grass character, i. 35.
 Greek alphabet, origin of, i. 74,
 77, 81, 197, 202, 203, 245,
 252, 280; ii. 18—43; lapidary
 letters, ii. 11, 29—108; (tables),
 i. 72, 78; ii. 59, 60; uncial, ii.
 145—155; (table), ii. 194;
 minuscule, i. 81, 127, 165, 277;
 ii. 158—163; evolution of, ii.
 160; duplicate forms, ii. 161;
 (tables), i. 75; ii. 154; cursive,
 ii. 155—158, 204; (tables), ii.
 154, 203; arrangement, i. 189;
 date, ii. 43, 58, 81, 115, 118;
 local types, ii. 65.
 Greek coins, i. 228; ii. 42, 86,
 88, 89, 92, 95, 103, 104, 132,
 134, 140, 216, 228, 233, 244,
 246, 248, 322.

- Greek colonies, ii. 124—135, 216.
 Greek letters in Armenian, ii. 279—281, 284; in Georgian, ii. 280; in Latin, ii. 137—143; in Syriac, i. 295; in Indian, ii. 303.
 Greeks and Goths, ii. 215, 220.
 Greeks in India, ii. 259, 303; in Persia, ii. 230, 245, 273.
 Grimm, Jacob, ii. 201.
 Grimm's law, ii. 219.
 Grosseto abecedarium, ii. 79.
 Gryphons, Assyrian, ii. 216.
 Gujarat plates, ii. 330.
 Gujarati alphabet, i. 81; ii. 288, 351; (table), ii. 338.
 Gupta dynasty, ii. 325, 326; inscription, ii. 327—330; alphabet (table), ii. 336.
 Gurumukhi alphabet, ii. 351; (table), 338.
 Gutenberg, ii. 182.
 Gutturals, i. 181; ii. 300.
 Gutturo-dentals, i. 160, 179.
 H, letter, i. 163, 164, 175; ii. 85, 86.
 Hahn, ii. 208.
 Hajiabad inscriptions, ii. 237, 242, 247, 249, 255.
 Halévy, i. 153, 168, 344; ii. 304.
 Halicarnassus, coins, ii. 42; inscriptions, 48; alphabet, 4; (table), 59.
 Hamath inscriptions, ii. 119, 120.
 Harapa seal, ii. 308.
 Harris papyrus, ii. 150.
 Haug, Prof., ii. 239.
 Hauran, i. 344; inscriptions, i. 328; alphabet, i. 81; (table), 326.
 He, letter, i. 114, 115, 125, 140, 148, 170, 181, 239; ii. 15, 81.
 Hebrew alphabet, i. 240, 268—282. Cf. 81, 231, 249, 266; (tables), i. 75, 78, 270; square, i. 77, 177, 186, 277; Rabbinical, i. 278; letters, i. 163, 179; vowels, i. 281; inscriptions, i. 271—275; manuscripts, i. 276.
 Hebrews in Egypt, i. 150, 153; early use of writing, i. 134, 137, 139, 145.
 Hebron, i. 136.
 Helbig, ii. 135.
 Hellenic alphabets, i. 71—81; ii. 1—227.
 Henning, ii. 216.
 Henry VIII., F.D., ii. 184.
 Heraclea, coins of, ii. 86.
 Herat, i. 299, 301.
 Herculaneum rolls, ii. 151, 166.
 Hermippus, ii. 232.
 Herod, temple of, i. 271.
 Herodian alphabet, i. 81, 273.
 Herodotus, i. 73; ii. 20, 21, 48, 94, 216, 261.
 Hezekiah i. 238
 Hieratic, Egyptian, i. 9, 14, 90, 91, 94, 97, 140.
 Hiero, helmet of, ii. 52.
 Hieroglyphs, i. 14, 15; ii. 307; Babylonian, i. 41—53; Egyptian, i. 9, 12, 55—58; ii. 194; (tables) i. 67, 99; Hittite, ii. 119—123; Mexican, i. 23.
 Hieronymian alphabet, ii. 198.
 Hierosolymitan alphabet, i. 295.
 Hilary codex, ii. 165, 175, 176.
 Himyarites, i. 346; ii. 314; coins, i. 347; inscriptions, i. 348; alphabet, i. 81, 337, 345—349; (table), 338. Cf. ii. 319.
 Hindustani alphabet, i. 81, 318; ii. 287.
 Hirakana syllabary, i. 14, 35, 37.
 Hiram, king of the Sidonians, i. 133, 211, 213, 216.
 Hiram, king of Tyre, i. 135, 340; ii. 313.
 Hissarlik, ii. 109, 118.
 Histæus, inscription of, ii. 45.
 Hittites, ii. 120; hieroglyphic writing of, i. 15, 131; ii. 119—123; (table), ii. 123.

Hoffmann, i. 286.
 Holle, ii. 335, 359.
 Homeric papyri, ii. 150.
 Hommel, i. 247.
 Homophones, English, i. 29;
 Chinese, i. 31; Babylonian, i.
 45; Egyptian, i. 66.
 Hübschmann, ii. 252.
 Humphreys, ii. 147.
 Hutchinson, ii. 286.
 Hyksos, i. 91, 143, 144, 149, 202;
 ii. 121.
 Hyperides, orations of, ii. 150.

I, letter, ii. 30, 33, 49, 72, 81,
 106, 184, 189, 190.

Iberian alphabet, i. 81; ii. 125.

Iberians, ii. 271.

Icelandic alphabet, ii. 180.

Idalion inscription, ii. 113.

Ideograms, i. 5, 8; Egyptian, i.
 9—12, 57—60; American, i.
 20; Mexican, i. 23; Chinese,
 i. 21, 26, 27, 30, 37, 38;
 Babylonian, i. 21, 41—53;
 Indian, ii. 307; "fish," i. 41;
 "house," i. 42; "foot," i. 45;
 "prince," i. 52.

Ilion, ii. 121.

Illyrians, ii. 199, 207.

Imperial Chancery, script of, ii.
 170, 190.

India, ii. 290, 325, 328; alpha-
 bets ii. 285—359. Cf. i. 197,
 280, 297, 358; (tables), ii. 298,
 320, 336—341; inscriptions,
 ii. 288—297, 324—335; nu-
 merals, ii. 263—268.

Indo-Bactrian alphabet, ii. 256—
 268. Cf. 235, 236, 282, 296,
 300, 302; (tables), ii. 236, 298.

Indo-Pali, ii. 299.

Initials, i. 289, 332.

Ink, ii. 367.

INSCRIPTIONS:—

Abushadr, i. 296, 326, 329.

Abu Simbel, i. 203, 225; ii. 8—
 18, 104, 209.

INSCRIPTIONS, *continued*:—

Abydos, i. 225, 257; ii. 110.

