

is paralleled (§ 185) by the gauntlet which Algazel threw to philosophy. A similar gauntlet on the part of the Jews was thrown down to the followers of Maimonides by the work called *Chosari*, written by Rabbi Jehuda Halevi. In this work he represents before a Chosaric prince (hence the name) all philosophical doctrines as worthless trifles, and makes the acceptance of Judaism, as it rests upon revelation and tradition, appear the only wise course. The *Or Adonai* (eye of God),—itself a product of the still further advancing Aristotelianism of Gersonides and directed against him, just as eighty years earlier the Christian scholastic who had best understood Aristotle reached his *Centilogium theologicum* which separated theology from philosophy (*vid.* § 216),—was written in the year 1410 by CHASDAI CRESKAS, a native of Barcelona. It is divided into four tracts, the first of which considers belief in God in general; the second, those attributes of God without which there would be no law; the third, the less fundamental doctrines; and the fourth, that which has only a traditional worth. The author's demonstration, that although this is all true, nevertheless the philosophical proofs of it are delusions, greatly pleased Spinoza, because it leads to a separation of philosophy and religion.

Cf. Joël: *Don Chasdaï Creskas*. Breslau, 1866. (Contained also in the work cited in § 181.)

B.—ARISTOTELIANISM IN CHRISTIAN SCHOLASTICISM.

Jourdain: *Geschichte der Aristotelischen Schriften im Mittelalter, übersetzt von Ad. Stahr*. Halle, 1831.

§ 191.

Jews were almost the only people in that age who made journeys and learned foreign languages, and that chiefly for commercial purposes. By them the first news of Mohammedan wisdom was brought to Christian Europe. Latin translations, likewise made by Jews, often through the medium of the Hebrew, accomplished the rest. Medical and astronomical works opened the way. The former were industriously translated as early as the middle of the eleventh century by

Constantinus Africanus, the latter a half century later by Adelard of Bath. Philosophical writings came next in order, especially after Raymond, Archbishop of Toledo and Chancellor of Castile, took up the work. Alfarabi, Algazel, Avicenna, were the first authors to be translated. The Archdeacon Dominicus Gonzalvi, the Jew Johannes ben Daud (commonly called Avendeth, by Albertus Magnus Avendar, also Johannes Hispalensis), further the Jew David and Jehuda ben Tibbon were the first to devote themselves to this work. The last named was called the "Father of translators," because he was followed in the same occupation by his son and his grandson. In addition to the writings of the authors mentioned, the work *De causis* was also translated. Alfred of Morlay (Anglicus) and Gerard of Cremona are also to be mentioned. Somewhat later, at the court of Frederic II., famous for his scientific zeal as well as for his heterodoxy, and still later at the court of Manfred, the works of Averroës were translated by Michael Scotus (born 1190) and Hermannus Alemannus, or rather under their direction. A Hebrew version had already been produced by the son of R. Simson Antoli. Michael Scotus was also the translator of the work *De sphaera*, which was much quoted in the Middle Ages. Its author was Alpetrongi or Alpetrangius, a Christian who had gone over to Mohammedanism. At the same time translations were made of the *Metaphysics* and of the physical writings of Aristotle, which up to that time had been quite unknown. All of these were translated from Arabic versions, for before 1220 there were no others. Robert Greathead, (Grosse-tête) (1175-1255) is named as one of the first who took pains to have translations made from the Greek. He was first a teacher in Paris and Oxford and then Bishop of Lincoln. It is said that he himself translated the *Ethics* of Aristotle, and that he arranged for the translation of apocryphal works, such as the *Testament of the Twelve Patriarchs*. In addition, he expounded logical and physical writings of Aristotle. John Basingstock aided him in this work. After him are to be mentioned the Dominicans Thomas of Cantimpré and William of Moerbeka, who were afterwards followed by others. Roger Bacon denies that any of these translators had a thorough knowledge either of Arabic or of Greek. For quite a length of time before the Arabic-Latin translations ceased many books were read in two versions. The earlier

known was then called *translatio vetus*, the later, *translatio nova*.

§ 192.

DAVID OF DINANT wrote a work *De divisionibus*, and in the year 1209, when his doctrines were condemned, Amalrich (*vid. supra*, § 176) was also anathematized. This fact has led to the opinion that David was a pupil of Amalrich, and that he went back like the latter to Erigena. But his condemnation was accompanied by that of the physical writings of Aristotle and of the commentaries upon them; and in the year 1215, when the judgment was repeated, a Mauritius Hispanus is named in addition to David. If greater weight had been laid upon these facts (as is rightly done by Kränlein in the *Studien und Kritiken*), the more correct opinion would have been reached, that David received his inspiration and his pantheism from Moorish commentators of Aristotle, it being assumed that Mauritius was not Mauvitius, that is Averroës (*vid. supra*, § 187, 1). This is confirmed by the fact that he often cites Anaximenes, Democritus, Plutarch, Orpheus, and others, whose names are frequently quoted by the Arabs, and also by the fact that Albertus Magnus considers his pantheism derived from that of Xenophanes. His classification likewise of things into *materialia*, *spiritualia*, and *separata*, which run parallel with the three conceptions *suscipiens*, *mens*, and *Deus*, is not in conflict with the assumption that David was the first who professed himself to be a pupil of the Mohammedans, and therefore experienced the fate of the innovator, as before him the Gnostics (*vid. supra* § 122 ff.) and Erigena (§ 154). The three principles of the Platonists from which he starts are reduced by him to a single one, and thereby God is finally made the material principle of all things. This has been looked upon, not incorrectly, as drawn from the *Fons vite*. In the year 1209 the physical writings of Aristotle were condemned by the Church, and in the year 1215 both they and the *Metaphysics*. In 1231 only lecturing upon them is forbidden until further notice. In 1254 the Paris University fixes the number of hours which shall be devoted to the exposition of the *Metaphysics* and of the principal physical writings of Aristotle, and that without protest from the Church. Less than a century later, the Church itself declares that no one shall become *Magister* who has not lectured

upon Aristotle, this *Præcursor Christi in naturalibus, sicut Joannes Baptista in gratuitis*. All this shows again how consistently the Church distinguishes between different ages.

