

ANCIENT SOCIETY



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ANCIENT SOCIETY

CHAPTER I.

ETHNICAL PERIODS.

PROGRESS OF MANKIND FROM THE BOTTOM OF THE SCALE.—ILLUSTRATED BY INVENTIONS DISCOVERIES AND INSTITUTIONS.—TWO PLANS OF GOVERNMENT—ONE GENTILE AND SOCIAL, GIVING A SOCIETY, (*Societas*); THE OTHER POLITICAL, GIVING A STATE, (*Civitas*).—THE FORMER FOUNDED UPON PERSONS AND GENTILISM; THE LATTER UPON TERRITORY AND PROPERTY.—THE FIRST, THE PLAN OF GOVERNMENT OF ANCIENT SOCIETY.—THE SECOND, THAT OF MODERN OR CIVILIZED SOCIETY.—UNIFORMITY OF HUMAN EXPERIENCE.—PROPOSED ETHNICAL PERIODS—I. LOWER STATUS OF SAVAGERY; II. MIDDLE STATUS OF SAVAGERY; III. UPPER STATUS OF SAVAGERY; IV. LOWER STATUS OF BARBARISM; V. MIDDLE STATUS OF BARBARISM; VI. UPPER STATUS OF BARBARISM; VII. STATUS OF CIVILIZATION.

The latest investigations respecting the early condition of the human race, are tending to the conclusion that mankind commenced their career at the bottom of the scale and worked their way up from savagery to civilization through the slow accumulations of experimental knowledge.

As it is undeniable that portions of the human family have existed in a state of savagery, other portions in a state of barbarism, and still other portions in a state of civilization, it seems equally so that these three distinct conditions are connected with each other in a natural as well as necessary sequence of progress. Moreover, that this sequence has been historically true of the entire human family, up to

the status attained by each branch respectively, is rendered probable by the conditions under which all progress occurs, and by the known advancement of several branches of the family through two or more of these conditions.

An attempt will be made in the following pages to bring forward additional evidence of the rudeness of the early condition of mankind, of the gradual evolution of their mental and moral powers through experience, and of their protracted struggle with opposing obstacles while winning their way to civilization. It will be drawn, in part, from the great sequence of inventions and discoveries which stretches along the entire pathway of human progress; but chiefly from domestic institutions, which express the growth of certain ideas and passions.

As we re-ascend along the several lines of progress toward the primitive ages of mankind, and eliminate one after the other, in the order in which they appeared, inventions and discoveries on the one hand, and institutions on the other, we are enabled to perceive that the former stand to each other in progressive, and the latter in unfolding relations. While the former class have had a connection, more or less direct, the latter have been developed from a few primary germs of thought. Modern institutions plant their roots in the period of barbarism, into which their germs were transmitted from the previous period of savagery. They have had a lineal descent through the ages, with the streams of the blood, as well as a logical development.

Two independent lines of investigation thus invite our attention. The one leads through inventions and discoveries, and the other through primary institutions. With the knowledge gained therefrom, we may hope to indicate the principal stages of human development. The proofs to be adduced will be drawn chiefly from domestic institutions; the references to achievements more strictly intellectual being general as well as subordinate.

The facts indicate the gradual formation and subsequent development of certain ideas, passions, and aspirations. Those which hold the most prominent positions may be generalized

as growths of the particular ideas with which they severally stand connected. Apart from inventions and discoveries they are the following:

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| I. <i>Subsistence,</i> | V. <i>Religion,</i> |
| II. <i>Government,</i> | VI. <i>House Life and Architecture,</i> |
| III. <i>Language,</i> | VII. <i>Property.</i> |
| IV. <i>The Family,</i> | |

First. Subsistence has been increased and perfected by a series of successive arts, introduced at long intervals of time, and connected more or less directly with inventions and discoveries.

Second. The germ of government must be sought in the organization into gentes in the Status of savagery; and followed down, through the advancing forms of this institution, to the establishment of political society.

Third. Human speech seems to have been developed from the rudest and simplest forms of expression. Gesture or sign language, as intimated by Lucretius,¹ must have preceded articulate language, as thought preceded speech. The monosyllabical preceded the syllabical, as the latter did that of concrete words. Human intelligence, unconscious of design, evolved articulate language by utilizing the vocal sounds. This great subject, a department of knowledge by itself, does not fall within the scope of the present investigation.

Fourth. With respect to the family, the stages of its growth are embodied in systems of consanguinity and affinity, and in usages relating to marriage, by means of which, collectively, the family can be definitely traced through several successive forms.

Fifth. The growth of religious ideas is environed with such intrinsic difficulties that it may never receive a perfectly satisfactory exposition. Religion deals so largely with the imaginative and emotional nature, and consequently with such uncertain elements of knowledge, that all primitive religions are

¹ Et pueros commendarunt mulierbreque saeculum
Vocibus, et gestu, cum balbe significarent,
Imbecillorum esse aequum miserier omnium.

—*De Rerum Natura*, lib. v, 1020.

grotesque and to some extent unintelligible. This subject also falls without the plan of this work excepting as it may prompt incidental suggestions.

Sixth. House architecture, which connects itself with the form of the family and the plan of domestic life, affords a tolerably complete illustration of progress from savagery to civilization. Its growth can be traced from the hut of the savage, through the communal houses of the barbarians, to the house of the single family of civilized nations, with all the successive links by which one extreme is connected with the other. This subject will be noticed incidentally.

Lastly. The idea of property was slowly formed in the human mind, remaining nascent and feeble through immense periods of time. Springing into life in savagery, it required all the experience of this period and of the subsequent period of barbarism to develop the germ, and to prepare the human brain for the acceptance of its controlling influence. Its dominance as a passion over all other passions marks the commencement of civilization. It not only led mankind to overcome the obstacles which delayed civilization, but to establish political society on the basis of territory and of property. A critical knowledge of the evolution of the idea of property would embody, in some respects, the most remarkable portion of the mental history of mankind.

It will be my object to present some evidence of human progress along these several lines, and through successive ethnical periods, as it is revealed by inventions and discoveries, and by the growth of the ideas of government, of the family, and of property.

It may be here premised that all forms of government are reducible to two general plans, using the word plan in its scientific sense. In their bases the two are fundamentally distinct. The first, in the order of time, is founded upon persons, and upon relations purely personal, and may be distinguished as a society (*societas*). The gens is the unit of this organization; giving as the successive stages of integration, in the archaic period, the gens, the phratry, the tribe, and the confederacy of tribes, which constituted a people or nation (*populus*). At a

later period a coalescence of tribes in the same area into a nation took the place of a confederacy of tribes occupying independent areas. Such, through prolonged ages, after the gens appeared, was the substantially universal organization of ancient society; and it remained among the Greeks and Romans after civilization supervened. The second is founded upon territory and upon property, and may be distinguished as a state (*civitas*). The township or ward, circumscribed by metes and bounds, with the property it contains, is the basis or unit of the latter, and political society is the result. Political society is organized upon territorial areas, and deals with property as well as with persons through territorial relations. The successive stages of integration are the township or ward, which is the unit of organization; the county or province, which is an aggregation of townships or wards; and the national domain or territory, which is an aggregation of counties or provinces; the people of each of which are organized into a body politic. It taxed the Greeks and Romans to the extent of their capacities, after they had gained civilization, to invent the deme or township and the city ward; and thus inaugurate the second great plan of government, which remains among civilized nations to the present hour. In ancient society this territorial plan was unknown. When it came in it fixed the boundary line between ancient and modern society, as the distinction will be recognized in these pages.

It may be further observed that the domestic institutions of the barbarous, and even of the savage ancestors of mankind, are still exemplified in portions of the human family with such completeness that, with the exception of the strictly primitive period, the several stages of this progress are tolerably well preserved. They are seen in the organization of society upon the basis of sex, then upon the basis of kin, and finally upon the basis of territory; through the successive forms of marriage and of the family, with the systems of consanguinity thereby created; through house life and architecture; and through progress in usages with respect to the ownership and inheritance of property.

The theory of human degradation to explain the existence

of savages and of barbarians is no longer tenable. It came in as a corollary from the Mosaic cosmogony, and was acquiesced in from a supposed necessity which no longer exists. As a theory, it is not only incapable of explaining the existence of savages, but it is without support in the facts of human experience.

The remote ancestors of the Aryan nations presumptively passed through an experience similar to that of existing barbarous and savage tribes. Though the experience of these nations embodies all the information necessary to illustrate the periods of civilization, both ancient and modern, together with a part of that in the Later period of barbarism, their anterior experience must be deduced, in the main, from the traceable connection between the elements of their existing institutions and inventions, and similar elements still preserved in those of savage and barbarous tribes.

It may be remarked finally that the experience of mankind has run in nearly uniform channels; that human necessities in similar conditions have been substantially the same; and that the operations of the mental principle have been uniform in virtue of the specific identity of the brain of all the races of mankind. This, however, is but a part of the explanation of uniformity in results. The germs of the principal institutions and arts of life were developed while man was still a savage. To a very great extent the experience of the subsequent periods of barbarism and of civilization have been expended in the further development of these original conceptions. Whenever a connection can be traced on different continents between a present institution and a common germ, the derivation of the people themselves from a common original stock is implied.

The discussion of these several classes of facts will be facilitated by the establishment of a certain number of Ethnical Periods; each representing a distinct condition of society, and distinguishable by a mode of life peculiar to itself. The terms "Age of Stone," "of Bronze," and "of Iron," introduced by Danish archæologists, have been extremely useful for certain purposes, and will remain so for the classification of objects of ancient art; but the progress of knowledge has rendered

other and different subdivisions necessary. Stone implements were not entirely laid aside with the introduction of tools of iron, nor of those of bronze. The invention of the process of smelting iron ore created an ethnical epoch, yet we could scarcely date another from the production of bronze. Moreover, since the period of stone implements overlaps those of bronze and of iron, and since that of bronze also overlaps that of iron, they are not capable of a circumscription that would leave each independent and distinct.

It is probable that the successive arts of subsistence which arose at long intervals will ultimately, from the great influence they must have exercised upon the condition of mankind, afford the most satisfactory bases for these divisions. But investigation has not been carried far enough in this direction to yield the necessary information. With our present knowledge the main result can be attained by selecting such other inventions or discoveries as will afford sufficient tests of progress to characterize the commencement of successive ethnical periods. Even though accepted as provisional, these periods will be found convenient and useful. Each of those about to be proposed will be found to cover a distinct culture, and to represent a particular mode of life.

The period of savagery, of the early part of which very little is known, may be divided, provisionally, into three sub-periods. These may be named respectively the *Older*, the *Middle*, and the *Later* period of savagery; and the condition of society in each, respectively, may be distinguished as the *Lower*, the *Middle*, and the *Upper Status* of savagery.

In like manner, the period of barbarism divides naturally into three sub-periods, which will be called, respectively, the *Older*, the *Middle*, and the *Later* period of barbarism; and the condition of society in each, respectively, will be distinguished as the *Lower*, the *Middle*, and the *Upper Status* of barbarism.

It is difficult, if not impossible, to find such tests of progress to mark the commencement of these several periods as will be found absolute in their application, and without exceptions upon all the continents. Neither is it necessary, for the purpose in hand, that exceptions should not exist. It will be

sufficient if the principal tribes of mankind can be classified, according to the degree of their relative progress, into conditions which can be recognized as distinct.

I. *Lower Status of Savagery.*

This period commenced with the infancy of the human race, and may be said to have ended with the acquisition of a fish subsistence and of a knowledge of the use of fire. Mankind were then living in their original restricted habitat, and subsisting upon fruits and nuts. The commencement of articulate speech belongs to this period. No exemplification of tribes of mankind in this condition remained to the historical period.

II. *Middle Status of Savagery.*

It commenced with the acquisition of a fish subsistence and a knowledge of the use of fire, and ended with the invention of the bow and arrow. Mankind, while in this condition, spread from their original habitat over the greater portion of the earth's surface. Among tribes still existing it will leave in the Middle Status of savagery, for example, the Australians and the greater part of the Polynesians when discovered. It will be sufficient to give one or more exemplifications of each status.

III. *Upper Status of Savagery.*

It commenced with the invention of the bow and arrow, and ended with the invention of the art of pottery. It leaves in the Upper Status of Savagery the Athapascan tribes of the Hudson's Bay Territory, the tribes of the valley of the Columbia, and certain coast tribes of North and South America; but with relation to the time of their discovery. This closes the period of Savagery.

IV. *Lower Status of Barbarism.*

The invention or practice of the art of pottery, all things considered, is probably the most effective and conclusive test that can be selected to fix a boundary line, necessarily arbitrary, between savagery and barbarism. The distinctness of the two conditions has long been recognized, but no criterion of progress out of the former into the latter has hitherto been brought forward. All such tribes, then, as never attained to the art of pottery will be classed as savages, and those possessing this art but who never attained a phonetic alphabet and the use of writing will be classed as barbarians.