Aden, i. 275.

Algeria, i. 264.

Allahabad, ii. 295, 328.

Amaravati, ii. 331.

Andhra, ii. 331.

Arles, i. 274.

Asoka, ii. 256—262, 291—296.

Assam, ii. 324.

Assouan, i. 325.

Assyrian lion weights, i. 217,
 218.

Athens, i. 199, 225; ii. 35, 56,
 57.

Axum, i. 350, 351.

Baal Lebanon, i. 210—216.

Babylon, i. 274.

Bareli, ii. 333.

Behistun, i. 54; ii. 232.

Bodostratus, i. 224.

Branchidæ, ii. 17.

Britain, i. 265.

Bubastis, ii. 110.

Budrum, ii. 48.

Burgon vase, ii. 36.

Carchemish, ii. 119, 120.

Carian, ii. 9, 14, 15.

Carpentras, i. 260.

Carthage, i. 199.

Cera, ii. 355.

Ceylon, ii. 295.

Chalukya, ii. 331.

Constantinople, ii. 51.

Corcyra, ii. 42.

Crimea, i. 273.

Cumæ, i. 276; ii. 131, 132.

Cypriote, i. 225; ii. 112—114.

Cyprus, i. 199, 210, 224, 225.

Dali, ii. 113.

Dhaulti, ii. 295, 297.

Drabescus, ii. 56.

Earliest extant, i. 56.

Egypt, i. 59, 61, 199, 259,
 260.

Elean, ii. 54.

Ephesus, ii. 107, 108.

Erechtheum, ii. 57.

INSCRIPTIONS, *continued* :—

- Eshmunazar, i. 93, 220—224.
 Eyuk, ii. 110, 120.
 Frøhaug, ii. 212.
 Ganjam, ii. 295.
 Gaul, i. 199.
 Gebal (Byblos), i. 220, 236, 274.
 Girnar, ii. 295, 297, 327, 328.
 Hajiabad, ii. 237, 247, 249, 255.
 Halicarnassus, ii. 4, 48.
 Hamath, ii. 119.
 Hauran, i. 328.
 Hebrew, i. 271.
 Hiero, ii. 52.
 Himyaritic, i. 337, 348.
 Histiaeus, ii. 44, 45.
 Hittite, ii. 120.
 Indian, ii. 324—335.
 Jerusalem, i. 232, 271, 274,
 285, 321.
 Jewish, i. 274.
 Kapur-di-giri, ii. 233, 234, 248,
 256—262.
 Karabel, ii. 120.
 Karaite, i. 273.
 Khalsi, ii. 295.
 Khorsabad, i. 218.
 Lycian, ii. 111.
 Malta, i. 199, 202, 225.
 Marseilles, i. 228.
 Mathura, ii. 326.
 Maurya, ii. 325.
 Melekiathon, i. 224.
 Melos, ii. 36—38.
 Memphis, ii. 110.
 Mesha, i. 206, 209.
 Miletus, ii. 45, 46.
 Moabite, i. 93, 208.
 Nablus, i. 242, 243.
 Nakhsh-i-Rustam, ii. 242, 247,
 254.
 Naniana, ii. 37.
 Narbonne, i. 275.
 Nora, i. 219.
 Olympia, ii. 52—55.
 Orchomenos, ii. 69.
 Palmyrene, i. 264, 265.
 Persepolis, ii. 242, 244, 247.

INSCRIPTIONS, *continued* :—

- Phœnician, i. 199, 210—230,
 244; ii. 14.
 Plateæan trophy, ii. 50.
 Potidæan, ii. 56.
 Prynnessus, ii. 109.
 Pumiathon, i. 224.
 Punic, i. 226—228.
 Qubbet-es-Sakhra, i. 321, 322.
 Rome, i. 274; ii. 141.
 Rudra Dama, ii. 327.
 Runic, ii. 210—212.
 Safa, i. 337, 342, 345.
 Samudra Gupta, ii. 329.
 Sanchi, ii. 297.
 Sardinia, i. 199, 202.
 Sassanian, ii. 242, 247.
 Scipio Barbatus, ii. 141.
 Seoni, ii. 332.
 Shahpur, ii. 242, 247, 248.
 Sicily, i. 199.
 Sidonian, i. 221.
 Sigeon, ii. 90, 91.
 Siloam, i. 232—239; ii. 83.
 Sinaitic, i. 330.
 Sin-gan-fu, i. 299, 305.
 Skanda Gupta, ii. 327, 328.
 Thera, ii. 30—39, 83, 85.
 Tomb of the Kings, i. 272.
 Tortosa, i. 275.
 Troad, i. 257; ii. 47, 114.
 Um-el-Auamid, i. 224.
 Vengi, ii. 354.
 Venosa, i. 275.
 Vienne, i. 275.
 Xanthus, ii. 111.
 Yehaumelek, i. 220.
 Ionian alphabet, i. 78; ii. 4, 15,
 49, 62—71, 94.
 Iota, letter, ii. 30, 33, 37, 49, 72,
 81, 106.
 Iranian alphabets, i. 81; ii. 228
 —284; (table), ii. 236.
 Ireland, Phœnicians in, i. 231;
 Ogham inscriptions, ii. 225.
 Irish codices, ii. 177; minuscule,
 ii. 178; uncial, ii. 165, 178,
 204.

- Isaiah, i. 238.
 Israelite alphabet, i. 81, 230—239, 338; (tables), 227, 243, 270.
 Italics, i. 81; ii. 183.
 Italy, alphabet of, i. 78, 81; ii. 27, 62, 69, 124—135; (table), ii. 126.
 Ithyandros, ii. 114.

 J, letter, ii. 72, 189.
 Jacobites, i. 284, 292; alphabet, i. 81, 290, 294.
 Jagic, Prof., ii. 201, 204.
 Japanese writing, i. 14, 33—38, 155; ii. 349.
 Javanese alphabet, i. 81; ii. 348, 359.
 Jebb, Prof., ii. 24.
 Jehoram, i. 209.
 Jeresi script, i. 319.
 Jerome, St., i. 281; ii. 198, 201.
 Jerusalem, inscriptions, i. 232, 271, 274, 285, 321; alphabet, i. 269; (tables), 250, 270.
 Jewish inscriptions, i. 269—278.
 Jim, letter, i. 332.
 Juktanites, i. 344, 346, 349; alphabet, i. 336; ii. 228, 320; (table), i. 338.
 Jones, Sir W., i. 333, 334; ii. 299, 304.
 Josephus, i. 271, 281, 329; papyrus, ii. 176.
 Joshua, i. 137.
 Judæan alphabet, i. 332; (table), 227.
 Junogarh, ii. 327.
 Jutes, ii. 210, 227.
 Jutland, ii. 212.
 Juvenal, i. 74; ii. 143.