§ 193.

A tendency to make assertions which the Church cannot tolerate was combined with the heterodoxy which lies in innovation as such, in the case of those who permitted themselves to learn from anti-Christians, just as in the case of the Gnostics, of Origen, and of Erigena. Soon after the Aristotelian writings and their commentators became known in the University of Paris, naturalistic tendencies, in the sense of Averroës and of the Mohammedans of like mind with him, revealed themselves, especially in the faculty of Arts. How soon this took place is shown by the circumstance that not only Bishop William of Auvergne, a man not unfamiliar with these studies, zealously combated these tendencies, but also by the fact that the University itself often forbade the meddling of philosophy in theology. The Dominicans and Franciscans sought to avert the danger which threatened the Church from these innovators, not by anathemas and prohibitions, but in a more effective way. Their struggle for chairs in the University and, when they had gained these, for formal admission into the academic corporation, is to be explained, not so much by their ambition as by their desire to oppose the course of the innovators, which was hostile to the Church, and to conquer them with their own weapons, with the authority of Aristotle and of Avicenna. The fact that the members of the two mendicant orders appear at this period as the leaders in philosophy need not cause surprise. It behoved them, the most ecclesiastical among ecclesiastics, above all to stamp upon philosophy the ecclesiastical character which the Middle Ages bore (*vid. supra*, § § 119, 120). They who formed the standing army of the Church were more anxious than any one else to transform philosophy into a wholly ecclesiastical science, a transformation which was pointed out above (§ 151) as the characteristic disposition of scholasticism. When the greatest of the world's sages, with that which he had discovered in regard to the physical and moral world, and likewise those who had exhumed his weapons in order to defend with them the teaching of Antichrist, were brought to testify to the

dogmas and decrees of the Church, certainly both ends were most fully attained.

§ 194.

The adoption of Aristotelianism by Scholasticism can be called a progress only if nothing is lost which the early Schoolmen had gained, while at the same time that which they had lacked is added. This is in fact the case, for the agreement of ecclesiastical doctrine with Peripatetic philosophy is pointed out, a philosophy which knows not only what the natural understanding says, but also much else; so that that which for Anselm was the whole, for those of this period constituted but a part of their mission. At the close of the previous period, dialectic skill had reached a position, by means of the division of the scholastic problem, far above that which it had attained under Erigena. The question in regard to the universals had acquired a much more settled form and had received far more practicable solutions than it had in the hands of Anselm. At the same time, the dogmatic material had increased to repertories of an ever greater fulness of detail; and not only had the knowledge of God been fixed as the goal of the believer, but even the steps leading to it had been given with exactitude. In addition to all this, the Franciscans and the Dominicans of the thirteenth century, in taking up again the problem in its entirety, show themselves, in every element of it, superior to their one-sided predecessors. Alexander, Albert, and Thomas are far ahead of the *puri philosophi* in the art of drawing distinctions. They practise the art, however, in such a way as to resolve at the same time the contradictions among the authorities of the Church. The relations of substances, subsistencies, and universals have the same interest for them which they had for Gilbert; but they consider at the same time other metaphysical problems, and they are not led thereby away from the dogma, but to an orthodox establishment of it. Further, the summaries of Hugo, of the three Peters, of Pullus, and of Alanus do not by any means show such extensive reading as those of the three named above, and, at the same time, the decisions of the latter are much more positive than those of the former. Finally, no one of them is inferior to Richard of St. Victor in piety; and how accurately this period was able to describe the journey of the soul to God, is shown by Bonaventura. In

advancing beyond their predecessors without letting anything fall which they had acquired, they most naturally based their investigations upon those of the latter, making them their point of departure. It was therefore more than a mere conventional habit which led them to expound collections of Sentences belonging to the previous period, or Gilbert's book, *De sex principiis*, for the sake of developing their own doctrines. The Summaries of the thirteenth century are thus related to those of the twelfth, somewhat as the commentaries of the later Roman jurists to the *Libris juris civilis* of Sabinus. The compilers of Sentences are succeeded by the defenders of Summaries, who stand upon the shoulders of the former. These Sententiaries are related to the Summists somewhat as an Anselm to an Athanasius. They are also conscious of this difference when they designate their independent works, not *Summæ sententiarum* but *Summæ theologicæ*. In the formula for the task set for Church Fathers and Schoolmen (*vid. supra*, § 151) the word belief had two widely different meanings. Here the formula is again modified, for reason, as thought of by Anselm and Abelard, is something quite different from that thought of by Thomas and Duns Scotus. To the former it meant the general ideas with all the Alexandrian elements with which the mental atmosphere had been pregnant since the time of the Church Fathers; to the latter, on the contrary, the *ratio scripta*, that is, Aristotle ("with annotations," as Luther later expressed it). A great deal, as for instance the greater clearness of the former, and the awful terminology of the latter, has its ground in this. The first who succeeded in defending the theology of the twelfth century against the doubts of unbelievers, not only by natural reasoning, but also with the principles of peripatetic philosophy, obtained the cognomen *Theologorum Monarcha*, which was justified by the greatness of the task. This was the Franciscan Alexander of Hales.