The first sub-period of barbarism commenced with the manufacture of pottery, whether by original invention or adoption. In finding its termination, and the commencement of the Middle Status, a difficulty is encountered in the unequal endowments of the two hemispheres, which began to be influential upon human affairs after the period of savagery had passed. It may be met, however, by the adoption of equivalents. In the Eastern hemisphere, the domestication of animals, and in the Western, the cultivation of maize and plants by irrigation, together with the use of adobe-brick and stone in house building have been selected as sufficient evidence of progress to work a transition out of the Lower and into the Middle Status of barbarism. It leaves, for example, in the Lower Status, the Indian tribes of the United States east of the Missouri River, and such tribes of Europe and Asia as practiced the art of pottery, but were without domestic animals.

V. *Middle Status of Barbarism.*

It commenced with the domestication of animals in the Eastern hemisphere, and in the Western with cultivation by irrigation and with the use of adobe-brick and stone in architecture, as shown. Its termination may be fixed with the invention of the process of smelting iron ore. This places in the Middle Status, for example, the Village Indians of New Mexico, Mexico, Central America and Peru, and such tribes in the Eastern hemisphere as possessed domestic animals, but were without a knowledge of iron. The ancient Britons, although familiar with the use of iron, fairly belong in this connection. The vicinity of more advanced continental tribes had advanced the arts of life among them far beyond the state of development of their domestic institutions.

VI. *Upper Status of Barbarism.*

It commenced with the manufacture of iron, and ended with the invention of a phonetic alphabet, and the use of writing in literary composition. Here civilization begins. This leaves in the Upper Status, for example, the Grecian tribes of the Homeric age, the Italian tribes shortly before the founding of Rome, and the Germanic tribes of the time of Cæsar.

VII. *Status of Civilization.*

It commenced, as stated, with the use of a phonetic alphabet and the production of literary records, and divides into *Ancient* and *Modern*. As an equivalent, hieroglyphical writing upon stone may be admitted.

RECAPITULATION.

<i>Periods.</i>	<i>Conditions.</i>
I. <i>Older Period of Savagery,</i>	I. <i>Lower Status of Savagery,</i>
II. <i>Middle Period of Savagery,</i>	II. <i>Middle Status of Savagery,</i>
III. <i>Later Period of Savagery,</i>	III. <i>Upper Status of Savagery,</i>
IV. <i>Older Period of Barbar-</i>	IV. <i>Lower Status of Barbar-</i>
<i>ism,</i>	<i>ism,</i>
V. <i>Middle Period of Barbar-</i>	V. <i>Middle Status of Barbar-</i>
<i>ism,</i>	<i>ism,</i>
VI. <i>Later Period of Barbarism,</i>	VI. <i>Upper Status of Barbarism,</i>
	VII. <i>Status of Civilization.</i>

- I. *Lower Status of Savagery, From the Infancy of the Human Race to the commencement of the next Period.*
- II. *Middle Status of Savagery, From the acquisition of a fish subsistence and a knowledge of the use of fire, to etc.*
- III. *Upper Status of Savagery, From the Invention of the Bow and Arrow, to etc.*
- IV. *Lower Status of Barbarism, From the Invention of the Art of Pottery, to etc.*
- V. *Middle Status of Barbarism, From the Domestication of animals on the Eastern hemisphere, and in the Western from the cultivation of maize and plants by Irrigation, with the use of adobe-brick and stone, to etc.*
- VI. *Upper Status of Barbarism, From the Invention of the process of Smelting Iron Ore, with the use of iron tools, to etc.*

VII. *Status of Civilization, From the Invention of a Phonetic Alphabet, with the use of writing, to the present time.*

Each of these periods has a distinct culture and exhibits a mode of life more or less special and peculiar to itself. This specialization of ethnical periods renders it possible to treat a particular society according to its condition of relative advancement, and to make it a subject of independent study and discussion. It does not affect the main result that different tribes and nations on the same continent, and even of the same linguistic family, are in different conditions at the same time, since for our purpose the condition of each is the material fact, the time being immaterial.

Since the use of pottery is less significant than that of domestic animals, of iron, or of a phonetic alphabet, employed to mark the commencement of subsequent ethnical periods, the reasons for its adoption should be stated. The manufacture of pottery presupposes village life, and considerable progress in the simple arts.¹ Flint and stone implements are older than pottery, remains of the former having been found in ancient repositories in numerous instances unaccompanied by the latter. A succession of inventions of greater need and adapted to a lower condition must have occurred before the want of pottery would be felt. The commencement of village life, with some degree of control over subsistence, wooden vessels and utensils, finger weaving with filaments of bark, basket making, and the bow and arrow make their appearance before the art of pottery. The Village Indians who were in the Middle Status of barbarism, such as the Zúñians the Aztecs and the Cholulans, manufactured pottery in large quantities and in many forms of considerable excellence; the partially Village Indians

¹ Mr. Edwin B. Tylor observes that Goquet "first propounded, in the last century, the notion that the way in which pottery came to be made, was that people daubed such combustible vessels as these with clay to protect them from fire, till they found that clay alone would answer the purpose, and thus the art of pottery came into the world."—*Early History of Mankind*, p. 273. Goquet relates of Capt. Gonneville who visited the southeast coast of South America in 1503, that he found "their household utensils of wood, even their boiling pots, but plastered with a kind of clay, a good finger thick, which prevented the fire from burning them."—*Ib.* 273.

of the United States, who were in the Lower Status of barbarism, such as the Iroquois the Choctas and the Cherokees, made it in smaller quantities and in a limited number of forms; but the Non-horticultural Indians, who were in the Status of savagery, such as the Athapascans the tribes of California and of the valley of the Columbia, were ignorant of its use.¹ In Lubbock's *Pre-Historic Times*, in Tylor's *Early History of Mankind*, and in Peschel's *Races of Man*, the particulars respecting this art, and the extent of its distribution, have been collected with remarkable breadth of research. It was unknown in Polynesia (with the exception of the Islands of the Tongans and Fijians), in Australia, in California, and in the Hudson's Bay Territory. Mr. Tylor remarks that "the art of weaving was unknown in most of the Islands away from Asia," and that "in most of the South Sea Islands there was no knowledge of pottery."² The Rev. Lorimer Fison, an English missionary residing in Australia, informed the author in answer to inquiries, that "the Australians had no woven fabrics, no pottery, and were ignorant of the bow and arrow." This last fact was also true in general of the Polynesians. The introduction of the ceramic art produced a new epoch in human progress in the direction of an improved living and increased domestic conveniences. While flint and stone implements—which came in earlier and required long periods of time to develop all their uses—gave the canoe, wooden vessels and utensils, and ultimately timber and plank in house architecture,³ pottery gave a durable vessel for boiling food, which before that had been rudely accomplished in

¹ Pottery has been found in aboriginal mounds in Oregon within a few years past.—Foster's *Pre-Historic Races of the United States*, I, 152. The first vessels of pottery among the Aborigines of the United States seem to have been made in baskets of rushes or willows used as moulds which were burned off after the vessel hardened.—Jones's *Antiquities of the Southern Indians*, p. 461. Prof. Rau's article on *Pottery*. *Smithsonian Report*, 1866, p. 352.

² *Early History of Mankind*, p. 181; *Pre-Historic Times*, pp. 437, 441, 462, 477, 533, 542.

³ Lewis and Clarke (1805) found plank in use in houses among the tribes of the Columbia River.—*Travels*, Longman's Ed., 1814, p. 503. Mr. John Keast Lord found "cedar plank chipped from the solid tree with chisels and hatchets made of stone," in Indian houses on Vancouver's Island.—*Naturalist in British Columbia*, I, 169.

baskets coated with clay, and in ground cavities lined with skin, the boiling being effected with heated stones.¹

Whether the pottery of the aborigines was hardened by fire or cured by the simple process of drying, has been made a question. Prof. E. T. Cox, of Indianapolis, has shown by comparing the analyses of ancient pottery and hydraulic cements, "that so far as chemical constituents are concerned it (the pottery) agrees very well with the composition of hydraulic stones." He remarks further, that "all the pottery belonging to the mound-builders' age, which I have seen, is composed of alluvial clay and sand, or a mixture of the former with pulverized fresh-water shells. A paste made of such a mixture possesses in a high degree the properties of hydraulic Puzzuolani and Portland cement, so that vessels formed of it hardened without being burned, as is customary with modern pottery. The fragments of shells served the purpose of gravel or fragments of stone as at present used in connection with hydraulic lime for the manufacture of artificial stone."² The composition of Indian pottery in analogy with that of hydraulic cement suggests the difficulties in the way of inventing the art, and tends also to explain the lateness of its introduction in the course of human experience. Notwithstanding the ingenious suggestion of Prof. Cox, it is probable that pottery was hardened by artificial heat. In some cases the fact is directly attested. Thus Adair, speaking of the Gulf Tribes, remarks that "they make earthen pots of very different sizes, so as to contain from two to ten gallons, large pitchers to carry water, bowls, dishes, platters, basins, and a prodigious number of other vessels of such antiquated forms as would be tedious to describe, and impossible to name. Their method of glazing

¹ Tylor's *Early History of Mankind*, p. 265, *et seq.*

² *Geological Survey of Indiana*, 1873, p. 119. He gives the following analysis: Ancient Pottery, "Bone Bank," Posey Co., Indiana.

Moisture at 212° F.,	1.00	Peroxide of Iron,	5.50
Silica,	36.00	Sulphuric Acid,	.20
Carbonate of Lime,	25.50	Organic Matter (alkalies	
Carbonate of Magnesia,	3.02	and loss),	23.60
Alumina,	5.00		100.00

them is, they place them over a large fire of smoky pitch-pine, which makes them smooth, black and firm."¹

Another advantage of fixing definite ethnical periods is the direction of special investigation to those tribes and nations which afford the best exemplification of each status, with the view of making each both standard and illustrative. Some tribes and families have been left in geographical isolation to work out the problems of progress by original mental effort; and have, consequently, retained their arts and institutions pure and homogeneous; while those of other tribes and nations have been adulterated through external influence. Thus, while Africa was and is an ethnical chaos of savagery and barbarism, Australia and Polynesia were in savagery, pure and simple, with the arts and institutions belonging to that condition. In like manner, the Indian family of America, unlike any other existing family, exemplified the condition of mankind in three successive ethnical periods. In the undisturbed possession of a great continent, of common descent, and with homogeneous institutions, they illustrated, when discovered, each of these conditions, and especially those of the Lower and of the Middle Status of barbarism, more elaborately and completely than any other portion of mankind. The far northern Indians and some of the coast tribes of North and South America were in the Upper Status of savagery; the partially Village Indians east of the Mississippi were in the Lower Status of barbarism, and the Village Indians of North and South America were in the Middle Status. Such an opportunity to recover full and minute information of the course of human experience and progress in developing their arts and institutions through these successive conditions has not been offered within the historical period. It must be added that it has been indifferently improved. Our greatest deficiencies relate to the last period named.

Differences in the culture of the same period in the Eastern and Western hemispheres undoubtedly existed in consequence of the unequal endowments of the continents; but the condi-

¹ *History of the American Indians*, Lond. ed., 1775, p. 424. The Iroquois affirm that in ancient times their forefathers cured their pottery before a fire.

tion of society in the corresponding status must have been, in the main, substantially similar.

The ancestors of the Grecian Roman and German tribes passed through the stages we have indicated, in the midst of the last of which the light of history fell upon them. Their differentiation from the undistinguishable mass of barbarians did not occur, probably, earlier than the commencement of the Middle Period of barbarism. The experience of these tribes has been lost, with the exception of so much as is represented by the institutions inventions and discoveries which they brought with them, and possessed when they first came under historical observation. The Grecian and Latin tribes of the Homeric and Romulian periods afford the highest exemplification of the Upper Status of barbarism. Their institutions were likewise pure and homogeneous, and their experience stands directly connected with the final achievement of civilization.

Commencing, then, with the Australians and Polynesians, following with the American Indian tribes, and concluding with the Roman and Grecian, who afford the highest exemplifications respectively of the six great stages of human progress, the sum of their united experiences may be supposed fairly to represent that of the human family from the Middle Status of savagery to the end of ancient civilization. Consequently, the Aryan nations will find the type of the condition of their remote ancestors, when in savagery, in that of the Australians and Polynesians; when in the Lower Status of barbarism in that of the partially Village Indians of America; and when in the Middle Status in that of the Village Indians, with which their own experience in the Upper Status directly connects. So essentially identical are the arts institutions and mode of life in the same status upon all the continents, that the archaic form of the principal domestic institutions of the Greeks and Romans must even now be sought in the corresponding institutions of the American aborigines, as will be shown in the course of this volume. This fact forms a part of the accumulating evidence tending to show that the principal institutions of mankind have been developed from a few primary germs of thought; and that the course and manner of their development

was predetermined, as well as restricted within narrow limits of divergence, by the natural logic of the human mind and the necessary limitations of its powers. Progress has been found to be substantially the same in kind in tribes and nations inhabiting different and even disconnected continents, while in the same status, with deviations from uniformity in particular instances produced by special causes. The argument when extended tends to establish the unity of origin of mankind.