 K, letter, i. 103, 163, 194; ii. 90, 130, 140, 144, 189.
 Kadesh, battle of, i. 137.
 Kalekah, i. 302, 318.
 Kalkas, i. 302.
 Kalmuks, i. 302; alphabet, i. 81, 294.
 Kanishka, ii. 259, 326.
 Kaph, letter, i. 103, 125, 127, 172, 181, 195, 201, 204, 262, 266, 271.
 Kappa, letter, ii. 32, 40, 48, 91, 93, 162.
 Kapur-di-giri inscription, ii. 233, 256—262, 295; alphabet, ii. 257, 296; (tables), 236, 298.
 Karabel inscription, ii. 120.
 Karaite Jews, i. 273, 276.
 Karmathian alphabet, i. 317, 318, 331.
 Karshuni alphabet, i. 81, 293; ii. 356.
 Kasem Beg, i. 311.
 Kashmiri alphabet, i. 81; ii. 351.
 Katakana syllabary, i. 14, 35, 37.
 Kathiawar, ii. 330.
 Kawi alphabet, ii. 346, 347, 359.
 Khab alphabet, ii. 351.
 Kefr Beraim inscription, i. 274.
 Kells, book of, ii. 165, 177, 178.
 Kent, runic inscriptions in, ii. 210, 227.
 Ker Porter, ii. 254.
 Keys, Chinese, i. 31, 32, 59.
 Kha, letter, i. 332.
 Kheta, ii. 120, 121.
 Khiva, i. 300.
 Khomen alphabet, ii. 347.
 Khorsabad inscription, i. 218; Scarab, i. 133.
 Khrabre, ii. 197, 202.
 Khutsuri alphabet, ii. 275, 277.
 Khyugagi alphabet, ii. 353.
 Kiev, ii. 216.
 Kioussa alphabet, ii. 345, 348; (table), 340.
 Kirchhoff, ii. 1, 2, 39, 40, 43, 63, 65, 107, 128, 214, 224.
 Kirjath Sepher, i. 136.
 Kistna alphabet, ii. 331; (table), 338.
 Klapproth, i. 298, 299, 311.

- Klein, discovers Moabite stone, i. 206.
 Kopiewitch, ii. 195.
 Kopitar, ii. 199, 202.
 Kopp, ii. 304, 362.
 Koppa, letter, i. 76; ii. 17, 32, 33, 66, 68, 70, 71, 104, 138, 221.
 Köppen, ii. 293.
 Koran, alphabet of, i. 327.
 Kouyunjik, ii. 120.
 Kshatrapa dynasty, ii. 327.
 Kublai Khan, i. 302; ii. 354.
 Kudatku Bilik, MS., i. 301, 307.
 Kudurids, i. 135.
 Kufa, i. 320.
 Kufic alphabet, i. 81, 317, 319—321, 327; ii. 243; (table), i. 326; coins, i. 324.
 Kumarila, ii. 343.
 Kuthami, book of Nabathean agriculture, i. 329.
 Kutila alphabet, ii. 333; (tables), ii. 336, 338.
 Ku-wen ideograms, i. 14, 27.
 Kyai character, i. 14, 35.

 L, letter, i. 108, 194; ii. 27, 43, 103, 138, 139, 167, 186, 322.
 Labials, i. 101, 193.
 La Cava, ii. 172.
 Lactantius, ii. 183.
 Lagarde, i. 117—123, 167, 188.
 Lalita Vistara, ii. 300, 349.
 Lambda, letter, ii. 27, 36, 41, 43, 66, 67, 102, 220.
 Lamed, letter, i. 108, 148, 172, 194, 201, 204, 239, 262, 267, 353; ii. 102. [340.
 Lampong alphabet, ii. 359, (table),
 Land, i. 295, 305.
 Landa, Diego de, i. 24.
 Lane, i. 333.
 Lang, ii. 112.
 Laos alphabet, ii. 347.
 Lapidary scripts, i. 125, 126, 266; ii. 104, 105, 145, 366.
 Lapis lazuli, phonographic sign for, i. 59.
 Lapland drums, i. 17.
 Lassen, ii. 109, 256, 305.
 Lat alphabet, ii. 297.
 Latin alphabet, i. 71, 81; ii. 214; capitals, ii. 136—144. Cf. 27, 71, 128, 131; (tables), 126, 138; uncials, 163—167, 174, 178; (table), 164; cursives, 168, 169, 177; minuscules, 180—191; order of letters, 143; additional letters, 141, 142, 189.
 Laugerie Basse, i. 16.
 Lautverschiebung, ii. 220.
 Layard, i. 217, 275; ii. 120.
 Leibnitz, ii. 363.
 Leist, ii. 147.
 Lenormant, i. 133, 136, 152, 154, 167, 260; ii. 2, 65, 70, 99, 112, 115, 201, 213, 253, 314.
 Leo, the Isaurian, ii. 159.
 Lepsius, i. 94, 175, 182, 188—190, 194, 357; his standard alphabet, i. 177, 333, 334; ii. 186, 304.
 Leptsha alphabet, ii. 347.
 Levy, i. 199, 330.
 Libyan alphabet, i. 153.
 Letters, primitive forms, i. 98—116; powers, i. 175—184; ii. 80—108, 251; order, i. 185—196, 316, 355; ii. 83, 142, 222, 278; names, i. 167—175, 119, 353; ii. 100, 143, 200, 224, 279; deformation of, i. 161—163, 251, 255, 263, 266, 271, 287, 289; ii. 208, 359; differentiation of, i. 164, 280, 355; ii. 81—92, 220, 323, 368; additional, i. 293, 309, 317, 350; ii. 66, 71, 81, 111, 118, 128, 140, 193, 197, 251, 280, 319; duplicate forms of, i. 332; ii. 161; transliteration of, i. 176, 333; ii. 298; used as numerals, i. 186; ii. 96, 265. See CONSONANTS, VOWELS, NAMES, CAPITALS, UNCIALS, CURSIVES, MINUSCULES.