§ 195.

ALEXANDER.

I. ALEXANDER DE ALES or HALES (hence sometimes called Alensis, sometimes Halensis) was born in England, in the county of Gloucester, and when he had become the most

celebrated teacher in Paris, entered the Franciscan order, and died in 1245. He is the first who can be proved to have made frequent citations from Avicenna and Algazel (as Argazel, Arghasel, etc.). It is difficult to decide whether he had Averroës in mind when combating the philosophers who taught the eternity of the world, and especially when he defended the immortality of the soul against the Arabs. He is said to have written a commentary upon Aristotle's work on the soul. It is certain that he was acquainted with his *Metaphysics*, for he cites it often. The report of Bulæus, that he expounded first the *Sentences* of Lombard, with which the notice of P. Possevin agrees (who cites Alexander Halensis in *Mag. sent.*), has led many to regard Alexander's *Summa theologica* as identical with this commentary. But the two are not the same. In the *Bibliotheca ecclesiastica ed. Fabricius* (Hamb. 1718) it is said in a scholium of Miræus upon *Henr. Gaudav. de script. eccles.*, that Alexander, in addition to the *Summa*, wrote commentaries upon the four books of *Sentences*, and that they were published in Lyons in 1515. I have not seen them, neither had Hain, or else he would certainly have described them in his *Repert. Bibl.* of pretended works: *Super Magistrum sententiarum Papiæ*, 1498, 4to, and *Super tertium sententiarum*, Venet. 1474, fol. (I frankly confess that, like many before me, I consider the existence of such a work as improbable as that of a *Summa virtutum*, which has also been ascribed to Alexander.) I am also unacquainted with the edition of the *Summa theologica*, Venet. 1577, in three folio volumes, mentioned in the same connection. I know only the edition in four volumes, published by Koburger, in Nuremberg, in 1482. The *Summa theologica* quotes Lombard often, but is far more closely related to the work of Hugo, *De sacramentis christianæ fidei* (*vid. supra*, § 165, 5). It adopts, for instance, the divisions of the latter. The *Summa sententiarum*, by the same author, is also cited at least as often as the *Sentences* of Lombard, and there is no thought of an exposition of the latter in the sense of the later Schoolmen.

2. The *first part* contains seventy-four *Quæstiones*, which are all divided into several *membra* and these again sometimes into *articuli*. In it attention is called to the fact that *in logicis* the reason and the proof produce belief, while *in theologicis* belief furnishes the proof. Then, following the ontological

argument of Anselm, the author discusses the reality of God, His nature, His unchangeableness, His simplicity, His immeasurability, unity, truth, goodness, might, knowledge, and will. The method used throughout is, to state first the question, and then to give the affirmative and negative answers. These are partly *auctoritates*, that is, Bible sayings, and expressions of celebrated ecclesiastical teachers, of Augustine, Ambrose, Cyprian, Jerome, Basil, Gregory Nazianzen, Dionysius, Gregory the Great, John of Damascus, Bede, Alcuin, Anselm, Hugo and Richard of St. Victor, St. Bernard, Lombard, and others; partly *rationes*, namely doctrines of the philosophers, Plato, *Philosophus*, that is Aristotle, Hermes Trismegistus, Cicero, Macrobius, Galen, Boëthius, Cassiodore, Avicenna, Algazel, *Fons Vitæ*, Isaac, *Philosophus de causis*, etc. The conclusions then follow, often very positive, but sometimes *sine præjudicio*, with a warning against deciding anything; for where the saints have not reached a decision every view is simple opinion. The various meanings of the words play a very important rôle in reaching conclusions, as well as the distinctions *secundum quid*, which up to his time no one had carried so far as Alexander. The creation, as a progress from non-being to being, is thus to be sure a *mutatio*, but only *ex parte creaturæ*, not *ex parte Dei*. These investigations are followed by others upon the various names which are applied to the Divine nature, as well as to the three Persons in it. Especially careful consideration is devoted to the question whether the statement that God sends the Holy Spirit implies a process in the Trinity as a whole, or a process which concerns only one Person. The *missio passive dicta* is distinguished from the *missio active dicta*, the visible from the invisible mission, and within the former the Incarnation and the appearance in the form of a dove. It is shown also why the former only, and not the latter, is perpetuated in a sacrament. In scarcely any other part does Alexander show such great keenness in drawing distinctions.

3. The *second part* is divided into one hundred and eighty-nine questions, each of which, with the exception of two, contains from two to thirteen *membra*. The subject considered is the doctrine of the creature; in the first eighteen, questions of the creature in general; in the nineteenth and following, of the angels. In connection with the question as to the personality of angels, Aristotle is quoted as a witness that