In studying the condition of tribes and nations in these several ethnical periods we are dealing, substantially, with the ancient history and condition of our own remote ancestors.

CHAPTER II.

ARTS OF SUBSISTENCE.

SUPREMACY OF MANKIND OVER THE EARTH.—CONTROL OVER SUBSISTENCE THE CONDITION.—MANKIND ALONE GAINED THAT CONTROL.—SUCCESSIVE ARTS OF SUBSISTENCE—I. NATURAL SUBSISTENCE; II. FISH SUBSISTENCE; III. FARINACEOUS SUBSISTENCE; IV. MEAT AND MILK SUBSISTENCE; V. UNLIMITED SUBSISTENCE THROUGH FIELD AGRICULTURE.—LONG INTERVALS OF TIME BETWEEN THEM.

The important fact that mankind commenced at the bottom of the scale and worked up, is revealed in an expressive manner by their successive arts of subsistence. Upon their skill in this direction, the whole question of human supremacy on the earth depended. Mankind are the only beings who may be said to have gained an absolute control over the production of food; which at the outset they did not possess above other animals. Without enlarging the basis of subsistence, mankind could not have propagated themselves into other areas not possessing the same kinds of food, and ultimately over the whole surface of the earth; and lastly, without obtaining an absolute control over both its variety and amount, they could not have multiplied into populous nations. It is accordingly probable that the great epochs of human progress have been identified, more or less directly, with the enlargement of the sources of subsistence.

We are able to distinguish five of these sources of human food, created by what may be called as many successive arts, one superadded to the other, and brought out at long separated intervals of time. The first two originated in the period of

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savagery, and the last three, in the period of barbarism. They are the following, stated in the order of their appearance:

I. *Natural Subsistence upon Fruits and Roots on a Restricted Habitat.*

This proposition carries us back to the strictly primitive period of mankind, when few in numbers, simple in subsistence, and occupying limited areas, they were just entering upon their new career. There is neither an art, nor an institution, that can be referred to this period; and but one invention, that of language, which can be connected with an epoch so remote. The kind of subsistence indicated assumes a tropical or subtropical climate. In such a climate, by common consent, the habitat of primitive man has been placed. In fruit and nut-bearing forests under a tropical sun, we are accustomed, and with reason, to regard our progenitors as having commenced their existence.

The races of animals preceded the race of mankind, in the order of time. We are warranted in supposing that they were in the plenitude of their strength and numbers when the human race first appeared. The classical poets pictured the tribes of mankind dwelling in groves, in caves and in forests, for the possession of which they disputed with wild beasts¹—while they sustained themselves with the spontaneous fruits of the earth. If mankind commenced their career without experience, without weapons, and surrounded with ferocious animals, it is not improbable that they were, at least partially, tree-livers, as a means of protection and security.

The maintenance of life, through the constant acquisition of food, is the great burden imposed upon existence in all species of animals. As we descend in the scale of structural organization, subsistence becomes more and more simple at each stage, until the mystery finally vanishes. But, in the ascending scale, it becomes increasingly difficult until the highest structural form, that of man, is reached, when it attains the maximum.

¹ *Necdum res igni scibant tractare, nec uti
Pellibus, et spoliis corpus vestire ferarum :
Sed nemora, atque cavos montis, silvasque colebant,
Et frutices inter condebant squalida membra,
Verbera ventorum vitare imbrisque coacti.*

—*Lucr. De Re. Nat.*, lib. v, 951.

Intelligence from henceforth becomes a more prominent factor. Animal food, in all probability, entered from a very early period into human consumption; but whether it was actively sought when mankind were essentially frugivorous in practice, though omnivorous in structural organization, must remain a matter of conjecture. This mode of sustenance belongs to the strictly primitive period.

II. *Fish Subsistence.*

In fish must be recognized the first kind of artificial food, because it was not fully available without cooking. Fire was first utilized, not unlikely, for this purpose. Fish were universal in distribution, unlimited in supply, and the only kind of food at all times attainable. The cereals in the primitive period were still unknown, if in fact they existed, and the hunt for game was too precarious ever to have formed an exclusive means of human support. Upon this species of food mankind became independent of climate and of locality; and by following the shores of the seas and lakes, and the courses of the rivers could, while in the savage state, spread themselves over the greater portion of the earth's surface. Of the fact of these migrations there is abundant evidence in the remains of flint and stone implements of the Status of Savagery found upon all the continents. In reliance upon fruits and spontaneous subsistence a removal from the original habitat would have been impossible.

Between the introduction of fish, followed by the wide migrations named, and the cultivation of farinaceous food, the interval of time was immense. It covers a large part of the period of savagery. But during this interval there was an important increase in the variety and amount of food. Such, for example, as the bread roots cooked in ground ovens, and in the permanent addition of game through improved weapons, and especially through the bow and arrow. This remarkable invention, which came in after the spear and war club, and gave the first deadly weapon for the hunt, appeared late in savagery.¹

¹ As a combination of forces it is so abstruse that it not unlikely owed its origin to accident. The elasticity and toughness of certain kinds of wood, the tension of a cord of sinew or vegetable fibre by means of a bent bow, and finally their combination to propel an arrow by human muscle, are not very obvious sugges-

It has been used to mark the commencement of its Upper Status. It must have given a powerful upward influence to ancient society, standing in the same relation to the period of savagery, as the iron sword to the period of barbarism, and fire-arms to the period of civilization.

From the precarious nature of all these sources of food, outside of the great fish areas, cannibalism became the dire resort of mankind. The ancient universality of this practice is being gradually demonstrated.

III. *Farinaceous Subsistence through Cultivation.*

We now leave Savagery and enter the Lower Status of barbarism. The cultivation of cereals and plants was unknown in the Western hemisphere except among the tribes who had emerged from savagery; and it seems to have been unknown in the Eastern hemisphere until after the tribes of Asia and Europe had passed through the Lower, and had drawn near to the close of the Middle Status of barbarism. It gives us the singular fact that the American aborigines in the Lower Status of barbarism were in possession of horticulture one entire ethnical period earlier than the inhabitants of the Eastern hemisphere. It was a consequence of the unequal endowments of the two hemispheres; the Eastern possessing all the animals adapted to domestication, save one, and a majority of the cereals; while the Western had only one cereal fit for cultivation, but that the best. It tended to prolong the older period of barbarism in the former, to shorten it in the latter; and with the advantage of condition in this period in favor of the American aborigines. But when the most advanced tribes in the Eastern hemisphere, at the commencement of the Middle Period of barbarism, had domesticated animals which gave them meat and milk, their condition, without a knowledge of the cereals, was much superior to that of the American aborigines in the corresponding period, with maize and plants, but without domestic animals. The differentiation of the Semitic and

tions to the mind of a savage. As elsewhere noticed, the bow and arrow are unknown to the Polynesians in general, and to the Australians. From this fact alone it is shown that mankind were well advanced in the savage state when the bow and arrow made their first appearance.

Aryan families from the mass of barbarians seems to have commenced with the domestication of animals.

That the discovery and cultivation of the cereals by the Aryan family was subsequent to the domestication of animals is shown by the fact, that there are common terms for these animals in the several dialects of the Aryan language, and no common terms for the cereals or cultivated plants. Mommsen, after showing that the domestic animals have the same names in the Sanskrit Greek and Latin (which Max Müller afterwards extended to the remaining Aryan dialects¹) thus proving that they were known and presumptively domesticated before the separation of these nations from each other, proceeds as follows: "On the other hand, we have as yet no certain proofs of the existence of agriculture at this period. Language rather favors the negative view. Of the Latin-Greek names of grain none occur in the Sanskrit with the single exception of *ἕλα*, which philologically represents the Sanskrit *yavas*, but denotes in Indian, barley; in Greek, *spelt*. It must indeed be granted that this diversity in the names of cultivated plants, which so strongly contrasts with the essential agreement in the appellations of domestic animals, does not absolutely preclude the supposition of a common original agriculture. The cultivation of rice among the Indians, that of wheat and spelt among the Greeks, and that of rye and oats among the Germans and Celts, may all be traceable to a common system of original tillage."² This last conclusion is forced. Horticulture preceded field culture, as the garden (*hortos*) preceded the field (*ager*); and although the latter implies boundaries, the former signifies directly an "inclosed space." Tillage, however, must have been older than the inclosed garden; the natural order being first, tillage of patches of open alluvial land, second of inclosed spaces or gardens, and third, of the field by means of the plow drawn by animal power. Whether the cultivation of such plants as the pea, bean, turnip, parsnip, beet, squash and melon, one or more of them, preceded the cultivation of the cereals, we have at present no means of knowing. Some of these have

¹ *Chips from a German Workshop*, Comp. Table, ii, p. 42.

² *History of Rome*, Scribner's ed., 1871, I, p. 38.

common terms in Greek and Latin; but I am assured by our eminent philologist, Prof. W. D. Whitney, that neither of them has a common term in Greek or Latin and Sanskrit.

Horticulture seems to have originated more in the necessities of the domestic animals than in those of mankind. In the Western hemisphere it commenced with maize. This new era, although not synchronous in the two hemispheres, had immense influence upon the destiny of mankind. There are reasons for believing that it required ages to establish the art of cultivation, and render farinaceous food a principal reliance. Since in America it led to localization and to village life, it tended, especially among the Village Indians, to take the place of fish and game. From the cereals and cultivated plants, moreover, mankind obtained their first impression of the possibility of an abundance of food.

The acquisition of farinaceous food in America and of domestic animals in Asia and Europe, were the means of delivering the advanced tribes, thus provided, from the scourge of cannibalism, which as elsewhere stated, there are reasons for believing was practiced universally throughout the period of savagery upon captured enemies, and, in time of famine, upon friends and kindred. Cannibalism in war, practiced by war parties in the field, survived among the American aborigines, not only in the Lower, but also in the Middle Status of barbarism, as, for example, among the Iroquois and the Aztecs; but the general practice had disappeared. This forcibly illustrates the great importance which is exercised by a permanent increase of food in ameliorating the condition of mankind.

IV. *Meat and Milk Subsistence.*

The absence of animals adapted to domestication in the Western hemisphere, excepting the llama,¹ and the specific differences in the cereals of the two hemispheres exercised an important influence upon the relative advancement of their inhab-

¹ The early Spanish writers speak of a "dumb dog" found domesticated in the West India Islands, and also in Mexico and Central America. (See figures of the Aztec dog in pl. iii, vol. I, of Clavigero's *History of Mexico*). I have seen no identification of the animal. They also speak of poultry as well as turkeys on the continent. The aborigines had domesticated the turkey, and the Nahuatlac tribes some species of wild fowl.

itants. While this inequality of endowments was immaterial to mankind in the period of savagery, and not marked in its effects in the Lower Status of barbarism, it made an essential difference with that portion who had attained to the Middle Status. The domestication of animals provided a permanent meat and milk subsistence which tended to differentiate the tribes which possessed them from the mass of other barbarians. In the Western hemisphere, meat was restricted to the precarious supplies of game. This limitation upon an essential species of food was unfavorable to the Village Indians; and doubtless sufficiently explains the inferior size of the brain among them in comparison with that of Indians in the Lower Status of barbarism. In the Eastern hemisphere, the domestication of animals enabled the thrifty and industrious to secure for themselves a permanent supply of animal food, including milk; the healthful and invigorating influence of which upon the race, and especially upon children, was undoubtedly remarkable. It is at least supposable that the Aryan and Semitic families owe their pre-eminent endowments to the great scale upon which, as far back as our knowledge extends, they have identified themselves with the maintenance in numbers of the domestic animals. In fact, they incorporated them, flesh, milk, and muscle into their plan of life.¹ No other family of mankind have done this to an equal extent, and the Aryan have done it to a greater extent than the Semitic.