- Ligatures, i. 266, 287, 289; ii. 205, 208, 251, 260, 368.
- Linguals, i. 160, 179; ii. 300.
- Lion weights from Nineveh, i. 133, 203, 217, 236; from Abydos, i. 257.
- Liquids, i. 106, 193.
- Litanies, alphabetic, i. 86.
- Livy, Vienna codex, ii. 167.
- Logograms, ii. 239, 240. Cf. i. 46.
- Lolo, ii. 311.
- Lombardic script, ii. 172.
- Looped letters, i. 251, 367; ii. 283.
- Louvre papyrus, i. 261, 263.
- Luyne, Duc de, ii. 112.
- Lycian alphabet, i. 15, 81; ii. 71, 108—118; (table), ii. 116.
- Lydian alphabet, ii. 26, 108.
- Lygdamis, ii. 48.
- M, letter, i. 9—11, 52, 106; ii. 139, 186.
- Mabillon, ii. 146.
- Macassar alphabet, ii. 359; (table), 340.
- Maccabean coins, i. 240; alphabet, 243; (table), 227.
- Madden, i. 240, 241.
- Magadha, ii. 297, 299.
- Maghrebi alphabet, i. 318.
- Mahaffy, ii. 2, 133.
- Mahratti alphabet, ii. 351.
- Mainz Bible, ii. 182.
- Malaga, coin of, i. 230.
- Malayalim alphabet, i. 293; ii. 354, 355.
- Malay alphabets, i. 81; ii. 342, 359—361; (table), 340.
- Maledevi alphabets, ii. 357.
- Malta, inscriptions in, i. 199, 202, 225.
- Manasseh, king, i. 233; priest, i. 240.
- Manchu alphabet, i. 81, 294, 303; (table), 308.
- Manichæans, i. 311.
- Manuscripts, Mexican, i. 24; Egyptian, i. 94, 260; Hebrew, i. 270; Syriac, i. 287; Uigur, i. 301; Arabic, i. 325; Greek, ii. 149—160; Latin, ii. 163—182; Coptic, ii. 193; Slavonic, ii. 195, 199; Mæso-Gothic, ii. 224; Pehlevi, ii. 251, 253; Armenian, ii. 274; Georgian, ii. 274; Buddhist, ii. 347. See CODICES, PAPYRI.
- Marcian, emperor, i. 291.
- Marco Polo, i. 300.
- Mardaites, i. 292.
- Mariette, i. 86, 102, 142, 187, 223, 259; ii. 121.
- Maronites, i. 284, 290, 292; alphabet, i. 294.
- Marseilles, inscription at, i. 228; alphabet, i. 227.
- Martial, ii. 105.
- Massoretic points, i. 276, 282.
- Masudi, ii. 232.
- Mathura, inscriptions at, ii. 326.
- Mauritanian coins, i. 230.
- Maurya dynasty, ii. 325; alphabet, ii. 299.
- Mayas of Yucatan, i. 24; alphabet, i. 14.
- Mecca, alphabet of, i. 284, 313, 331; (table), 227.
- Medes, i. 47.
- Medial forms, i. 307, 333.
- Megasthenes, ii. 290, 317.
- Melcarth, ii. 22.
- Melchites, i. 291—295.
- Melekiathon, inscription of, i. 224; ii. 113.
- Melos, ii. 221; inscriptions, ii. 37, 38; alphabet, ii. 43, 107; (table), 59.
- Mem, letter, i. 106, 148, 163, 172, 195, 201, 204, 236, 262, 271, 353.
- Memphis, i. 143; ii. 156; inscriptions at, i. 259; ii. 110.
- Menander of Ephesus, i. 135.
- Mendaites, i. 280; alphabet, i. 81, 296, 311, 357; (table), 288.

- Menecrates, tomb of, ii. 42.
 Meneptah, i. 152.
 Menzaleh, lake, i. 151.
 Merovingian script, ii. 172.
 Meshah, king of Moab, inscription of, i. 93, 133, 200, 201.
 Mesrob, St., 270—273, 280—284.
 Messapian alphabet, i. 81; ii. 126.
 Methodius, ii. 195, 197.
 Mexican hieroglyphics, i. 14, 23, 24.
 Michaelis, i. 285.
 Mikmak writing, i. 21.
 Miklosich, ii. 198.
 Miletus, ii. 45, 67; inscriptions, 46; alphabet, 64; (table), 59.
 Minuscule, i. 71, 127; ii. 149; Greek, ii. 158—163; (table), 154; Latin, 180—191; Caroline, 181; (table), 165.
 Missal of St. Columba, ii. 178; Glagolitic, ii. 199.
 Missionary alphabet, i. 177; ii. 186, 299.
 Mithridates, ii. 240.
 Mkhedruli alphabet, ii. 275; (table), 277.
 Moabite stone, i. 10, 77—81, 93, 133, 152, 161; discovery of, i. 206—208; facsimile, i. 208; alphabet, i. 201, 204, 227.
 Modi alphabet, ii. 351.
 Mæso-Gothic alphabet, ii. 211, 223, 224, 281; (table), 218.
 Mohammed, letter of, i. 325.
 Mommsen, i. 6; ii. 1, 2, 65, 128.
 Mongolian alphabet, i. 297—312; (table), 308. Cf. 81, 268, 294.
 Mongol-Galik alphabet, i. 302; ii. 354.
 Monophysites, i. 291.
 Monothelites, i. 292.
 Monte Casino, ii. 172.
 Montfaucon, ii. 146, 152, 158, 193.
 Moon's alphabet for the blind, ii. 186.
 Morfill, ii. 204.
 Morocco, alphabets of, i. 278, 318.
 Moses, written memorials by, i. 138.
 Moses of Khorene, ii. 270—272, 280, 282.
 Motya, i. 229.
 Moveable types, invention of, ii. 182.
 Mu, letter, ii. 32, 37, 108, 162.
 Müller, D. H., i. 344.
 Müller, Friedrich, i. 184; ii. 272, 274, 335, 358.
 Müller, Max, ii. 186, 199, 257, 300, 315, 321, 343.
 Müller, Otfried, ii. 128.
 Multan alphabet, ii. 352; (table), 338.
 Mutes, i. 193.
 Mysian alphabet, ii. 108, 109.
 N, letter, i. 107, 172; ii. 108, 174, 175, 177.
 Nabathean alphabet, i. 328—332. Cf. 81, 296, 329, 338, 344; (table), 326.
 Nablus, inscription, i. 242; alphabet, i. 227.
 Nagari alphabet, ii. 342, 349—354; (table), 336.
 Nakhsh-i-Rustam, inscriptions at, ii. 242, 247, 254.
 Names of alphabets, i. 74, 264, 285, 286, 290, 302, 317, 318, 335, 346, 350; ii. 198, 210, 229, 244, 250, 257, 275, 299, 349, 351, 353, 355.
 Names of letters, i. 75, 119, 120, 147; ii. 100; Egyptian, i. 84, 85; Semitic, i. 166—175; Ethiopic, i. 353; Greek, i. 84; ii. 24, 68; Latin, ii. 143, 144; Slavonic, ii. 200, 201; Runic, ii. 201, 224; Armenian, ii. 274; Georgian, ii. 274.
 Narbonne, inscription from, i. 275.
 Nasals, Indian, ii. 300, 319.