individuitas est a materia vel ab accidente, which however is said to have no reference to angels. In the forty-fourth question Alexander takes up the consideration of corporeal things. Matter is not formless, but on the contrary contains all forms potentially. The ideas, whose content is God, are planted in it, and thus become actual forms. The work of creation is taken up in the order in which it is described; and in that connection the most subtle questions and doubts are discussed. The consideration of the soul begins with the fifty-ninth question, but it is treated only from the theological standpoint, as it is called; and thus it happens that among the many definitions of the soul, that of Aristotle is not given, and only afterward is touched upon simply in passing. In opposition to the heretics, who deduce the soul from the Divine substance, and to the philosophers, who draw it from corporeal matter, Alexander declares for its creation from nothing and its later union with the body. This union is accomplished by certain media, of which *humor* and *spiritus* are attributed to the body, *vegetabilitas* and *sensibilitas* to the soul. The union of the two, therefore, is to be compared only conditionally with that of matter and form. The separate faculties of the soul are considered at length, and a threefold *intellectus* is assumed: the *materialis*, which is *inseparabilis*; the *possibilis*, which is *separabilis*; and the *agens*, which is *separatus a corpore*. The doctrine of free-will is treated with great fulness. Heathen philosophers are said to comprehend it as little as they do grace, the second factor in the work of redemption. The discordant opinions of Augustine, of Hugo, and of Bernard are represented as justified by the various meanings of the word. The doctrine of the conscience is then taken up, first the *sinderesis*, this *scintilla conscientiæ* according to Basil, Gregory, and Jerome, which can be designated as the natural tendency toward good, in contrast with sensuousness, which leads to evil. This is followed by the *conscientia*, which, because of its relationship to reason, has in addition to its practical also a theoretical character, but at the same time is subject to error. The seventy-eighth question begins the consideration of the human body, first that of Adam, then that of Eve. In the eighty-ninth and following questions the entire (*conjunctus*) man is considered, from the side of his passions, his mortality, etc. In this connection a number of questions are proposed as to what would have happened if man had not lost

his innocence. The question as to how far the *gratia gratis data* and the *gratia gratum faciens* were imparted to man at the first creation is considered at length, as well as the question in regard to the *gratia superaddita*, and in regard to man's illuminated knowledge. In general the view is maintained, that the condition in Paradise constituted the mean between misery and final glory. Man's dominion over the world is then taken up; and from the one hundredth and following questions the subject of evil. The fact that evil has only a *causa deficiens* and yet is grounded in the *libero arbitrio*, is shown not to be contradictory. After its nature and the permission of it have been considered, the fall of Lucifer is discussed in the hundred-and-ninth question. In what the fall consists, wherein it has its ground, when it took place, how it is punished, how other angels participate in it, how the devil and demons work as tempters, etc., all these questions are handled in the regular way. Then the temptation of man is taken up, and afterwards his sin (*Quæst.* 120-189). The threefold distinction of *peccatum primorum parentum*, *originale*, and *actuale* is drawn, corresponding respectively to the corruption of the nature by the person, of the person by the nature, and of the person by the person. The last is considered at greatest length, and the distinction between mortal and venial sins, between sins of omission and of commission, is fixed. The sins of thought, of word, and of deed are then considered one after the other; and from the trinity in man, *spiritus*, *anima*, *corpus*, are deduced the seven principal sins (*superbia*, *avaritia*, *luxuria*, *invidia*, *gula*, *ira*, *acedia*, the initials forming the word *Saligia*) and those which spring from them. After sins of weakness and of ignorance the sin against the Holy Ghost is treated of, then idolatry (where tolerance toward Jews and heathen is spoken of), heresy, apostasy, hypocrisy, simony, and sacrilege. With this the investigation in regard to sin and the first division of the work are brought to an end.

4. The second division begins with the *third volume*. Following Hugo, it treats of the *opus reparationis*. Just as, above, the Creator was first considered, and then His work, so here, the Redeemer first, then the work of redemption. The first twenty-five questions discuss the possibility and the adaptability of the Incarnation, the participation which each Person of the Trinity takes in it, the union of the Divine and human in Christ, the sanctification of Mary in the very womb

of her mother, Christ's assumption of human limitations, His love, His death, the question whether He was still man when body and soul were separated, His transfiguration, resurrection, ascension, and second coming. The twenty-sixth question begins with the remark,—which does not exactly accord with the arrangement of the work,—that theology has to do in part with *fidem*, in part with *mores*, and that now, the former having been considered, the latter is to be discussed, hence first the condition of all morality, that is law (*Quæst.* 26–28). The *lex æterna*, which coincides with the Divine will, is first taken up. Upon it the *lex indita*, or *naturalis*, as well as the *lex addita*, or *scripta*, are dependent. Under the latter head the law of Moses is first considered, not only the part which contains the *lex moralis*, that is the Decalogue, but also the *lex judicialis* (*Quæst.* 40–53) and *ceremonialis* (*Quæst.* 54–59). This is followed by the *lex et præcepta evangelii*. Their relation to the natural and to the Mosaic laws is given, and also their division into *præcepta* and *consilia*, according as they concern *opera necessitatis* or *supererogationis*. The former are divided into the same categories as the Old Testament laws, except that here the ceremonies are replaced by the sacraments, which not only teach what is to be done, as the laws do, but also confer power for the doing of it. They thus form the stepping-stone to the subject, grace, which is considered in the sixty-ninth and following questions. Its necessity, its recipients, its division into *gratia gratis data* and *gratum faciens* are stated, and then its first effects, the *fides informis*, *spes informis*, and *timor servilis*, are considered, and afterward the real virtues, the *fides formata*, *spes formata*, and *caritas*. Belief alone,—both its subject and its object,—is discussed in this volume. The content of the three œcumenical symbols is given as the object of belief.