The domestication of animals gradually introduced a new mode of life, the pastoral, upon the plains of the Euphrates and of India, and upon the steppes of Asia; on the confines of one or the other of which the domestication of animals was probably first accomplished. To these areas, their oldest traditions and their histories alike refer them. They were thus drawn to regions which, so far from being the cradle lands of the human race, were areas they would not have occupied as savages, or as barbarians in the Lower Status of barbarism, to

¹ We learn from the Iliad that the Greeks milked their sheep, as well as their cows and goats:

ὅστ' ὄϊες πολυπάμονος ἀνδρὸς ἐν ἀύλῃ
μυρία ἐβήκασιν ἀμελγόμεναι γάλα λευκόν.—*Iliad*, iv, 433.

whom forest areas were natural homes. After becoming habituated to pastoral life, it must have been impossible for either of these families to re-enter the forest areas of Western Asia and of Europe with their flocks and herds, without first learning to cultivate some of the cereals with which to subsist the latter at a distance from the grass plains. It seems extremely probable, therefore, as before stated, that the cultivation of the cereals originated in the necessities of the domestic animals, and in connection with these western migrations; and that the use of farinaceous food by these tribes was a consequence of the knowledge thus acquired.

In the Western hemisphere, the aborigines were enabled to advance generally into the Lower Status of barbarism, and a portion of them into the Middle Status, without domestic animals, excepting the llama in Peru, and upon a single cereal, maize, with the adjuncts of the bean, squash, and tobacco, and in some areas, cacao, cotton and pepper. But maize, from its growth in the hill—which favored direct cultivation—from its useableness both green and ripe, and from its abundant yield and nutritive properties, was a richer endowment in aid of early human progress than all other cereals put together. It serves to explain the remarkable progress the American aborigines had made without the domestic animals; the Peruvians having produced bronze, which stands next, and quite near, in the order of time, to the process of smelting iron ore.

V. *Unlimited Subsistence through Field Agriculture.*

The domestic animals supplementing human muscle with animal power, contributed a new factor of the highest value. In course of time, the production of iron gave the plow with an iron point, and a better spade and axe. Out of these, and the previous horticulture, came field agriculture; and with it, for the first time, unlimited subsistence. The plow drawn by animal power may be regarded as inaugurating a new art. Now, for the first time, came the thought of reducing the forest, and bringing wide fields under cultivation.¹ Moreover,

¹ Inque dies magis in montem succedere silvas
Cogebant, infraque locum concedere cultis;
Prata, iacus, rivas, segetes, vinetaque laeta
Collibus et campis ut haberent.—*Lucr. De Re. Nat.*, v, 1369.

dense populations in limited areas now became possible. Prior to field agriculture it is not probable that half a million people were developed and held together under one government in any part of the earth. If exceptions occurred, they must have resulted from pastoral life on the plains, or from horticulture improved by irrigation, under peculiar and exceptional conditions.

In the course of these pages it will become necessary to speak of the family as it existed in different ethnical periods; its form in one period being sometimes entirely different from its form in another. In Part III these several forms of the family will be treated specially. But as they will be frequently mentioned in the next ensuing Part, they should at least be defined in advance for the information of the reader. They are the following:

I. *The Consanguine Family.*

It was founded upon the intermarriage of brothers and sisters in a group. Evidence still remains in the oldest of existing systems of Consanguinity, the Malayan, tending to show that this, the first form of the family, was anciently as universal as this system of consanguinity which it created.

II. *The Punaluan Family.*

Its name is derived from the Hawaiian relationship of *Punalua*. It was founded upon the intermarriage of several brothers to each other's wives in a group; and of several sisters to each other's husbands in a group. But the term brother, as here used, included the first, second, third, and even more remote male cousins, all of whom were considered brothers to each other, as we consider own brothers; and the term sister included the first, second, third, and even more remote female cousins, all of whom were sisters to each other, the same as own sisters. This form of the family supervened upon the consanguine. It created the Turanian and Gano-wánian systems of consanguinity. Both this and the previous form belong to the period of savagery.

III. *The Syndyasmian Family.*

The term is from *συνδύαζω*, to pair, *συνδύασμός*, a join-

ing two together. It was founded upon the pairing of a male with a female under the form of marriage, but without an exclusive cohabitation. It was the germ of the Monogamian Family. Divorce or separation was at the option of both husband and wife. This form of the family failed to create a system of consanguinity.

IV. *The Patriarchal Family.*

It was founded upon the marriage of one man to several wives. The term is here used in a restricted sense to define the special family of the Hebrew pastoral tribes, the chiefs and principal men of which practiced polygamy. It exercised but little influence upon human affairs for want of universality.

V. *The Monogamian Family.*

It was founded upon the marriage of one man with one woman, with an exclusive cohabitation; the latter constituting the essential element of the institution. It is pre-eminently the family of civilized society, and was therefore essentially modern. This form of the family also created an independent system of consanguinity.

Evidence will elsewhere be produced tending to show both the existence and the general prevalence of these several forms of the family at different stages of human progress.

CHAPTER III.

RATIO OF HUMAN PROGRESS.

RETROSPECT ON THE LINES OF HUMAN PROGRESS.—PRINCIPAL CONTRIBUTIONS OF MODERN CIVILIZATION.—OF ANCIENT CIVILIZATION.—OF LATER PERIOD OF BARBARISM.—OF MIDDLE PERIOD.—OF OLDER PERIOD.—OF PERIOD OF SAVAGERY.—HUMBLE CONDITION OF PRIMITIVE MAN.—HUMAN PROGRESS IN A GEOMETRICAL RATIO.—RELATIVE LENGTH OF ETHNICAL PERIODS.—APPEARANCE OF SEMITIC AND ARYAN FAMILIES.

It is well to obtain an impression of the relative amount and of the ratio of human progress in the several ethnical periods named, by grouping together the achievements of each, and comparing them with each other as distinct classes of facts. This will also enable us to form some conception of the relative duration of these periods. To render it forcible, such a survey must be general, and in the nature of a recapitulation. It should, likewise, be limited to the principal works of each period.

Before man could have attained to the civilized state it was necessary that he should gain all the elements of civilization. This implies an amazing change of condition, first from a primitive savage to a barbarian of the lowest type, and then from the latter to a Greek of the Homeric period, or to a Hebrew of the time of Abraham. The progressive development which history records in the period of civilization was not less true of man in each of the previous periods.

By re-ascending along the several lines of human progress toward the primitive ages of man's existence, and removing one by one his principal institutions inventions and discoveries,

in the order in which they have appeared, the advance made in each period will be realized.

The principal contributions of modern civilization are the electric telegraph; coal gas; the spinning-jenny; and the power loom; the steam-engine with its numerous dependent machines, including the locomotive, the railway, and the steam-ship; the telescope; the discovery of the ponderability of the atmosphere and of the solar system; the art of printing; the canal lock; the mariner's compass; and gunpowder. The mass of other inventions, such, for example, as the Ericsson propeller, will be found to hinge upon one or another of those named as antecedents: but there are exceptions, as photography, and numerous machines not necessary to be noticed. With these also should be removed the modern sciences; religious freedom and the common schools; representative democracy; constitutional monarchy with parliaments; the feudal kingdom; modern privileged classes; international, statute and common law.

Modern civilization recovered and absorbed whatever was valuable in the ancient civilizations; and although its contributions to the sum of human knowledge have been vast, brilliant and rapid, they are far from being so disproportionately large as to overshadow the ancient civilizations and sink them into comparative insignificance.

Passing over the mediæval period, which gave Gothic architecture, feudal aristocracy with hereditary titles of rank, and a hierarchy under the headship of a pope, we enter the Roman and Grecian civilizations. They will be found deficient in great inventions and discoveries, but distinguished in art, in philosophy, and in organic institutions. The principal contributions of these civilizations were imperial and kingly government; the civil law; Christianity; mixed aristocratical and democratical government, with a senate and consuls; democratical government with a council and popular assembly; the organization of armies into cavalry and infantry, with military discipline; the establishment of navies, with the practice of naval warfare; the formation of great cities, with municipal law; commerce on the seas; the coinage of money; and the

state, founded upon territory and upon property; and among inventions, fire-baked brick, the crane,¹ the water-wheel for driving mills, the bridge, aqueduct and sewer; lead pipe used as a conduit with the faucet; the arch, the balance scale; the arts and sciences of the classical period, with their results, including the orders of architecture; the Arabic numerals, and alphabetic writing.

These civilizations drew largely from, as well as rested upon, the inventions and discoveries and the institutions of the previous period of barbarism. The achievements of civilized man, although very great and remarkable, are nevertheless very far from sufficient to eclipse the works of man as a barbarian. As such he had wrought out and possessed all the elements of civilization, excepting alphabetic writing. His achievements as a barbarian should be considered in their relation to the sum of human progress; and we may be forced to admit that they transcend, in relative importance, all his subsequent works.

The use of writing, or its equivalent in hieroglyphics upon stone, affords a fair test of the commencement of civilization.² Without literary records neither history nor civilization can properly be said to exist. The production of the Homeric poems, whether transmitted orally or committed to writing at the time, fixes with sufficient nearness the introduction of civilization among the Greeks. These poems, ever fresh and ever marvelous, possess an ethnological value which enhances immensely their other excellences. This is especially true of the Iliad, which contains the oldest as well as the most circumstantial account now existing of the progress of mankind up to the time of its composition. Strabo compliments Homer as

¹ The Egyptians may have invented the crane (See Herodotus, ii, 125). They also had the balance scale.

² The phonetic alphabet came, like other great inventions, at the end of successive efforts. The slow Egyptian, advancing the hieroglyph through its several forms, had reached a syllabus composed of phonetic characters, and at this stage was resting upon his labors. He could write in permanent characters upon stone. Then came in the inquisitive Phœnician, the first navigator and trader on the sea, who, whether previously versed in hieroglyphs or otherwise, seems to have entered at a bound upon the labors of the Egyptian, and by an inspiration of genius to have mastered the problem over which the latter was dreaming. He produced that wondrous alphabet of sixteen letters which in time gave to mankind a written language and the means for literary and historical records.

the father of geographical science;¹ but the great poet has given, perhaps without design, what was infinitely more important to succeeding generations: namely, a remarkably full exposition of the arts, usages, inventions and discoveries, and mode of life of the ancient Greeks. It presents our first comprehensive picture of Aryan society while still in barbarism, showing the progress then made, and of what particulars it consisted. Through these poems we are enabled confidently to state that certain things were known among the Greeks before they entered upon civilization. They also cast an illuminating light far backward into the period of barbarism.

Using the Homeric poems as a guide and continuing the retrospect into the Later Period of barbarism, let us strike off from the knowledge and experience of mankind the invention of poetry; the ancient mythology in its elaborate form, with the Olympian divinities; temple architecture; the knowledge of the cereals, excepting maize and cultivated plants, with field agriculture;² cities encompassed with walls of stone, with battlements, towers and gates; the use of marble in architecture;³ ship-building with plank and probably with the use of nails;⁴ the wagon and the chariot;⁵ metallic plate armor;⁶ the copper-

¹ ἀρχηγέτην εἶναι τῆς γεωγραφικῆς ἐμπειρίας Ὀμηρον.—*Strabo*, I, 2.

² Barley κριθή, white barley κριθὴ λευκόν.—*Iliad*, v, 196; viii, 564: barley flour ἄλφιτον.—*Il.*, xi, 631: barley meal, made of barley and salt, and used as an oblation οὐλοχύται.—*Il.*, i, 449: wheat πυρός.—*Il.*, xi, 756: rye ὀλῦρα.—*Il.*, v, 196, viii, 564: bread σίτος.—*Il.*, xxiv, 625: an inclosed 50 acres of land πεντημονόγυρος.—*Il.*, ix, 579: a fence ἔρκος.—*Il.*, v, 90: a field ἀλωα.—*Il.*, v, 90: stones set for a field boundary.—*Il.*, xxi, 405: plow ἄροτρον.—*Il.*, x, 353; xiii, 703.

³ The house or mansion δόμος.—*Il.*, vi, 390: odoriferous chambers of cedar, lofty roofed.—*Il.*, vi, 390: house of Priam, in which were fifty chambers of polished stones αὐτὰρ ἐν αὐτῷ πεντήμοντι ἔνεσθαι δάλαμοι ξεστοῖο λίθοιο.—*Il.*, vi, 243.

⁴ Ship νηῦς.—*Il.*, i, 485: white sail λευκὸν ἰστιόν.—*Il.*, i, 480: cable or hawser πυρμυνήσιος.—*Il.*, i, 476: oar ἔρετος.—*Odyssey*, iv, 782: mast ἰστός.—*Od.*, iv, 781: keel στεῖρη.—*Il.*, i, 482: ship plank δουρός.—*Il.*, iii, 61: long plank μακρὰ δούρατα.—*Od.*, v, 162: nail ἦλος.—*Il.*, xi, 633: golden nail χρῆσῦσιος ἦλος.—*Il.*, xi, 633.

⁵ Chariot or vehicle ὄχος.—*Il.*, viii, 389, 565: four-wheeled wagon τετρακύκλη ἀπηνη.—*Il.*, xxiv, 324: chariot δίφρος.—*Il.*, v, 727, 837; viii, 403: the same ἄρμα.—*Il.*, ii, 775; vii, 426.