- National scripts, characteristics of, i. 127.
- Naxos, coins of, ii. 92, 127.
- Nearchus, ii. 261, 291.
- Nebuchadnezzar, bricks of, i. 247.
- Nehavend, battle of, ii. 242.
- Nehring, ii. 201.
- Neo-Pythagorean numerals, ii. 267.
- Nerbudda alphabet, ii. 332; (table), ii. 336.
- Nerigliassar, bricks of, i. 247.
- Neskhī Arabic, i. 325—327. Cf. 81, 319, 320; ii. 287; (tables), i. 315, 326, 333.
- Nestorians, i. 290, 291, 299; alphabet, i. 293, 297, 81; (table), 288.
- Nevari alphabet, ii. 352.
- Newton, C. T., ii. 39, 45—48, 51.
- Nineveh, i. 42, 252; ii. 230; lion weights, i. 133, 203; docket, i. 253—256; alphabet, i. 237; (tables), i. 227, 250.
- Nisibis, i. 291, 299.
- Nitrian MSS., i. 295.
- Nola, abecedarium at, ii. 80.
- Nöldeke, i. 175, 285.
- Nora inscription, i. 219.
- Nordenhoff broach, ii. 212.
- Norris, i. 218; ii. 256.
- Norway, runic inscriptions from, ii. 212.
- Nu, letter, ii. 108, 162.
- Numerals, i. 185, 186; Arabic, i. 8; ii. 264, 268; Etruscan, i. 7; Roman, i. 6; ii. 139; Egyptian, ii. 267; Greek, i. 76; ii. 95; Indian, ii. 263—268; used as letters, ii. 358.
- Numidian alphabet, i. 81, 229.
- Numismata Orientalia, i. 333, 334.
- Nun, letter, i. 107, 148, 163, 172, 195, 267, 271, 312, 354.
- O, letter, i. 116, 164, 173; ii. 30, 130, 187.
- Odenatus, i. 265.
- Odessa codex, i. 276, 281; alphabet, i. 270.
- Oghams of Wales and Ireland, ii. 100, 178, 225, 371; their origin, ii. 226; probable date of, ii. 227.
- Ogres, i. 300.
- Olbia, ii. 216.
- Oldenberg, ii. 328.
- Olympia, inscriptions from, ii. 52, 54, 55.
- Omega, letter, ii. 17, 41, 47, 48, 57, 66, 87, 88, 162, 220.
- Omicron, letter, i. 118; ii. 30, 47, 81, 82. [69.
- Orchomenos, inscription from, ii.
- Order of letters, i. 75, 85, 86, 185—196; Arabic, i. 316; Ethiopic, i. 355; Greek, ii. 71, 73, 76, 96; Latin, ii. 143; Runic, ii. 222; Armenian, ii. 274, 275, 284; Georgian, ii. 275, 283; Indian, ii. 300.
- Orissa alphabet, ii. 352; (table), 338.
- Orodes, ii. 245.
- Oscan alphabet, i. 81; ii. 71, 128, 195; (table), 126.
- Owl, hieroglyph, i. 9.
- Ox, ideogram, i. 41.
- Oxford Euclid, ii. 160.
- P, letter, i. 101, 164; ii. 167, 187.
- Padua, University of, ii. 263.
- Palamedes, ii. 70.
- Palatals, i. 103, 193; ii. 300.
- Palæographical Society, ii. 146.
- Palæography, science of, ii. 363—368.
- Palæolithic pictures, i. 15.
- Palæotype, i. 177; ii. 186.
- Palermo, coins of, i. 229.
- Paley, ii. 3.
- Palestinian alphabet, i. 288.
- Pali, i. 344; alphabet, i. 36, 81; ii. 287, 342—349, 359; (table) ii. 336.

- Palimpsest Cicero, ii. 165, 167.
 Palm-leaf writing, ii. 345, 366.
 Palmyrene alphabet, i. 263—267.
 Cf. i. 81, 269, 285, 328; ii. 234, 249; (tables), i. 250, 270, 288, 326.
 Pamphylian alphabet, ii. 108—110.
 Paper, ii. 367.
 Paphos, ii. 114.
 Papyri, ii. 367; Egyptian, i. 93—97; Aramean, i. 250, 260—263; Greek, ii. 150, 151, 156, 157, 159; Latin, ii. 176.
 Papyrus Prisse, i. 92—97, 123, 140, 159; Ebers, i. 94; Anastasi, i. 92; Blacas, i. 261, 263; Turin, i. 261, 262; Berlin, i. 94; Bankes, ii. 150; Harris, ii. 150; Ravenna, ii. 159; Avitus, ii. 165, 177; Thebes, ii. 157; Herculaneum, ii. 151.
 Parchment scripts, ii. 366.
 Paros, ii. 107.
 Parsi alphabet, i. 81, 248, 280; ii. 236, 243, 244, 250, 269.
 Parthians, ii. 238, 241.
 Passepa alphabet, ii. 353; (table), 336.
 Paternoster, Mongolian, i. 303.
 Patimokkha MS., ii. 347.
 Patrick, St., ii. 173.
 Pauthier, i. 299.
 Pe, letter, i. 101, 173, 262, 271, 354.
 Pegu alphabet, ii. 346; (table), 340.
 Pehlevi language, ii. 238; alphabets, ii. 240—255; (table), ii. 236.
 Peile, ii. 198, 213.
 Pelasgic alphabet, ii. 130—135, 138, 143; (table), ii. 126.
 Peloponnesian alphabet, ii. 54, 64, 67; (table), 60.
 Pentaour, poem of, i. 136; ii. 121.
 Pentateuch, i. 137, 138.
 Persepolis, inscription at, ii. 242, 244, 247.
 Persian scripts, cuneiform, i. 14, 50—54; ii. 231; Aramean, ii. 228—237, 273, 282; Arabic, i. 81, 317.
 Persians in India, ii. 261, 316.
 Peruvian records, i. 18.
 Peshito version and alphabet, i. 284, 286, 294.
 Peter the Great, ii. 199.
 Petermann, ii. 278.
 Petra alphabet, i. 326, 329.
 Petrarch, handwriting of, ii. 183.
 Pharnabazes, i. 258.
 Phi, letter, ii. 88—90. Cf. 16, 31, 40, 48, 139.
 Philippines, ii. 359.
 Philostratus, ii. 272.
 Philyllius, i. 74.
 Phocæic standard, ii. 25.
 Phœnician commerce, i. 246; with Egypt, i. 151—154; with Greece, i. 73; ii. 22, 23; with India, ii. 312; inscriptions, i. 199, 210—230, 244; ii. 14; coins, i. 225, 226; alphabet, i. 197—244. Cf. 79, 81, 178, 358; ii. 70, 71, 137, 288; (tables), i. 78, 99, 227.
 Phonograms, i. 5, 6, 43, 44, 58, 65; ii. 239.
 Phonology, ii. 368; Semitic, i. 160, 175, 178, 179.
 Phonotype, ii. 185.
 Phrygian alphabet, ii. 71, 108.
 Pi, letter, ii. 30, 74, 110, 162.
 Pictish stones, i. 17.
 Picture writing, i. 5, 13, 15; ii. 307.
 Pindar, ii. 52.
 Pippin, ii. 158.
 Pitman, ii. 185.
 Piyadasi, ii. 291, 297.
 Planetary signs, i. 7.
 Platæan trophy, ii. 50, 51, 55.
 Pliny, i. 73; ii. 70.
 Plutarch, i. 66.