5. The *fourth volume* of the work makes the impression that something is wanting between it and the end of the previous volume. It treats in one hundred and fourteen questions the means of grace, in the same way that Hugo had done, first the *sacramenta naturalis legis* (sacrifices, etc.), then the sacraments of the *lex Moysis* (circumcision, celebration of the Sabbath, etc.), finally those of the *lex evangelica*. The sacrament is defined as *signum gratiæ gratis datæ*, and there being seven of them, they are said to correspond to the seven virtues which they are designed to promote. In *Quæst.* 9–23 baptism

is discussed; in 24–28 confirmation, in 29–53 the Lord's Supper—in connection with which the entire ordinance of the mass is very thoroughly considered and explained in all its characteristics. The sacrament of penance next follows (*Quæst.* 54–114), and its separate elements, *contritio*, *confessio*, and *satisfactio*, are taken up. *Attritio* is distinguished from *contritio*, as it had been by Alanus. *Oratio*, *jejunium*, and *elemosyne* are distinguished as the different elements of *satisfactio*. The volume closes with the consideration of *elemosyne*. At least one, perhaps several, volumes would have had to follow, if all that is announced as the subject in the beginning of the third volume,—the *sacramenta salutis per presentem gratiam et præmia salutis per futuram gloriam*,—had been handled with the same fulness as that which precedes. When we remember that Alexander was the first to introduce this dialectic analysis and demonstration of that which the compilers of the Sentences had asserted, and at the same time observe how far he carried it out, we realize that he has had no superior in this respect.

6. A favourite pupil of Alexander's, John of Rochelle (de Rupella), who was entrusted by him in the year 1238 with the continuation of his lectures, and who is said to have written a commentary upon Lombard's works, seems only to have repeated what the master had taught. At least, all that is contained in the portions of his psychological works, published by Hauréau from Paris manuscripts, is found, though scattered, in the *Summa* of his master. The distinction between the *virtus sensitiva* and *intellectiva* had already been drawn by Alexander, as well as the further distinction of *sensus* and *imaginatio* in the former, and of *ratio*, *intellectus*, and *intelligentia* in the latter. The same is true of the distinction between the soul as *perfectio corporis*, and as *perfecta* and *tota in toto corpore*. In fact, the more one studies Alexander, the more astonished does one become at the industry and the conscientiousness with which he deals even with the smallest questions.

§ 196.

Hugo had considered not only the *cognitio*, the content of doctrine, but also,—in his writings which are commonly called mystical, and which have gained him no less fame than his *Summa* and his work *De sacramentis*,—the subjective side

of belief, the *affectus*, which he himself designates as belief proper. Alexander, in his further development of theology, follows only the former, and is therefore a pure Sententiary, a mere defendant of Summaries. If nothing is to be lost of that which has been accomplished by the great theologian who is so often compared with Augustine, the second element also, as shown in his *Arca mystica*, etc., and carried still further by his pupil Richard, must be made the subject of exposition and continuation. Not only dogma, but also the doctrine of mystical contemplation must be brought into agreement with the teachings of the Peripatetics, just as Avicenna had brought the *raptus* of the prophets into harmony with Aristotelianism. This supplement to that which had been accomplished by Alexander of Hales and John of Rochelle is supplied by a pupil of both of them, Bonaventura. The very fact that it is a supplement goes well with the circumstance that he, who furnishes it, comments upon Summaries just as they had done. Bonaventura was a man whose nature and development fitted him for the solution of this very problem; and his services can be correctly estimated only when his mission is borne in mind.

§ 197.

BONAVENTURA.

I. JOHN FIDANZA (according to Trithem. : *De scr. eccl.*, and others, Eustachius Fidanza) was born in the year 1221, in the Florentine Bagnarea (Balneo regio). He is better known by the name BONAVENTURA, which some think was given him by accident. As a child he was intended by his mother for the Franciscan Order, and entered it in his twenty-second year. By his pure innocence he won the admiration not only of the aged Alexander of Hales, but also of all his other companions, so that seven years after his admission, the lectures upon the Sentences were put into his hands, and six years later he was honoured with the position of General of the Order. Finally, his purity led to his being called in a peculiar sense *Doctor Seraphicus*, *seraphicus* being a predicate which the Order was fond of applying to itself. He died as Cardinal and Bishop of Albano, during the Council of Lyons, on the 18th of July, 1274. In the year 1482 he was canonized by Pope Sixtus IV. His works have often been published, first in 1482, and

then, by command of Pope Sixtus V., in seven folio volumes in Rome, 1588. Later, in the year 1680, an edition, based upon the former and upon a German edition, was published in Lyons in seven folio volumes. Unfortunately it is marred by many typographical errors. It contains in the *first volume*: *Principium SSæ., Illuminationes Ecclesiæ s. Expositio in Hexæmeron* (which, according to a postscript, are lectures delivered by Bonaventura in the last year of his life), *Expositiones in Psalterium, Ecclesiasten, Sapientiam, et Lamentationes Hieremiæ*; in the *second volume* the *Expositio in cap. VI. Evang. Matth., De oratione Domini, In Evang. Luc., Postilla super Joannem, Collationes prædicabiles, ex Jo. ev. collectæ*; in the *third volume*, *Sermones de tempore* (sermons for all the days of the ecclesiastical year), *Sermones de sanctis totius anni, Sermones de sanctis in genere*. The *fourth* and *fifth* volumes contain the commentaries upon the *Sentences* of Lombard; the *sixth* and *seventh*, the *Opuscula*, namely (vol. vi.), *De reductione artium ad theologiam, Breviloquium, Centiloquium, Pharetra, Declaratio terminorum theologiæ, Sententiæ sententiarum, De quatuor virtutibus cardinalibus, De septem donis Sp. Sti., De resurrectione aspeccato, De tribus ternariis peccatorum infamibus, Diætæ salutis, Meditationes vitæ Christi, Lignum vitæ, De quinque festivitibus pueri Jesu*; and (vol. vii.), *Sermones de decem præceptis, Viginti quinque memorabilia, De regimine animæ, Formula aurea de gradibus virtutum, De pugna spirituali contra septem vitia capitalia, Speculum animæ, Confessionale, De præparatione ad missam, De instructione sacerdotis, etc., Expositio missæ, De sex alis Seraphim, De contemptu sæculi, De septem gradibus contemplationis, Exercitia spiritualia, Fascicularis, Soliloquium, Itinerarium* (the older editions have also *Itinerarius*) *mentis ad Deum, De septem itineribus æternitatis, Incendium amoris, Stimuli amoris, Amatorium, De ecclesiastica hierarchia*. The *Legenda Sti. Francisci* follows, and a number of works which analyze the rules of the Order for its members, and defends them against attacks. In the Appendix are found the works whose genuineness is doubted, among them the *Mystica theologica*, which purports to be an explanation of the work of the same name by Dionysius the Areopagite; and finally the *Compendium theologicæ veritatis*.