⁶ Helmet κόρυς.—*Il.*, xviii, 611; xx, 398: cuirass or corselet θώραξ.—*Il.*, xvi, 133; xviii, 610: greaves κνημῖς.—*Il.*, xvi, 131.

pointed spear and embossed shield;¹ the iron sword;² the manufacture of wine, probably;³ the mechanical powers excepting the screw; the potter's wheel and the hand-mill for grinding grain;⁴ woven fabrics of linen and woolen from the loom;⁵ the iron axe and spade;⁶ the iron hatchet and adz;⁷ the hammer and the anvil;⁸ the bellows and the forge;⁹ and the side-hill furnace for smelting iron ore, together with a knowledge of iron. Along with the above-named acquisitions must be removed the monogamiam family; military democracies of the heroic age; the later phase of the organization into gentes phratries and tribes; the agora or popular assembly, probably; a knowledge of individual property in houses and lands; and the advanced form of municipal life in fortified cities. When this has been done, the highest class of barbarians will have surrendered the principal portion of their marvelous works, together with the mental and moral growth thereby acquired.

From this point backward through the Middle Period of barbarism the indications become less distinct, and the relative order in which institutions, inventions and discoveries appeared is less clear; but we are not without some knowledge to guide our steps even in these distant ages of the Aryan family. For reasons previously stated, other families, besides the Aryan, may now be resorted to for the desired information.

¹ Spear ἔγχος.—*Il.*, xv, 712; xvi, 140: shield of Achilles δάκος.—*Il.*, xviii, 478, 609: round shield ἄσπίς.—*Il.*, xiii, 611.

² Sword ξίφος.—*Il.*, vii, 303; xi, 29: silver-studded sword ξίφος ἀργυρόηλον.—*Il.*, vii, 303: the sword φάβανον.—*Il.*, xxiii, 807; xv, 713: a double-edged sword ἄμφηκες φάβανον.—*Il.*, x, 256.

³ Wine οἶνος.—*Il.*, viii, 506: sweet wine μελιθεῖα οἶνον.—*Il.*, x, 579.

⁴ Potter's wheel τροχός.—*Il.*, xviii, 600: hand-mill for grinding grain μύλος.—*Od.*, vii, 104; xx, 106.

⁵ Linen λῖς.—*Il.*, xviii, 352; xxiii, 254: linen corselet λινοθώρηξ.—*Il.*, ii, 529: robe of Minerva πεπλός.—*Il.*, v, 734: tunic χιτῶν.—*Il.*, x, 131: woolen cloak χλαῖνα.—*Il.*, x, 133; xxiv, 280: rug or coverlet τάπης.—*Il.*, xxiv, 280, 645: mat ῥῆγος.—*Il.*, xxiv, 644: veil κρήδεμνον.—*Il.*, xxii, 470.

⁶ Axe πέλλευς.—*Il.*, iii, 60; xxiii, 114, 875: spade or mattock μάκελλον.—*Il.*, xxi, 259.

⁷ Hatchet or battle-axe ἀξίνη.—*Il.*, xiii, 612; xv, 711: knife μάχαιρα.—*Il.*, xi, 844; xix, 252: chip-axe or adz σκέπαρον.—*Od.*, v, 273.

⁸ Hammer βαιστήρ.—*Il.*, xviii, 477: anvil ἄκμων.—*Il.*, xviii, 476: tongs πυράγρα.—*Il.*, xviii, 477.

⁹ Bellows φούσα.—*Il.*, xviii, 372, 468: furnace, the boshes χόανος.—*Il.*, xviii, 470.

Entering next the Middle Period, let us, in like manner, strike out of human experience the process of making bronze; flocks and herds of domestic animals;¹ communal houses with walls of adobe, and of dressed stone laid in courses with mortar of lime and sand; cyclopean walls; lake dwellings constructed on piles; the knowledge of native metals,² with the use of charcoal and the crucible for melting them; the copper axe and chisel; the shuttle and embryo loom; cultivation by irrigation, causeways, reservoirs and irrigating canals; paved roads; osier suspension bridges; personal gods, with a priesthood distinguished by a costume, and organized in a hierarchy; human sacrifices; military democracies of the Aztec type; woven fabrics of cotton and other vegetable fibre in the Western hemisphere, and of wool and flax in the Eastern; ornamental pottery; the sword of wood, with the edges pointed with flints; polished flint and stone implements; a knowledge of cotton and flax; and the domestic animals.

The aggregate of achievements in this period was less than in that which followed; but in its relations to the sum of human progress it was very great. It includes the domestication of animals in the Eastern hemisphere, which introduced in time a permanent meat and milk subsistence, and ultimately field agriculture; and also inaugurated those experiments with the native metals which resulted in producing bronze,³ as well

¹ Horse ἵππος.—*Il.*, xi, 680: distinguished into breeds: Thracian.—*Il.*, x, 588; Trojan, v, 265: Erechthomus owned three thousand mares τριεχίλιαι ἵπποι.—*Il.*, xx, 221: collars, bridles and reins.—*Il.*, xix, 339: ass ὄνος.—*Il.*, xi, 558: mule ἡμίονος.—*Il.*, x, 352; vii, 333: ox βοῦς.—*Il.*, xi, 678; viii, 333: bull ταῦρος; cow βοῦς.—*Od.*, xx, 251: goat αἴξ.—*Il.*, xi, 679: dog κύων.—v, 476; viii, 338; xxii, 509: sheep δῖς.—*Il.*, xi, 678: boar or sow σῦς.—*Il.*, xi, 679; viii, 338: milk γάλαγυς.—*Il.*, xvi, 643: pails full of milk περιγλαγέας πέλλας.—*Il.*, xvi, 642.

² Homer mentions the native metals; but they were known long before his time, and before iron. The use of charcoal and the crucible in melting them prepared the way for smelting iron ore. Gold χρυσός.—*Iliad*, ii, 229: silver ἄργυρος.—*Il.*, xviii, 475: copper, called brass χαλκός.—*Il.*, iii, 229; xviii, 460: tin, possibly pewter, κασβέτιρος.—*Il.*, xi, 25; xx, 271; xxi, 292: lead μόλιβος.—*Il.*, ii, 237: iron σίδηρος.—*Il.*, vii, 473: iron axle-tree.—*Il.*, v, 723: iron club.—*Il.*, vii, 141: iron wagon-tire.—*Il.*, xxiii, 505.

³ The researches of Beckmann have left a doubt upon the existence of a true bronze earlier than a knowledge of iron among the Greeks and Latins. He thinks *electrum*, mentioned in the *Iliad*, was a mixture of gold and silver (*History of In-*

as prepared the way for the higher process of smelting iron ore. In the Western hemisphere it was signalized by the discovery and treatment of the native metals, which resulted in the production independently of bronze; by the introduction of irrigation in the cultivation of maize and plants, and by the use of adobe-brick and stone in the construction of great joint tenement houses in the nature of fortresses.

Resuming the retrospect and entering the Older Period of barbarism, let us next remove from human acquisitions the confederacy, based upon gentes, phratries and tribes under the government of a council of chiefs which gave a more highly organized state of society than before that had been known. Also the discovery and cultivation of maize and the bean, squash and tobacco, in the Western hemisphere, together with a knowledge of farinaceous food; finger weaving with warp and woof; the kilt, moccasin and leggin of tanned deer-skin; the blow-gun for bird shooting; the village stockade for defense; tribal games; element worship, with a vague recognition of the Great Spirit; cannibalism in time of war; and lastly, the art of pottery.

As we ascend in the order of time and of development, but descend in the scale of human advancement, inventions become more simple, and more direct in their relations to primary wants; and institutions approach nearer and nearer to the elementary form of a gens composed of consanguinei, under a chief of their own election, and to the tribe composed of kindred gentes, under the government of a council of chiefs. The condition of Asiatic and European tribes in this period, (for the

ventions, Bohn's ed., ii, 212); and that the *stannum* of the Romans, which consisted of silver and lead, was the same as the *kassiteron* of Homer (*Ib.*, ii, 217). This word has usually been interpreted as tin. In commenting upon the composition called bronze, he remarks: "In my opinion the greater part of these things were made of *stannum*, properly so called, which by the admixture of the noble metals, and some difficulty of fusion, was rendered fitter for use than pure copper." (*Ib.*, ii, 213). These observations were limited to the nations of the Mediterranean, within whose areas tin was not produced. Axes, knives, razors, swords, daggers, and personal ornaments discovered in Switzerland, Austria, Denmark, and other parts of Northern Europe, have been found, on analysis, composed of copper and tin, and therefore fall under the strict definition of bronze. They were also found in relations indicating priority to iron.

Aryan and Semitic families did not probably then exist), is substantially lost. It is represented by the remains of ancient art between the invention of pottery and the domestication of animals; and includes the people who formed the shell-heaps on the coast of the Baltic, who seem to have domesticated the dog, but no other animals.

In any just estimate of the magnitude of the achievements of mankind in the three sub-periods of barbarism, they must be regarded as immense, not only in number and in intrinsic value, but also in the mental and moral development by which they were necessarily accompanied.

Ascending next through the prolonged period of savagery, let us strike out of human knowledge the organization into gentes phratries and tribes; the syndyasmian family; the worship of the elements in its lowest form; syllabical language; the bow and arrow; stone and bone implements; cane and splint baskets; skin garments; the punaluan family; the organization upon the basis of sex; the village, consisting of clustered houses; boat craft, including the bark and dug-out canoe; the spear pointed with flint, and the war club; flint implements of the ruder kinds; the consanguine family; monosyllabical language; fetishism; cannibalism; a knowledge of the use of fire; and lastly, gesture language.¹ When this work

¹ The origin of language has been investigated far enough to find the grave difficulties in the way of any solution of the problem. It seems to have been abandoned, by common consent, as an unprofitable subject. It is more a question of the laws of human development and of the necessary operations of the mental principle, than of the materials of language. Lucretius remarks that with sounds and with gesture, mankind in the primitive period intimated their thoughts stammeringly to each other (*Vocibus, et gestu, cum balbe significant.*—v, 1021). He assumes that thought preceded speech, and that gesture language preceded articulate language. Gesture or sign language seems to have been primitive, the elder sister of articulate speech. It is still the universal language of barbarians, if not of savages, in their mutual intercourse when their dialects are not the same. The American aborigines have developed such a language, thus showing that one may be formed adequate for general intercourse. As used by them it is both graceful and expressive, and affords pleasure in its use. It is a language of natural symbols, and therefore possesses the elements of a universal language. A sign language is easier to invent than one of sounds; and, since it is mastered with greater facility, a presumption arises that it preceded articulate speech. The sounds of the voice would first come in, on this hypothesis, in aid of gesture; and as they gradually assumed a conventional signification, they would supersede, to that extent, the lan-

of elimination has been done in the order in which these several acquisitions were made, we shall have approached quite near the infantile period of man's existence, when mankind were learning the use of fire, which rendered possible a fish subsistence and a change of habitat, and when they were attempting the formation of articulate language. In a condition so absolutely primitive, man is seen to be not only a child in the scale of humanity, but possessed of a brain into which not a thought or conception expressed by these institutions inventions and discoveries had penetrated;—in a word, he stands at the bottom of the scale, but potentially all he has since become.

With the production of inventions and discoveries, and with the growth of institutions, the human mind necessarily grew and expanded; and we are led to recognize a gradual enlargement of the brain itself, particularly of the cerebral portion.

The slowness of this mental growth was inevitable, in the period of savagery, from the extreme difficulty of compassing the simplest invention out of nothing, or with next to nothing to assist mental effort; and of discovering any substance or force in nature available in such a rude condition of life. It was not less difficult to organize the simplest form of society out of such savage and intractable materials. The first inventions and the first social organizations were doubtless the hardest to achieve, and were consequently separated from each other by the longest intervals of time. A striking illustration is found in the successive forms of the family. In this law of progress, which works in a geometrical ratio, a sufficient ex-

guage of signs, or become incorporated in it. It would also tend to develop the capacity of the vocal organs. No proposition can be plainer than that gesture has attended articulate language from its birth. It is still inseparable from it; and may embody the remains, by survival, of an ancient mental habit. If language were perfect, a gesture to lengthen out or emphasize its meaning would be a fault. As we descend through the gradations of language into its ruder forms, the gesture element increases in the quantity and variety of its forms until we find language so dependent upon gestures that without them they would be substantially unintelligible. Growing up and flourishing side by side through savagery, and far into the period of barbarism, they remain, in modified forms, indissolubly united. Those who are curious to solve the problem of the origin of language would do well to look to the possible suggestions from gesture language.

planation is found of the prolonged duration of the period of savagery.