- Points, diacritical, i. 162, 317, 334; vocalic, i. 279—282.
 Polyphony, i. 45, 47.
 Pompeian Graffiti, ii. 73, 158; tablets, ii. 168.
 Poole, R. S., i. 117—123.
 Populonian coins, ii. 103, 134.
 Portsmouth, ii. 134.
 Posidonian coins, ii. 132.
 Potidæan inscription, ii. 56.
 Prakrit, ii. 296, 343, 344.
 Printing, invention of, ii. 182; results of, ii. 185; in Corea, ii. 349.
 Pnisse papyrus, i. 92, 25, 97, 123, 140, 159.
 Protomedic syllabary, i. 47, 48, 50, 55.
 Proto-Pehlevi alphabet, ii. 244—246.
 Prinsep, ii. 256, 296, 304, 319.
 Prymnessus, inscription at, ii. 109.
 Psalms, acrostic, i. 85, 186, 187.
 Psammetichus, i. 225; ii. 9, 12, 13.
 Psi, letter, ii. 91. Cf. 16, 35, 40, 51, 66, 76, 93.
 Ptolemy, ii. 215.
 Ptolemy XV., i. 58.
 Ptolemy, son of Glaucias, ii. 156.
 Pumiathon, inscription of, i. 224.
 Punic inscriptions, i. 228; alphabet, i. 81, 226—230; ii. 359; (table), i. 227.
 Punjab, ii. 261, 290, 308, 316; alphabet, ii. 351.
 Pushtu alphabet, ii. 287.
 Pynson, ii. 183.
 Pythias, ii. 215.
- Q, letter, i. 104, 164; ii. 17, 27, 66, 71, 74, 76, 104.
 Qoph, letter, i. 104, 173, 181, 201, 204, 267, 337; ii. 128, 137, 167, 187.
 Qubbet-es-Sakhra, i. 323.
 Quippus, i. 18.
 Quintilian, ii. 139, 169.
- R, letter, i. 108, 164; ii. 106, 161, 187, 188, 322.
 Rabbinic Hebrew, i. 278; (table), 270.
 Rameses II., i. 136; ii. 5—8, 121.
 Ranja alphabet, ii. 352.
 Raphe, i. 179.
 Raschi, i. 278.
 Rask, ii. 254.
 Ravenna papyrus, ii. 170, 177.
 Rawlinson, Sir H., ii. 244, 247.
 Re, letter, i. 316, 319.
 Rebus, i. 22, 34, 58.
 Rejang alphabet, ii. 359; (table), 340.
 Renan, i. 88, 212, 299.
 Resh, letter, i. 108, 163, 174, 244.
 Rhegium, coins of, ii. 132, 140.
 Rheims, codex at, ii. 199.
 Rho, letter, ii. 106.
 Rhys, ii. 225.
 Rika'a Arabic, i. 317, 318.
 Ritschl, i. 6; ii. 141, 363.
 Romaic alphabet, i. 81; ii. 163.
 Roman alphabets. See LATIN.
 Roman cursive, ii. 169.
 Roman type, i. 70, 81, 127, 277; ii. 183.
 Roman numerals, i. 6; ii. 139.
 Rome, inscriptions at, i. 274; ii. 141.
 Romic alphabet, ii. 186.
 Roots, Semitic, i. 183.
 Rose, ii. 1.
 Ross, ii. 38.
 Rudra Dama inscription, ii. 327.
 Ruess, ii. 171.
 Runes, Slavonic, ii. 201.
 Runic alphabets, ii. 210—224. Cf. i. 81, 119; ii. 179; (table), 218; inscriptions, ii. 210—212.
 Ruppel, i. 350.
 Rushworth Gospels, ii. 177.
 Russian alphabet, i. 81, 119, 190; ii. 155, 195, 197, 198; (tables), ii. 196, 208.

- Rustic capitals, ii. 163, 165; (table) 164.
- Ruthenian alphabet, ii. 205; (table), 196.
- S, letter, i. 110, 173; ii. 74, 104, 138, 161, 187.
- Sabas, ii. 147, 153, 155, 197.
- Sabeans, i. 340, 342, 346; alphabet, i. 345—349. Cf. i. 81; ii. 314—318; (tables), i. 338; ii. 320.
- Sacrificial tariffs, i. 228.
- Safa inscriptions, i. 337, 342—345; alphabet, ii. 321; (tables), i. 338; ii. 320.
- Sah dynasty, ii. 325; inscriptions, 327; alphabet, 335; (table), 336.
- Sakkara Stele, i. 259.
- Samaria, i. 218.
- Samaritan alphabet, i. 186, 198, 242—246.
- Samarkand, i. 299.
- Samekh, letter, i. 110, 148, 173, 175, 201, 203, 204, 263; ii. 74, 77, 97—100, 139.
- Samos, inscriptions of, ii. 103.
- Sampi, ii. 95. [329.
- Samudra Gupta, inscription of, ii.
- San, letter, i. 354; ii. 28, 32, 68, 71, 74, 93—101, 132, 135, 138.
- Sanchuniathon, i. 82.
- Sanskrit, ii. 296, 343, 344, 350.
- Santorin, ii. 29.
- Sarada alphabet, ii. 351.
- Sardinian inscriptions, i. 199, 202; codex, ii. 175.
- Sargon, i. 133, 218; ii. 114, 122.
- Sassanian empire, i. 291; ii. 241, 242; alphabet, ii. 247—249. Cf. ii. 229, 237, 244, 282, 283; (table), ii. 236.
- Satrapies, alphabet of, i. 258; ii. 246; (tables), i. 250, 270; Indian, ii. 261.
- Sayce, i. 152, 233; ii. 24, 110—123, 186, 204, 322.
- Scandinavian runes, ii. 210, 223; (table), ii. 218.
- Schleicher, ii. 198, 202.
- Schliemann, ii. 109, 114, 118, 121.
- Schlumberger, i. 347.
- Schmidt, ii. 111.
- Schoolcraft, i. 20.
- Schröder, i. 199.
- Scipio Barbatus, epitaph of, ii. 141. Cf. i. 71.
- Scythians in India, ii. 259, 326.
- Seals, Phœnician, i. 219, 231; Jewish, i. 218, 232, 239; Sassanian, ii. 247; Indian, ii. 308.
- Segesta, coin of, i. 228.
- Seleucus Nicator, ii. 240, 260, 290.
- Semicolon, ii. 190.
- Semites in Egypt, i. 94, 96, 120.
- Semitic alphabet, source of all other alphabets, i. 73—82, 335; ii. 309—318; its origin, i. 82—156; date, i. 133—146; characteristics, i. 158—166; names, powers, and order of the letters, i. 166—196; development of, i. 197—358; (tables), i. 75, 78, 81, 99, 227, 250, 270, 288, 315, 326, 338, 352.
- Semi-uncial, ii. 178.
- Semi-vowels, i. 112; ii. 300.
- Senart, ii. 257, 299, 304.
- Sennacherib, i. 203, 217, 236, 256; ii. 120.
- Sent, inscription of, i. 56, 57, 61, 64.
- Septuagint, i. 177, 281.
- Serapeum, i. 259; ii. 156.
- Serta alphabet, i. 286, 294, 306; (table), 288.
- Servian alphabet, ii. 207.
- Severianus, St., sermons of, ii. 176.
- Shahbaz-garhi, ii. 257.
- Shahpur, ii. 237, 242, 247, 248.
- Shalmaneser, i. 218.
- Sharpe, ii. 111.
- Sheba, Queen of, i. 341.