2. Bonaventura, like his predecessors Hugo and Alexander, combines the other sciences, especially philosophy, with

theology in such a manner that the former are made to serve the latter. His treatment of the sciences is therefore only a practical carrying out of that which he had developed in his little treatise *De reductione artium ad theologiam*. In this he seeks to point out why the *lumen inferius*, the means of sense-perception, enters us through exactly five senses, and why the *lumen exterius*, the cause of our aptitude for the mechanical arts, produces just the seven reckoned by Hugo (*vid. supra*, § 165, 2). He then proceeds to consider the *lumen interius*, by virtue of which we acquire philosophical perception, and shows how each of the three divisions of philosophy, *rationalis*, *naturalis*, and *moralis*, is again subdivided into three—*Grammatica, Logica, et Rhetorica; Metaphysica, Mathematica, et Physica; Monastica, Economica, et Politica*. He shows further how all these are only hints of the *lumen superius* of grace, of which we become partakers through the Scriptures. For the very reason that this is the proper foundation of all true knowledge, it draws its parables and expressions from all the lower spheres of perception; and these, on the other hand, are rightly valued only when it is always maintained that in everything which we know *interius latet Deus*. It is true, that if we wish to perceive this, we must not stop with the historical sense of Scripture as if it were the only one, but we must interpret the Bible allegorically, as Augustine and Anselm did, in order to find in it the hidden content of belief; morally or tropically, as Gregory and Bernard did, in order to find in it hidden directions for the conduct of life; finally anagogically or mystically, as the Areopagite and Richard did, in order to find hints in regard to complete oneness with God. Hugo is said to be the only theologian who has shown equal skill in all three modes.

3. Since these higher methods of interpretation are impossible without the requisite historical comprehension of the Scriptures, and this cannot be gained without a knowledge of the entire plan of salvation, Bonaventura develops the latter briefly and without any technical apparatus in the *Breviloquium*. In this he always states the Catholic doctrine in a few short sentences, and then subjoins the *ratio ad intelligentiam predictorum* in order to show that these propositions are not irrational. Not only the fact that Aristotle is always cited as a witness for philosophy, and that his *infinitum actu non datur* is treated as an axiom which even Divine omnipotence cannot overthrow, but also Bonaventura's doctrines in regard to the

formation of the world, in regard to the elements, the soul and its powers, the will, etc., show him to have been a follower of the peripatetic philosophy as represented by the Neo-Platonic and Arabic commentators. He finds no contradiction between this cosmology and Scripture, and that all the less because the latter is above all in his opinion the book of redemption; and therefore everything which concerns the constitution of the world must be read out of the *liber creationis*, nature. If this latter is read in the proper spirit, it teaches a knowledge of God, whose *vestigium* is perceived in the lower creation, and whose image is seen in man. The *Pharetra* is to be regarded as preliminary to the *Breviloquium* and the *Centiloquium*. The latter owes its name to the fact that in it the doctrine of evil and its guilt and punishment, as well as that of the good, and its condition, grace, with its goal, salvation, are treated in one hundred sections. The *Pharetra* is a collection of the most famous authorities upon all the points of belief that Bonaventura considers in his two works. These show how accurately acquainted he was with the doctrines of the Church, and how important he considered their systematic arrangement to be. This appears still more clearly in his commentary upon the *Sentences* of Lombard, whose third part especially later theologians were accustomed to cite as unsurpassed, just as they asserted that Duns Scotus (*vid. infra*, § 214) in his commentary upon the first part, Ægidius Colonna (*vid.* § 204, 4), in his commentary upon the second, and Richard of Middletown (*vid.* § 204, 5) on the fourth, had won first place. The *Sentences* of Lombard were, besides, so highly valued by Bonaventura that in his *Sententiæ sententiarum* he has reproduced the contents of the 162 distinctions in verse, undoubtedly for the purpose of facilitating the committal of the whole to memory.

4. In Bonaventura's opinion, however, the side of religion in virtue of which it is *affectus*, is much more important than dogma, in so far as it is the object of knowledge. He nevertheless is fond of calling theology a *scientia affectiva*. He feels himself called much more to answer the questions as to what belief is, how it is attained, and how we are to advance beyond it, than to explain the doctrines of faith. In the latter task he follows Lombard, in the former, Hugo and Richard of St. Victor, as well as his companion spirit Bernard of Clairvaux. His *Soliloquium* is patterned after Hugo's *Arrha animæ*, as