That the early condition of mankind was substantially as above indicated is not exclusively a recent, nor even a modern opinion. Some of the ancient poets and philosophers recognized the fact, that mankind commenced in a state of extreme rudeness from which they had risen by slow and successive steps. They also perceived that the course of their development was registered by a progressive series of inventions and discoveries, but without noticing as fully the more conclusive argument from social institutions.

The important question of the ratio of this progress, which has a direct bearing upon the relative length of the several ethnical periods, now presents itself. Human progress, from first to last, has been in a ratio not rigorously but essentially geometrical. This is plain on the face of the facts; and it could not, theoretically, have occurred in any other way. Every item of absolute knowledge gained became a factor in further acquisitions, until the present complexity of knowledge was attained. Consequently, while progress was slowest in time in the first period, and most rapid in the last, the relative amount may have been greatest in the first, when the achievements of either period are considered in their relations to the sum. It may be suggested, as not improbable of ultimate recognition, that the progress of mankind in the period of savagery, in its relations to the sum of human progress, was greater in degree than it was afterwards in the three sub-periods of barbarism; and that the progress made in the whole period of barbarism was, in like manner, greater in degree than it has been since in the entire period of civilization.

What may have been the relative length of these ethnical periods is also a fair subject of speculation. An exact measure is not attainable, but an approximation may be attempted. On the theory of geometrical progression, the period of savagery was necessarily longer in duration than the period of barbarism, as the latter was longer than the period of civilization. If we assume a hundred thousand years as the measure of man's existence upon the earth in order to find the relative length of

each period,—and for this purpose, it may have been longer or shorter,—it will be seen at once that at least sixty thousand years must be assigned to the period of savagery. Three-fifths of the life of the most advanced portion of the human race, on this apportionment, were spent in savagery. Of the remaining years, twenty thousand, or one-fifth, should be assigned to the Older Period of barbarism. For the Middle and Later Periods there remain fifteen thousand years, leaving five thousand, more or less, for the period of civilization.

The relative length of the period of savagery is more likely under than over stated. Without discussing the principles on which this apportionment is made, it may be remarked that in addition to the argument from the geometrical progression under which human development of necessity has occurred, a graduated scale of progress has been universally observed in remains of ancient art, and this will be found equally true of institutions. It is a conclusion of deep importance in ethnology that the experience of mankind in savagery was longer in duration than all their subsequent experience, and that the period of civilization covers but a fragment of the life of the race.

Two families of mankind, the Aryan and Semitic, by the commingling of diverse stocks, superiority of subsistence or advantage of position, and possibly from all together, were the first to emerge from barbarism. They were substantially the founders of civilization.¹ But their existence as distinct families was undoubtedly, in a comparative sense, a late event. Their progenitors are lost in the undistinguishable mass of earlier barbarians. The first ascertained appearance of the Aryan family was in connection with the domestic animals, at which time they were one people in language and nationality. It is not probable that the Aryan or Semitic families were developed into individuality earlier than the commencement of the Middle Period of barbarism, and that their differentiation from the mass of barbarians occurred through their acquisition of the domestic animals.

The most advanced portion of the human race were halted, so to express it, at certain stages of progress, until some great

¹ The Egyptians are supposed to affiliate remotely with the Semitic family.

invention or discovery, such as the domestication of animals or the smelting of iron ore, gave a new and powerful impulse forward. While thus restrained, the ruder tribes, continually advancing, approached in different degrees of nearness to the same status; for wherever a continental connection existed, all the tribes must have shared in some measure in each other's progress. All great inventions and discoveries propagate themselves; but the inferior tribes must have appreciated their value before they could appropriate them. In the continental areas certain tribes would lead; but the leadership would be apt to shift a number of times in the course of an ethnical period. The destruction of the ethnic bond and life of particular tribes, followed by their decadence, must have arrested for a time, in many instances and in all periods, the upward flow of human progress. From the Middle Period of barbarism, however, the Aryan and Semitic families seem fairly to represent the central threads of this progress, which in the period of civilization has been gradually assumed by the Aryan family alone.

The truth of this general position may be illustrated by the condition of the American aborigines at the epoch of their discovery. They commenced their career on the American continent in savagery; and, although possessed of inferior mental endowments, the body of them had emerged from savagery and attained to the Lower Status of barbarism; whilst a portion of them, the Village Indians of North and South America, had risen to the Middle Status. They had domesticated the llama, the only quadruped native to the continent which promised usefulness in the domesticated state, and had produced bronze by alloying copper with tin. They needed but one invention, and that the greatest, the art of smelting iron ore, to advance themselves into the Upper Status. Considering the absence of all connection with the most advanced portion of the human family in the Eastern hemisphere, their progress in unaided self-development from the savage state must be accounted remarkable. While the Asiatic and European were waiting patiently for the boon of iron tools, the American Indian was drawing near to the possession of bronze, which stands next to iron in the order of time. During this

period of arrested progress in the Eastern hemisphere, the American aborigines advanced themselves, not to the status in which they were found, but sufficiently near to reach it while the former were passing through the last period of barbarism, and the first four thousand years of civilization. It gives us a measure of the length of time they had fallen behind the Aryan family in the race of progress: namely the duration of the Later Period of barbarism, to which the years of civilization must be added. The Aryan and Ganowánian families together exemplify the entire experience of man in five ethnical periods, with the exception of the first portion of the Later Period of savagery.

Savagery was the formative period of the human race. Commencing at zero in knowledge and experience, without fire, without articulate speech and without arts, our savage progenitors fought the great battle, first for existence, and then for progress, until they secured safety from ferocious animals, and permanent subsistence. Out of these efforts there came gradually a developed speech, and the occupation of the entire surface of the earth. But society from its rudeness was still incapable of organization in numbers. When the most advanced portion of mankind had emerged from savagery, and entered the Lower Status of barbarism, the entire population of the earth must have been small in numbers. The earliest inventions were the most difficult to accomplish because of the feebleness of the power of abstract reasoning. Each substantial item of knowledge gained would form a basis for further advancement; but this must have been nearly imperceptible for ages upon ages, the obstacles to progress nearly balancing the energies arrayed against them. The achievements of savagery are not particularly remarkable in character, but they represent an amazing amount of persistent labor with feeble means continued through long periods of time before reaching a fair degree of completeness. The bow and arrow afford an illustration.

The inferiority of savage man in the mental and moral scale, undeveloped, inexperienced, and held down by his low animal appetites and passions, though reluctantly recognized,

is, nevertheless, substantially demonstrated by the remains of ancient art in flint stone and bone implements, by his cave life in certain areas, and by his osteological remains. It is still further illustrated by the present condition of tribes of savages in a low state of development, left in isolated sections of the earth as monuments of the past. And yet to this great period of savagery belongs the formation of articulate language and its advancement to the syllabical stage, the establishment of two forms of the family, and possibly a third, and the organization into gentes which gave the first form of society worthy of the name. All these conclusions are involved in the proposition, stated at the outset, that mankind commenced their career at the bottom of the scale; which "modern science claims to be proving by the most careful and exhaustive study of man and his works."¹

In like manner, the great period of barbarism was signaled by four events of pre-eminent importance: namely, the domestication of animals, the discovery of the cereals, the use of stone in architecture, and the invention of the process of smelting iron ore. Commencing probably with the dog as a companion in the hunt, followed at a later period by the capture of the young of other animals and rearing them, not unlikely, from the merest freak of fancy, it required time and experience to discover the utility of each, to find means of raising them in numbers and to learn the forbearance necessary to spare them in the face of hunger. Could the special history of the domestication of each animal be known, it would exhibit a series of marvelous facts. The experiment carried, locked up in its doubtful chances, much of the subsequent destiny of mankind. Secondly, the acquisition of farinaceous food by cultivation must be regarded as one of the greatest events in human experience. It was less essential in the Eastern hemisphere, after the domestication of animals, than in the Western, where it became the instrument of advancing a large portion of the American aborigines into the Lower, and another portion into the Middle Status of barbarism. If mankind had never advanced beyond this last condition, they had the means of a comparatively

¹ Whitney's *Oriental and Linguistic Studies*, p. 341.

easy and enjoyable life. Thirdly, with the use of adobe-brick and of stone in house building, an improved mode of life was introduced, eminently calculated to stimulate the mental capacities, and to create the habit of industry,—the fertile source of improvements. But, in its relations to the high career of mankind, the fourth invention must be held the greatest event in human experience, preparatory to civilization. When the barbarian, advancing step by step, had discovered the native metals, and learned to melt them in the crucible and to cast them in moulds; when he had alloyed native copper with tin and produced bronze; and, finally, when by a still greater effort of thought he had invented the furnace, and produced iron from the ore, nine-tenths of the battle for civilization was gained.¹ Furnished with iron tools, capable of holding both an edge and a point, mankind were certain of attaining to civilization. The production of iron was the event of events in human experience, without a parallel, and without an equal, beside which all other inventions and discoveries were inconsiderable, or at least subordinate. Out of it came the metallic hammer and anvil, the axe and the chisel, the plow with an iron point, the iron sword; in fine, the basis of civilization, which may be said to rest upon this metal. The want of iron tools arrested the progress of mankind in barbarism. There they would have remained to the present hour, had they failed to bridge the chasm. It seems probable that the conception and the process of smelting iron ore came but once to man. It would be a singular satisfaction could it be known to what tribe and family we are indebted for this knowledge, and with it for civilization.

¹ M. Quiquerez, a Swiss engineer, discovered in the canton of Berne the remains of a number of side-hill furnaces for smelting iron ore; together with tools, fragments of iron and charcoal. To construct one, an excavation was made in the side of a hill in which a bosh was formed of clay, with a chimney in the form of a dome above it to create a draft. No evidence was found of the use of the bellows. The boshes seem to have been charged with alternate layers of pulverized ore and charcoal, combustion being sustained by fanning the flames. The result was a spongy mass of partly fused ore which was afterwards welded into a compact mass by hammering. A deposit of charcoal was found beneath a bed of peat twenty feet in thickness. It is not probable that these furnaces were coeval with the knowledge of smelting iron ore; but they were, not unlikely, close copies of the original furnace.—Vide Figuiet's *Primitive Man*, Putnam's ed., p. 301.

The Semitic family were then in advance of the Aryan, and in the lead of the human race. They gave the phonetic alphabet to mankind and it seems not unlikely the knowledge of iron as well.

At the epoch of the Homeric poems, the Grecian tribes had made immense material progress. All the common metals were known, including the process of smelting ores, and possibly of changing iron into steel; the principal cereals had been discovered, together with the art of cultivation, and the use of the plow in field agriculture; the dog, the horse, the ass, the cow, the sow, the sheep and the goat had been domesticated and reared in flocks and herds, as has been shown. Architecture had produced a house constructed of durable materials, containing separate apartments,¹ and consisting of more than a single story;² ship building, weapons, textile fabrics, the manufacture of wine from the grape, the cultivation of the apple, the pear, the olive and the fig,³ together with comfortable apparel, and useful implements and utensils, had been produced and brought into human use.⁴ But the early history of man-

¹ Palace of Priam.—*Il.*, vi, 242.

² House of Ulysses.—*Od.*, xvi, 448.

³ *Od.*, vii, 115.