- Shekels, Jewish, i. 240, 243.
 Shepherd kings, i. 94, 144.
 Shields, Palmyrene inscription from, i. 265.
 Shin, letter, i. 110, 174, 179, 201, 204, 311, 332; ii. 74, 97—100.
 Shiraz MS., ii. 264.
 Shorthand, Greek, ii. 158; Roman, ii. 170, 171.
 Siamese alphabet, i. 81; ii. 346.
 Sibilants, Semitic, i. 76, 110, 111, 192, 354; ii. 93; Greek, ii. 97—101; Indian, ii. 300.
 Sicily, inscriptions, i. 199, 274; coins, i. 229; ii. 92, 104, 132.
 Sidonians, i. 151; alphabet, i. 93, 200—205, 220—225; (tables), 204, 227, 250.
 Sigean inscription, ii. 47.
 Sigma, letter, i. 354; ii. 36, 47, 74, 94, 97—101, 104, 162.
 Sikh alphabet, ii. 351.
 Sikim alphabet, ii. 347.
 Siloam inscription, i. 232—239; ii. 83; alphabet, i. 243.
 Silvestre, ii. 146, 193, 199, 274.
 Simonides, ii. 70.
 Sin, letter, i. 332.
 Sinaitic inscriptions, i. 326, 330.
 Sindi alphabet, ii. 352; (table), 338.
 Singalese alphabet, i. 81; ii. 348; (table), 340.
 Sin-gan-fu inscription, i. 299.
 Sinope, i. 258.
 Skanda Gupta, ii. 327, 328.
 Slavonians, ii. 197, 205.
 Slavonic uncials, ii. 155; runes, ii. 201; letter names, i. 119; ii. 200; alphabets, ii. 195—207; (tables), 196, 203, 206.
 Slovenians, ii. 199, 207.
 Smith, George, ii. 113.
 Solomon, i. 341; ii. 313.
 Spain, inscriptions, i. 275; coins, i. 229; alphabets, Punic, i. 227; Hebrew, i. 277, 278; Greek, ii. 125; Visigothic, ii. 172.
 Sparrow, i. 60.
 Sparta, alphabet, ii. 59.
 Spelling reform, i. 30. Cf. ii. 185.
 Spiritus asper, ii. 86; lenis, i. 180; ii. 86.
 Spitta, i. 175.
 Square Hebrew, i. 81, 269—278; (table), i. 270.
 Square Pali alphabet, ii. 345, 346; (table), ii. 340.
 Standard alphabet, ii. 186. See LEPSIUS.
 Standards, Greek metric, ii. 25, 27, 134.
 Stenographic signs, Latin, ii. 171.
 Stephens, ii. 212.
 Stops, ii. 190.
 Strabo, ii. 133, 290.
 Subiaco, i. 70; ii. 183.
 Suetonius, ii. 169.
 Sumatra, alphabets, ii. 359; (table), 340. [188.
 Survivals, i. 63; ii. 137, 161, 179, Sweet, ii. 186.
 Sweinheim, ii. 183.
 Syllabaries, i. 6, 43, 44, 62; Japanese, i. 33—38, 14; Annamese, i. 37, 39; ii. 287; Babylonian, i. 44; Proto-Medic, i. 39, 47, 48; Asianic, i. 15; ii. 108—123; Cypriote, ii. 112—117. Cf. i. 14, 49, 132.
 Syracuse, coins, ii. 104; alphabet, ii. 52, 127; (table), ii. 59.
 Syriac alphabets, i. 283—297. Cf. i. 163, 198, 266, 269; ii. 249; (tables), i. 288, 308, 315; vowel points, i. 280, 281; codices, i. 287, 293, 295, 305.
 Syro-Chaldaic alphabet, i. 81, 292.
 Syro-Palestinian alphabet, i. 295.
 T, letter, i. 105, 174, 215; ii. 106, 188.
 Ta'alik alphabet, i. 317, 318.
 Tablets, Assyrian, i. 204, 253; Babylonian, i. 40; ii. 322; Pompeian, ii. 168; Transylvanian, ii. 168.