he himself confesses. In a conversation of a man with his soul, the latter is directed to look into itself, in order to learn how it is deformed by sin; to look without, to recognise the vanity of the world; to look below, to see the punishment of the lost; to look above, to behold the glory of salvation; and thus to turn all its desire away from itself and from the world toward God. Likewise in his work *De septem itineribus æternitatis*, especially where *meditatio* is treated, a great deal is taken verbally from Richard's *Benjamin major*, which however is cited as *Arca mystica*. In addition to this, still other writers, old and new, are quoted, so that in the whole work Bonaventura has much less to say than his authorities. He appears most independent in two works which are to be regarded as the most important of this class of writings, the *Dietæ salutis* and the *Itinerarius mentis in Deum*. In the former, the nine days' journeys (*dietæ*) are described, in which the soul proceeds from vice to repentance, thence to the commandments, then to the voluntary works of holiness (poverty, celibacy, and humility), then to the virtues, afterward to the seven beatitudes (Matt. v. 3 ff.), further, to the twelve fruits of the Spirit (Gal. v. 22), then to the Judgment, and finally to heaven. The work closes with a picture of condemnation and blessedness. The *Itinerarius* is still more peculiar, and is read and praised more than any of his other works. This was written in the year 1263, and takes as its point of departure the distinction between the *vestigium* and the *imago Dei*: Bonaventura shows in it, that according as the investigation begins with the former, or the latter, or the revealed word, there will be three different theologies:—the *theologia symbolica*, which begins with that *extra nos*, and corresponds with the *sensus*; the *theologia propria*, which begins with that *intra nos*, and corresponds with the *ratio*; and finally, the *theologia mystica*, which takes its point of departure above us, and has the *intelligentia* as its organ. But since each one of these steps appears in a double form, six different grades of perception are distinguished. For God is discovered either *per vestigia*, the Trinity of the First Cause being concluded from the *pondus, numerus, et mensura* in things, or *in vestigiis*, the consideration of corporeal, spiritual, and mixed natures in the world leading us likewise to a Trinity. Again, God is perceived *per imaginem*, because *memoria, intellectus, and voluntas* in ourselves prove a Triune Deity; and *in imagine*, since the three theological virtues, as

effects of the Triune God, demonstrate His presence. Finally, God is recognised *per ejus nomen*, since Being, the real name of God according to the Old Testament, can be thought of only as existent; and *in ejus nomine*, since God can be thought of as good, as the New Testament teaches Him to be, only if He is Triune. Six different steps are thus distinguished, the *sensus* being supplemented by the *imaginatio*, the *ratio* by the *intellectus*, and the *intelligentia* by the *apex mentis*. The fact that Bonaventura calls this latter also *synderesis*, proves that he does not regard a mere theoretical relation to God the highest thing, but that the experience of God is for him most important: the *experientia effectualis*, which he calls at one time a tasting of God, at another a becoming drunk in Him, again a passing over into God, a putting on of God, even a transformation into God. He speaks thus in his *Stimulus amoris*. In his *Incendium amoris*, he says, among other things, *Non disputando sed agendo scitur ars amandi*.

5. This complete devotion to God, at one time called *quies*, at another *sopor pacis*, is designated as the Sabbath of life, in contrast with the preparatory steps, which resemble the six days' work. It is attainable by man only through the grace which has appeared in Christ. The point is therefore to take Christ up entirely into oneself, to become completely one with Him. Nothing facilitates this so much as absorption in His history, especially the account of His sufferings. In the work *De quinque festivitibus pueri Jesu*, and in the *Stimuli amoris*, the representation of how the soul is to repeat in itself all the conditions of the mother of Jesus after her conception, how the wounds of Christ are the entrance into the pharmacy which contains all the means of grace, how the lance is to be avoided, because it pierced the side of Christ, etc., is carried out to an extreme of insipid trifling. The *Meditationes vite Christi* are much better. They were written for a sister of the Order, and in them the blanks which the Bible leaves in the life of Christ are filled with products of poetic fancy. The strife which was carried on by the righteousness and mercy of God before the incarnation, as St. Bernard had dramatized it, forms the beginning, and investigations in regard to Martha and Mary, that is, in regard to the active and contemplative life, the close. The love of Bonaventura for the Virgin Mary is expressed in all his works with scarcely less warmth than his love for Christ. Next to Mary,

the founder of his Order receives from him the highest honour. Both of them are always cited as examples of the closest union with God. This union is sometimes (*e.g.*, in *De tribus ternariis peccatorum*) characterized as the return of the soul to its eternal abode, in virtue of which it is eternal, since *locus est conservativus locati, unde res extra locum non conservatur*, sometimes as its dwelling in the *manerio æterno*. Although it is the highest goal, there are, nevertheless, various abodes within it which differ in rank. Bonaventura is very fond of drawing parallels with the spheres and times of creation, especially where favourite numbers come into account, above all three, and also six, as the first *numerus perfectus*, and further seven, in connection with which he likes to refer to the *septiformis septenarius vitiorum, virtutum, sacramentorum, donorum, beatitudinum, petitionum, dotum gloriosarum*; finally nine, on account of the heavenly hierarchy. This explains his speaking at one time of various degrees of intoxication in tasting God, and again his sketching more distinctly in one of his own works the *septem gradua contemplationis*. It explains too the fact that he speaks most often of three principal steps in the union with God, each of which is divided into three minor steps. The lowest is called the angelic, the highest the seraphic, in accordance with the order maintained since the Areopagite. These steps are said to be related to each other just as the classes into which mankind is divided. At their summit stand the three orders of the contemplative recluse, which are followed by the three orders of rulers (*prælati*), and these by the three orders of subjects (*subjecti*). It is no wonder that Bonaventura was subsequently drawn upon, especially by preaching mystics. The fine analyses, which are often formulated in a very pointed way, cause many of his writings to appear like a collection of exceedingly clever sermon plans. He expressly added such plans to the *Dietis salutis*.

§ 198.