⁴ In addition to the articles enumerated in the previous notes the following may be added from the *Iliad* as further illustrations of the progress then made: The shuttle *κερκίς*.—xxii, 448: the loom *ἰστός*.—xxii, 440: a woven fillet *πλεκτὴ ἀναδέσμη*.—xxii, 469: silver basin *ἀργυρεα κρητήρ*.—xxiii, 741: goblet, or drinking cup *δέπας*.—xxiv, 285: golden goblet *χρύσειον δέπας*.—xxiv, 285: basket, made of reeds, *κάνεον*.—xxiv, 626: ten talents in gold *χρυσού δέκα πάντα τάλαντα*.—xix, 247: a harp *φόρμιγξ*.—ix, 186, and *κίθαρα*.—xiii, 731: a shepherd's pipe *σύριγξ*.—xviii, 526: sickle, or pruning knife, *δρεπάνη*.—xviii, 551: fowler's net *πἀναγρομ*.—v, 487: mesh of a net *ἀψίς*.—v, 487: a bridge *γέφυρα*.—v, 89: also a dike.—xxi, 245: rivets *δέσμοι*.—xviii, 379: the bean *κύαμος*.—xiii, 589: the pea *ἐρέβινθος*.—xiii, 589: the onion *κρόμμυον*.—xi, 630: the grape *σταφυλή*.—xviii, 561: a vineyard *ἀλώη*.—xviii, 561: wine *οἶνος*.—viii, 506; x, 579: the tripod *τρίπους*.—ix, 122: a copper boiler or caldron *λέβης*.—ix, 123: a brooch *ἐνετή*.—xiv, 180: ear-ring *τρίγληνος*.—xiv, 183: a sandal or buskin *πέδιλον*.—xiv, 186: leather *ρίνος*.—xvi, 636: a gate *πύλη*.—xxi, 537: bolt for fastening gate *ὄχεύς*.—xxi, 537. And in the *Odyssey*: a silver basin *ἀργυρεῖον λέβης*.—i, 137: a table *τράπεζα*.—i, 138: golden cups *χρυσεία κύπελλα*.—*Od.*, i, 142: rye or spelt *σειά*.—iv, 41: a bathing tub *ἀσάμυνθος*.—iv, 48: cheese *τυρός*: milk *γάλα*.—iv, 88: distaff or spindle *ἡλακᾶτη*.—iv, 131; vii, 105; xvii, 97: silver basket *ἀργυρεὸς τάλαρος*.—iv, 125: bread *σίτος*.—iv, 623: xiv, 456: tables loaded with bread, meat and wine *ἐῤῥεστοὶ δὲ τράπεζαι σίτου καὶ κρεῖων ἢ δ' οἶνον βεβρωθᾶσιν*.—xv,

kind was lost in the oblivion of the ages that had passed away. Tradition ascended to an anterior barbarism through which it was unable to penetrate. Language had attained such development that poetry of the highest structural form was about to embody the inspirations of genius. The closing period of barbarism brought this portion of the human family to the threshold of civilization, animated by the great attainments of the past, grown hardy and intelligent in the school of experience, and with the undisciplined imagination in the full splendor of its creative powers. Barbarism ends with the production of grand barbarians. Whilst the condition of society in this period was understood by the later Greek and Roman writers, the anterior state, with its distinctive culture and experience, was as deeply concealed from their apprehension as from our own; except as occupying a nearer stand-point in time, they saw more distinctly the relations of the present with the past. It was evident to them that a certain sequence existed in the series of inventions and discoveries, as well as a certain order of development of institutions, through which mankind had advanced themselves from the status of savagery to that of the Homeric age; but the immense interval of time between the two conditions does not appear to have been made a subject even of speculative consideration.

333: shuttle *κερκίς*.—v, 62: bed *λέκτρον*.—viii, 337: brazier punting an axe or adz in cold water for the purpose of tempering it
*ὡς δ' ὅτ' ἀνήρ χαλκεύς πέλευν μέγαν ἢ ἐσέπαρνον
 εἰν ὕδατι ψυχρῷ βάπτῃ μεγάλα ἰάχοντα
 φαρμάσσων τὸ γὰρ αὐτε σιδήρου γε κράτος ἔστιν*.—ix, 391:
 salt *ἄλς*.—xi, 123; xxiii, 270: bow *τόξον*.—xxi, 31, 53: quiver *γωρυτός*.—
 xxii, 54: sickle *δρεπάνη*.—xviii, 368.

CHAPTER I.

ORGANIZATION OF SOCIETY UPON THE BASIS OF SEX.

AUSTRALIAN CLASSES.—ORGANIZED UPON SEX.—ARCHAIC CHARACTER OF THE ORGANIZATION.—AUSTRALIAN GENTES.—THE EIGHT CLASSES.—RULE OF MARRIAGE.—DESCENT IN THE FEMALE LINE.—STUPENDOUS CONJUGAL SYSTEM.—TWO MALE AND TWO FEMALE CLASSES IN EACH GENS.—INNOVATIONS UPON THE CLASSES.—GENS STILL RUDIMENTARY.

In treating the subject of the growth of the idea of government, the organization into gentes on the basis of kin naturally suggests itself as the archaic frame-work of ancient society; but there is a still older and more archaic organization, that into classes on the basis of sex, which first demands attention. It will not be taken up because of its novelty in human experience, but for the higher reason that it seems to contain the germinal principle of the gens. If this inference is warranted by the facts it will give to this organization into male and female classes, now found in full vitality among the Australian aborigines, an ancient prevalence as wide spread, in the tribes of mankind, as the original organization into gentes.

It will soon be perceived that low down in savagery community of husbands and wives, within prescribed limits, was the central principle of the social system. The marital rights and privileges, (*jura conjugalia*,¹) established in the group, grew into a stupendous scheme, which became the organic principle on which society was constituted. From the nature of the case these rights and privileges rooted themselves so

¹ The Romans made a distinction between *connubium*, which related to marriage considered as a civil institution, and *conjugium*, which was a mere physical union.

firmly that emancipation from them was slowly accomplished through movements which resulted in unconscious reformations. Accordingly it will be found that the family has advanced from a lower to a higher form as the range of this conjugal system was gradually reduced. The family, commencing in the consanguine, founded upon the intermarriage of brothers and sisters in a group, passed into the second form, the punaluan, under a social system akin to the Australian classes, which broke up the first species of marriage by substituting groups of brothers who shared their wives in common, and groups of sisters who shared their husbands in common,—marriage in both cases being in the group. The organization into classes upon sex, and the subsequent higher organization into gentes upon kin, must be regarded as the results of great social movements worked out unconsciously through natural selection. For these reasons the Australian system, about to be presented, deserves attentive consideration, although it carries us into a low grade of human life. It represents a striking phase of the ancient social history of our race.

The organization into classes on the basis of sex, and the inchoate organization into gentes on the basis of kin, now prevail among that portion of the Australian aborigines who speak the Kamilaroi language. They inhabit the Darling River district north of Sydney. Both organizations are also found in other Australian tribes, and so wide spread as to render probable their ancient universal prevalence among them. It is evident from internal considerations that the male and female classes are older than the gentes: firstly, because the gentile organization is higher than that into classes; and secondly, because the former, among the Kamilaroi, are in process of overthrowing the latter. The class in its male and female branches is the unit of their social system, which place rightfully belongs to the gens when in full development. A remarkable combination of facts is thus presented; namely, a sexual and a gentile organization, both in existence at the same time, the former holding the central position, and the latter inchoate but advancing to completeness through encroachments upon the former.

This organization upon sex has not been found, as yet, in any tribes of savages out of Australia, but the slow development of these islanders in their secluded habitat, and the more archaic character of the organization upon sex than that into gentes, suggests the conjecture, that the former may have been universal in such branches of the human family as afterwards possessed the gentile organization. Although the class system, when traced out fully, involves some bewildering complications, it will reward the attention necessary for its mastery. As a curious social organization among savages it possesses but little interest; but as the most primitive form of society hitherto discovered, and more especially with the contingent probability that the remote progenitors of our own Aryan family were once similarly organized, it becomes important, and may prove instructive.

The Australians rank below the Polynesians, and far below the American aborigines. They stand below the African negro and near the bottom of the scale. Their social institutions, therefore, must approach the primitive type as nearly as those of any existing people.¹

Inasmuch as the gens is made the subject of the next succeeding chapter, it will be introduced in this without discussion, and only for the necessary explanation of the classes.

The Kamilaroi are divided into six gentes, standing with reference to the right of marriage, in two divisions, as follows:

- I. 1. Iguana, (Duli). 2. Kangaroo, (Murriira).² 3. Opossum, (Mute).
II. 4. Emu, (Dinoun). 5. Bandicoot, (Bilba). 6. Black-snake, (Nurai).

¹ For the detailed facts of the Australian system I am indebted to the Rev. Lorimer Fison, an English missionary in Australia, who received a portion of them from the Rev. W. Ridley, and another portion from T. E. Lance, Esq., both of whom had spent many years among the Australian aborigines, and enjoyed excellent opportunities for observation. The facts were sent by Mr. Fison with a critical analysis and discussion of the system, which, with observations of the writer, were published in the *Proceedings of the Am. Acad. of Arts and Sciences for 1872*. See vol. viii, p. 412. A brief notice of the Kamilaroi classes is given in McLennan's *Primitive Marriage*, p. 118; and in Tylor's *Early History of Mankind*, p. 288.

² Padymelon: a species of kangaroo.

Originally the first three gentes were not allowed to intermarry with each other, because they were subdivisions of an original gens; but they were permitted to marry into either of the other gentes, and *vice versa*. This ancient rule is now modified, among the Kamilaroi, in certain definite particulars, but not carried to the full extent of permitting marriage into any gens but that of the individual. Neither males nor females can marry into their own gens, the prohibition being absolute. Descent is in the female line, which assigns the children to the gens of their mother. These are among the essential characteristics of the gens, wherever this institution is found in its archaic form. In its external features, therefore, it is perfect and complete among the Kamilaroi.

But there is a further and older division of the people into eight classes, four of which are composed exclusively of males, and four exclusively of females. It is accompanied with a regulation in respect to marriage and descent which obstructs the gens, and demonstrates that the latter organization is in process of development into its true logical form. One only of the four classes of males can marry into one only of the four classes of females. In the sequel it will be found that all the males of one class are, theoretically, the husbands of all the females of the class into which they are allowed to marry. Moreover, if the male belongs to one of the first three gentes the female must belong to one of the opposite three. Marriage is thus restricted to a portion of the males of one gens, with a portion of the females of another gens, which is opposed to the true theory of the gentile institution, for all the members of each gens should be allowed to marry persons of the opposite sex in all the gentes except their own.

The classes are the following:

<i>Male.</i>	<i>Female.</i>
1. Ippai.	1. Ippata.
2. Kumbo.	2. Buta.
3. Murri.	3. Mata.
4. Kubbi.	4. Kapota.

All the Ippais, of whatever gens, are brothers to each other. Theoretically, they are descended from a supposed common

female ancestor. All the Kumbos are the same; and so are all the Murris and Kubbis, respectively, and for the same reason. In like manner, all the Ippatas, of whatever gens, are sisters to each other, and for the same reason; all the Butas are the same, and so are all the Matas and Kapotas, respectively. In the next place, all the Ippais and Ippatas are brothers and sisters to each other, whether children of the same mother or collateral consanguinei, and in whatever gens they are found. The Kumbos and Butas are brothers and sisters; and so are the Murris and Matas, and the Kubbis and Kapotas respectively. If an Ippai and Ippata meet, who have never seen each other before, they address each other as brother and sister. The Kamilaroi, therefore, are organized into four great primary groups of brothers and sisters, each group being composed of a male and a female branch; but intermingled over the areas of their occupation. Founded upon sex, instead of kin, it is older than the gentes, and more archaic, it may be repeated, than any form of society hitherto known.

The classes embody the germ of the gens, but fall short of its realization. In reality the Ippais and Ippatas form a single class in two branches, and since they cannot intermarry they would form the basis of a gens but for the reason that they fall under two names, each of which is integral for certain purposes, and for the further reason that their children take different names from their own. The division into classes is upon sex instead of kin, and has its primary relation to a rule of marriage as remarkable as it is original.

Since brothers and sisters are not allowed to intermarry, the classes stand to each other in a different order with respect to the right of marriage, or rather, of cohabitation, which better expresses the relation. Such was the original law, thus:

Ippai	can	marry	Kapota,	and	no	other.
Kumbo	"	"	Mata,	"	"	"
Murri	"	"	Buta,	"	"	"
Kubbi	"	"	Ippata,	"	"	"

This exclusive scheme has been modified in one particular, as will hereafter be shown: namely, in giving to each class of males the right of intermarriage with one additional class of

females. In this fact, evidence of the encroachment of the gens upon the class is furnished, tending to the overthrow of the latter.

It is thus seen that each male in the selection of a wife, is limited to one-fourth part of all the Kamilaroi females. This, however, is not the remarkable part of the system. Theoretically every Kapota is the wife of every Ippai; every Mata is the wife of every Kumbo; every Buta is the wife of every Murri; and every Ippata of every Kubbi. Upon this material point the information is specific. Mr. Fison, before mentioned, after observing that Mr. Lance had "had much intercourse with the natives, having lived among them many years on frontier cattle-stations on the Darling River, and in the trans-Darling country," quotes from his letter as follows: "If a Kubbi meets a stranger Ippata, they address each other as *Goleer* = Spouse. . . . A Kubbi thus meeting an Ippata, even though she were of another tribe, would treat her as his wife, and his right to do so would be recognized by her tribe." Every Ippata within the immediate circle of his acquaintance would consequently be his wife as well.