- Tachygraphy, Greek, ii. 158 ;
 Roman, ii. 170.
 Tacitus, i. 83 ; ii. 215.
 Tagala alphabet, ii. 359—361 ;
 (table), 340.
 Talent, ii. 25, 26.
 Talmud, i. 268, 282.
 Tamashek alphabet, i. 229.
 Tamil alphabet, i. 81 ; ii. 313,
 348, 354, 356 ; (table), 338.
 Tanis, i. 136, 150, 154.
 Tarsus, i. 258.
 Tau, letter, i. 106, 174, 201, 206,
 215, 239, 266 ; ii. 106.
 Te, letter, i. 316.
 Temple at Jerusalem, i. 232, 271,
 274.
 Telugu alphabet, i. 81 ; ii. 354,
 355 ; (table), 338.
 Tertullian, i. 74.
 Teth, letter, i. 105, 118, 171, 179 ;
 ii. 39, 137.
 Thakuri alphabet, ii. 351.
 Thamudites, i. 345 ; alphabet, i.
 342 ; (table), i. 338.
 Thasos, ii. 21, 182.
 Thebes (Bœotia), ii. 21, 42.
 Thebes (Egypt), papyri from, i.
 95 ; ii. 150, 157.
 Thera, ii. 20, 21, 29 ; inscriptions,
 ii. 30—35 ; alphabet, 83, 85 ;
 (table), ii. 59.
 Theta, letter, i. 118 ; ii. 31, 39,
 40, 48, 89, 139.
 Thomas, ii. 248, 255, 258, 305,
 312, 317, 328.
 Thorn, letter, ii. 179.
 Thorsbjerg moss, inscriptions, ii.
 212.
 Thothmes III., i. 341 ; ii. 121.
 Thrace, coins of, ii. 95 ; alphabet,
 ii. 217.
 Thuluth alphabet, i. 318.
 Tibetan coins, ii. 182 ; alphabet,
 i. 81, 297, 302 ; ii. 353 ; (table),
 ii. 336.
 Tiglath Pileser, i. 203.
 Tironian notes, ii. 170.
 Tischendorf, ii. 153.
 Titus, i. 271, 272.
 Tortosa inscription, i. 275.
 Tosks, ii. 207, 208.
 Totems, i. 17.
 Tours, school of, ii. 180.
 Trade routes, i. 246 ; ii. 26, 134,
 125 ; Greek, ii. 216, 314, 371.
 Trajan, coin of, i. 241.
 Transliteration, Hebrew, i. 177 ;
 Arabic, i. 333 ; Indian, ii. 298.
 Transylvanian tablets, ii. 168.
 Trasamund, king of the Vandals,
 ii. 175.
 Treaties, Egyptian, i. 136 ; Greek,
 ii. 54—56.
 Tree runes, ii. 226.
 Tsade, letter, i. 111, 148, 167,
 173, 179, 239, 244, 271, 310,
 354 ; ii. 74, 97—100, 137, 278.
 Tsau-shu character, i. 14, 35.
 Tuarick, i. 229.
 Tulu alphabet, ii. 354, 356.
 Turkish alphabets, i. 81, 301, 317,
 318.
 Turushka empire, ii. 325, 326.
 Tyre, alphabet of, i. 81, 205, 340 ;
 (table), 227.
 Typography, Hebrew, i. 277 ;
 Greek, ii. 163 ; German, ii. 182,
 184 ; English, i. 70 ; ii. 183.
 U, letter, i. 61 ; ii. 72, 84, 143, 189.
 Uigur alphabet, i. 81, 300, 301 ;
 (tables), i. 288, 308.
 Ulphilas, i. 302 ; ii. 223 ; alpha-
 bet of, ii. 211, 224, 281 ; (table),
 218.
 Umbrian alphabet, i. 81 ; ii. 71,
 128 ; (table), 126.
 Umin alphabet, ii. 353.
 Uncials, ii. 147, 148 ; Greek, ii.
 150—157, 193, 224 ; (tables),
 154, 194 ; Latin, ii. 163—167 ;
 (table), 164 ; Gallican, ii. 165 ;
 Irish, ii. 165, 172—178.
 Upsilon, ii. 70, 81—84, 112, 117,
 118, 143.

- Urdu, ii. 287.
 Utshen alphabet, ii. 353.
- V, letter, i. 112; ii. 72, 84, 131, 140, 143, 189.
 Valabhi dynasty, ii. 325; alphabet, 330; (table), 336.
 Vambery, i. 307.
 Vandals, ii. 175.
 Vatteluttu, ii. 313, 334, 356.
 Vau, letter, i. 76, 112, 167, 171, 182, 280, 297, 309; ii. 15, 77, 83, 138, 278.
 Veda, ii. 343.
 Velar gutturals, i. 160.
 Venantius Fortunatus, ii. 221.
 Venetian printers, i. 70.
 Vengi dynasty, ii. 325, 331; inscriptions, ii. 354, 359, 360; numerals, ii. 264.
 Venosa, inscription at, i. 275.
 Vertical direction of writing, i. 304, 306.
 Vienna printing office, ii. 335.
 Vienne, inscription at, i. 275.
 Virgilian codices, ii. 163, 165.
 Visigothic script, ii. 172.
 Vowels, Egyptian, i. 64, 65, 357; Semitic, i. 159, 181—184, 279, 280; ii. 310; Mongolian, i. 309; Ethiopic, i. 357; Syriac, i. 295, 306; Greek, ii. 16, 17, 34, 81—88; Lycian, ii. 117, 118; Latin, ii. 143; Indian, 300—303, 310; notation of, i. 160, 184, 185, 281, 282, 295, 306.
 Vulgate, i. 177.
- W, letter, ii. 189.
 Waitz, ii. 224.
 Wallachian alphabet, ii. 207, 211.
 Wampum belts, i. 18.
 Wattenbach, ii. 86, 146, 151, 160, 168, 186, 268.
 Weber, ii. 304, 314.
 Wen, rune, ii. 179, 189.
 West, Dr., ii. 240, 250, 251.
- Wetzstein, i. 344.
 Whitney, i. 88.
 Williams, Monier, ii. 299.
 Wimmer, ii. 214.
 Woepcke, ii. 268.
 Wright, i. 334.
 Writing, invention of, i. 1—69; direction of, i. 159, 306; ii. 131, 135; materials, effect of, i. 125; ii. 221, 365. See LETTERS, ALPHABET.
- X, letter, ii. 77, 92, 139.
 Xanthus, obelisk at, ii. 111.
 Xenophon, ii. 158.
 Xerxes, i. 256, 259.
 Xi, letter, ii. 31, 66, 77, 91—93, 97—101.
 Xylographic scripts, ii. 221, 366.
- Y, letter, i. 12, 112, 164, 172, 182; ii. 81, 142, 189.
 Yehaumelek, inscription of, i. 220.
 Yemen, i. 341, 346; ii. 315; alphabet, i. 81; ii. 314.
 Yod, letter, i. 112, 172, 182, 195, 201, 204, 244, 259, 263, 297, 309, 353; ii. 15, 81.
 Yucatan, Mayas of, i. 24.
 Yule, i. 299.
- Z, letter, i. 111; ii. 139, 142, 144, 188.
 Zacher, ii. 224.
 Zayin, letter, i. 111, 171, 201, 204, 215, 239, 353, 354; ii. 97—100, 139.
 Ze, letter, i. 316.
 Zed, letter, ii. 137, 144.
 Zend alphabet, i. 49; ii. 237, 249, 250; (tables), ii. 236, 252.
 Zend-Avesta, ii. 232, 249, 250.
 Zenobia, i. 265, 269; ii. 249.
 Zero, ii. 263.
 Zeta, letter, i. 215, 354; ii. 97—101, 105.
 Zodiac, signs of, i. 7.
 Zoroaster, i. 248; ii. 232.

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