Here we find, in a direct and definite form, punaluan marriage in a group of unusual extent; but broken up into lesser groups, each a miniature representation of the whole, united for habitation and subsistence. Under the conjugal system thus brought to light, one-quarter of all the males are united in marriage with one-quarter of all the females of the Kamilaroi tribes. This picture of savage life need not revolt the mind, because to them it was a form of the marriage relation, and therefore devoid of impropriety. It is but an extended form of polygyny and polyandry, which, within narrower limits, have prevailed universally among savage tribes. The evidence of the fact still exists, in unmistakable form, in their systems of consanguinity and affinity, which have outlived the customs and usages in which they originated. It will be noticed that this scheme of intermarriage is but a step from promiscuity, because it is tantamount to that with the addition of a method. Still, as it is made a subject of organic regulation, it is far removed from general promiscuity. Moreover, it reveals an ex-

isting state of marriage and of the family of which no adequate conception could have been formed apart from the facts. It affords the first direct evidence of a state of society which had previously been deduced, as extremely probable, from systems of consanguinity and affinity.¹

Whilst the children remained in the gens of their mother, they passed into another class, in the same gens, different from that of either parent. This will be made apparent by the following table:

<i>Male.</i>	<i>Female.</i>			<i>Male.</i>	<i>Female.</i>
Ippai marries	Kapota.	Their children are	Murri and	Mata.	
Kumbo "	Mata.	" "	" Kubbi "	Kapota.	
Murri "	Buta.	" "	" Ippai "	Ippata.	
Kubbi "	Ippata.	" "	" Kumbo "	Buta.	

If these descents are followed out it will be found that, in the female line, Kapota is the mother of Mata, and Mata in turn is the mother of Kapota; so Ippata is the mother of Buta, and the latter in turn is the mother of Ippata. It is the same with the male classes; but since descent is in the female line, the Kamilaroi tribes derive themselves from two supposed female ancestors, which laid the foundation for two original gentes. By tracing these descents still further it will be found that the blood of each class passes through all the classes.

Although each individual bears one of the class names above given, it will be understood that each has in addition the single personal name, which is common among savage as well as barbarous tribes. The more closely this organization upon sex is scrutinized, the more remarkable it seems as the work of savages. When once established, and after that transmitted through a few generations, it would hold society with such power as to become difficult of displacement. It would require a similar and higher system, and centuries of time, to accomplish this result; particularly if the range of the conjugal system would thereby be abridged.

The gentile organization supervened naturally upon the classes as a higher organization, by simply enfolding them un-

¹ *Systems of Consanguinity and Affinity of the Human Family*, (Smithsonian Contributions to Knowledge), vol. xvii, p. 420, et seq.

changed. That it was subsequent in point of time, is shown by the relations of the two systems, by the inchoate condition of the gentes, by the impaired condition of the classes through encroachments by the gens, and by the fact that the class is still the unit of organization. These conclusions will be made apparent in the sequel.

From the preceding statements the composition of the gentes will be understood when placed in their relations to the classes. The latter are in pairs of brothers and sisters derived from each other; and the gentes themselves, through the classes, are in pairs, as follows:

<i>Gentes.</i>	<i>Male.</i>	<i>Female.</i>	<i>Male.</i>	<i>Female.</i>
1. Iguana.	All are Murri	and Mata,	Kubbi and	Kapota.
2. Emu.	" " Kumbo	" Buta,	" Ippai	" Ippata.
3. Kangaroo.	" " Murri	" Mata,	" Kubbi	" Kapota.
4. Bandicoot.	" " Kumbo	" Buta,	" Ippai	" Ippata.
5. Opossum.	" " Murri	" Mata,	" Kubbi	" Kapota.
6. Blacksnake.	" " Kumbo	" Buta,	" Ippai	" Ippata.

The connection of children with a particular gens is proven by the law of marriage. Thus, Iguana-Mata must marry Kumbo; her children are Kubbi and Kapota, and necessarily Iguana in gens, because descent is in the female line. Iguana-Kapota must marry Ippai; her children are Murri and Mata, and also Iguana in gens, for the same reason. In like manner Emu-Buta must marry Murri; her children are Ippai and Ippata, and of the Emu gens. So Emu-Ippata must marry Kubbi; her children are Kumbo and Buta, and also of the Emu gens. In this manner the gens is maintained by keeping in its membership the children of all its female members. The same is true in all respects of each of the remaining gentes. It will be noticed that each gens is made up, theoretically, of the descendants of two supposed female ancestors, and contains four of the eight classes. It seems probable that originally there were but two male, and two female classes, which were set opposite to each other in respect to the right of marriage; and that the four afterward subdivided into eight. The

classes as an anterior organization were evidently arranged within the gentes, and not formed by the subdivision of the latter.

Moreover, since the Iguana, Kangaroo and Opossum gentes are found to be counterparts of each other, in the classes they contain, it follows that they are subdivisions of an original gens. Precisely the same is true of Emu, Bandicoot and Blacksnake, in both particulars; thus reducing the six to two original gentes, with the right in each to marry into the other, but not into itself. It is confirmed by the fact that the members of the first three gentes could not originally intermarry; neither could the members of the last three. The reason which prevented intermarriage in the gens, when the three were one, would follow the subdivisions because they were of the same descent although under different gentile names. Exactly the same thing is found among the Seneca-Iroquois, as will hereafter be shown.

Since marriage is restricted to particular classes, when there were but two gentes, one-half of all the females of one were, theoretically, the wives of one-half of all the males of the other. After their subdivision into six the benefit of marrying out of the gens, which was the chief advantage of the institution, was arrested, if not neutralized, by the presence of the classes together with the restrictions mentioned. It resulted in continuous in-and-in marriages beyond the immediate degree of brother and sister. If the gens could have eradicated the classes this evil would, in a great measure, have been removed.¹

¹ If a diagram of descents is made, for example, of Ippai and Kapota, and carried to the fourth generation, giving to each intermediate pair two children, a male and a female, the following results will appear. The children of Ippai and Kapota are Murri and Mata. As brothers and sisters the latter cannot marry. At the second degree, the children of Murri, married to Buta, are Ippai and Ippata, and of Mata married to Kumbo, are Kubbi and Kapota. Of these, Ippai marries his cousin Kapota, and Kubbi marries his cousin Ippata. It will be noticed that the eight classes are reproduced from two in the second and third generations, with the exception of Kumbo and Buta. At the next or third degree, there are two Murris, two Matas, two Kumbos, and two Butas; of whom the Murris marry the Butas, their second cousins, and the Kubbis the Matas, their second cousins. At the fourth generation there are four each of Ippais Kapotas Kubbis and Ippatas, who are third cousins. Of these, the Ippais marry the Kapotas, and the Kubbis the Ippatas; and thus it runs from generation to genera-

The organization into classes seems to have been directed to the single object of breaking up the intermarriage of brothers and sisters, which affords a probable explanation of the origin of the system. But since it did not look beyond this special abomination it retained a conjugal system nearly as objectionable, as well as cast it in a permanent form.

It remains to notice an innovation upon the original constitution of the classes, and in favor of the gens, which reveals a movement, still pending, in the direction of the true ideal of the gens. It is shown in two particulars: firstly, in allowing each triad of gentes to intermarry with each other, to a limited extent; and secondly, to marry into classes not before permitted. Thus, Iguana-Murri can now marry Māta in the Kangaroo gens, his collateral sister, whereas originally he was restricted to Buta in the opposite three. So Iguana-Kubbi can now marry Kapota, his collateral sister. Emu-Kumbo can now marry Buta, and Emu-Ippai can marry Ippata in the Blacksnake gens, contrary to original limitations. Each class of males in each triad of gentes seems now to be allowed one additional class of females in the two remaining gentes of the same triad, from which they were before excluded. The memoranda sent by Mr. Fison, however, do not show a change to the full extent here indicated.¹

This innovation would plainly have been a retrograde movement but that it tended to break down the classes. The line of progress among the Kamilaroi, so far as any is observable, was from classes into gentes, followed by a tendency to make the gens instead of the class the unit of the social organism. In this movement the overshadowing system of cohabitation was the resisting element. Social advancement was impossible

tion. A similar chart of the remaining marriageable classes will produce like results. These details are tedious, but they make the fact apparent that in this condition of ancient society they not only intermarry constantly, but are compelled to do so through this organization upon sex. Cohabitation would not follow this invariable course because an entire male and female class were married in a group; but its occurrence must have been constant under the system. One of the primary objects secured by the gens, when fully matured, was thus defeated: namely, the segregation of a moiety of the descendants of a supposed common ancestor under a prohibition of intermarriage, followed by a right of marrying into any other gens.

¹ *Proc. Am. Acad. Arts and Sciences*, viii, 436.

without diminishing its extent, which was equally impossible so long as the classes, with the privileges they conferred, remained in full vitality. The *jura conjugalia*, which appertained to these classes, were the dead weight upon the Kamilaroi, without emancipation from which they would have remained for additional thousands of years in the same condition, substantially, in which they were found.

An organization somewhat similar is indicated by the *punalua* of the Hawaiians which will be hereafter explained. Wherever the middle or lower stratum of savagery is uncovered, marriages of entire groups under usages defining the groups, have been discovered either in absolute form, or such traces as to leave little doubt that such marriages were normal throughout this period of man's history. It is immaterial whether the group, theoretically, was large or small, the necessities of their condition would set a practical limit to the size of the group living together under this custom. If then community of husbands and wives is found to have been a law of the savage state, and, therefore, the essential condition of society in savagery, the inference would be conclusive that our own savage ancestors shared in this common experience of the human race.

In such usages and customs an explanation of the low condition of savages is found. If men in savagery had not been left behind, in isolated portions of the earth, to testify concerning the early condition of mankind in general, it would have been impossible to form any definite conception of what it must have been. An important inference at once arises, namely, that the institutions of mankind have sprung up in a progressive connected series, each of which represents the result of unconscious reformatory movements to extricate society from existing evils. The wear of ages is upon these institutions, for the proper understanding of which they must be studied in this light. It cannot be assumed that the Australian savages are now at the bottom of the scale, for their arts and institutions, humble as they are, show the contrary; neither is there any ground for assuming their degradation from a higher condition, because the facts of human experience afford

no sound basis for such an hypothesis. Cases of physical and mental deterioration in tribes and nations may be admitted, for reasons which are known, but they never interrupted the general progress of mankind. All the facts of human knowledge and experience tend to show that the human race, as a whole, have steadily progressed from a lower to a higher condition. The arts by which savages maintain their lives are remarkably persistent. They are never lost until superseded by others higher in degree. By the practice of these arts, and by the experience gained through social organizations, mankind have advanced under a necessary law of development, although their progress may have been substantially imperceptible for centuries. It was the same with races as with individuals, although tribes and nations have perished through the disruption of their ethnic life.

The Australian classes afford the first, and, so far as the writer is aware, the only case in which we are able to look down into the incipient stages of the organization into gentes, and even through it upon an anterior organization so archaic as that upon sex. It seems to afford a glimpse at society when it verged upon the primitive. Among other tribes the gens seems to have advanced in proportion to the curtailment of the conjugal system. Mankind rise in the scale and the family advances through its successive forms, as these rights sink down before the efforts of society to improve its internal organization.

The Australians might not have effected the overthrow of the classes in thousands of years if they had remained undiscovered; while more favored continental tribes had long before perfected the gens, then advanced it through its successive phases, and at last laid it aside after entering upon civilization. Facts illustrating the rise of successive social organizations, such as that upon sex, and that upon kin are of the highest ethnological value. A knowledge of what they indicate is eminently desirable, if the early history of mankind is to be measurably recovered.

Among the Polynesian tribes the gens was unknown; but traces of a system analogous to the Australian classes appear in

the Hawaiian custom of *punalua*. Original ideas, absolutely independent of previous knowledge and experience, are necessarily few in number. Were it possible to reduce the sum of human ideas to underived originals, the small numerical result would be startling. Development is the method of human progress.

In the light of these facts some of the excrescences of modern civilization, such as Mormonism, are seen to be relics of the old savagism not yet eradicated from the human brain. We have the same brain, perpetuated by reproduction, which worked in the skulls of barbarians and savages in by-gone ages; and it has come down to us laden and saturated with the thoughts, aspirations and passions, with which it was busied through the intermediate periods. It is the same brain grown older and larger with the experience of the ages. These outcrops of barbarism are so many revelations of its ancient proclivities. They are explainable as a species of mental atavism.

Out of a few germs of thought, conceived in the early ages, have been evolved all the principal institutions of mankind. Beginning their growth in the period of savagery, fermenting through the period of barbarism, they have continued their advancement through the period of civilization. The evolution of these germs of thought has been guided by a natural logic which formed an essential attribute of the brain itself. So unerringly has this principle performed its functions in all conditions of experience, and in all periods of time, that its results are uniform, coherent and traceable in their courses. These results alone will in time yield convincing proofs of the unity of origin of mankind. The mental history of the human race, which is revealed in institutions, inventions and discoveries, is presumptively the history of a single species, perpetuated through individuals, and developed through experience. Among the original germs of thought, which have exercised the most powerful influence upon the human mind, and upon human destiny, are these which relate to government, to the family, to language, to religion, and to property. They had a definite beginning far back in savagery, and a logical progress, but can have no final consummation, because they are still progressing, and must ever continue to progress.