While the Franciscans rear up for themselves the *Theologorum Monarcha*, under whose eyes and care the *Doctor Seraphicus* grows up in their midst, a double star arises in the Dominican Order—a star composed of a teacher and a pupil, whose beams are speedily to shine further. Among the former, theology was not only the chief end, but also the

starting-point, so that they attempted to explain and to defend with the help of Aristotle that which the great theologians of St. Victor had taught. The *Doctor Universalis*, on the contrary, follows another course. The subject of his study from the beginning was the Greek philosopher; and where the latter is not complete he supplements, where he is not clear he explains. He devoted more than ten years to the single task of gaining familiarity with the philosophy of these men, and as much more time to the work of spreading a knowledge of peripatetic doctrine as a teacher and writer. In this he is not at all hindered by the fact that the only Christian whose work he puts on a level with the Aristotelian writings as equal to them, and expounds like them, is Gilbert, who is looked upon by the Church at least with suspicion. Only after he has accomplished these tasks does he undertake a work, as the title of his principal production shows, similar to that of Alexander, whose writings he makes industrious use of. Although he knows Hugo of St. Victor as well, and prizes him as highly as Alexander did, and although a vein of mysticism, which he possesses in perhaps a greater degree than the latter, entices him toward the Victorines, his course is nevertheless not determined by them, but rather by Lombard, who, in comparison with Hugo, is prosaically rational. And he does not train up his favourite pupil, as Alexander had, to rage and riot in his own soul in the sense of the later Victorines; but he leads him in the track of the men who were regarded by those patterns of Bonaventura as perplexing labyrinths (*vid. supra*, § 173). If the statement be not taken too literally, it may be said that Albert's theological labours are related to those of Alexander as the philosophy of religion is related to speculative dogmatics.

ALBERTUS MAGNUS.

J. Sighart: *Albertus Magnus, sein Leben und seine Wissenschaft*. Regensb., 1857.

§ 199.

ALBERT'S LIFE AND WRITINGS.

I. ALBERT, the oldest son of Herr von Bollstädt, was born in the Swabian city Laningen, where his father was imperial

representative, probably in the year 1193. After a careful training, he went, in the year 1212, to the University of Padua, where the *artes* flourished especially at that time. According to others, it was the University of Pavia, instead of Padua. His industrious study of Aristotle, which did not accord well with the distrust in the latter felt by the Church at that time, is said to have been at the express command of the Virgin Mary, and therefore it appears excusable. This study led directly to the natural sciences and medicine. For ten years he busied himself in this way, being already called by his fellow-pupils the Philosopher. The General of the Dominican Order (the German Jordanus, Count of Eberstein) induced him to enter that fraternity in the year 1223. From that time he began to study theology in Bologna, that is, first the text and then the Sentences. In his thirty-sixth year he was called to Cologne, where the Order had had a monastery since 1221, to teach especially the secular sciences. He soon became so famous as a teacher of philosophy, that he was sent by the Order first to one place and then to another, to arouse an interest in philosophy in its various monasteries, and to train successors wherever it was possible. He thus taught in Regensburg, Freiburg, Strasburg, Paris, Hildesheim, in the years 1232-1243, when he was called back to Cologne to undertake again the superintendence of the school there, in which Thomas Aquinas at this time began to shine. In the year 1245, he went again to Paris to grace the chair there, which had finally been secured, and to receive the highest academical honours. He returned, as Doctor, to Cologne, where the school was now organized like a university. Being appointed teacher of theology, he turned his attention more to the theological and practical calling of the priest. The commentaries upon Aristotle and the Areopagite were now followed by commentaries upon the Scriptures. At the same time he was engaged with sermons and practical compilations of the doctrines of faith. His ecclesiastical activity became still more prominent when he was appointed, in the year 1254, Provincial of his Order for Germany, and had to reform the monasteries. This made him familiar with their libraries; and every manuscript which he himself copied or had copied, increased his learning, which had early been accounted supernatural. He won new fame when, having been called for the purpose to Anagni, he victoriously defended, before the Pope

and the Council, the Mendicant Orders against the attacks of the University of Paris, and at the same time expounded before the same audience the Gospel of John, and combated the false doctrines of Averroës. Having returned to Germany, he continued to discharge the laborious duties of Provincial until the year 1259, when he was finally relieved, but only to undertake, at the express command of the Pope, the still severer labours of Bishop of Regensburg. His commentary on Luke shows that he knew how to gain time from his many duties to write this most important of all his exegetical works. The position, nevertheless, became constantly more painful to him, and in the year 1262, his resignation was accepted. The monastic life to which he returned was interrupted for a time when he wandered through Bavaria and France as a preacher of the Cross. While not thus engaged, he lived a part of the time in one, a part of the time in another monastery of his Order, and finally again in his beloved Cologne. In the year 1274, after learning of the death of his favourite pupil, Thomas, he attended the Council of Lyons, and defended publicly in Paris, on his return thence, some of the works of his beloved scholar. The theological *Summa*, which had been commenced long before, was then brought to an end, in Cologne, by the completion of the second part. He was hindered from writing the third and fourth parts, either by his age or by the fact that the *Summa* of Thomas had already been written. The little work *De adhærendo Deo* is his last, and was written when he was eighty-four years old. In his eighty-seventh year he closed his pious and in every respect model life, which had won for him the honourable names of *Magnus* and *Doctor Universalis*. Albert's works were published by Petr. Jammy, in Lyons, in the year 1651, in twenty-one folio volumes. Many unauthentic works are included, and much that is regarded as genuine is omitted. The printing, moreover, is not very correct. The philosophical works fill the first six volumes, the *first* containing the logical writings, the *second* the physical, the *third* the metaphysical and psychological, the *fourth* the ethical, the *fifth* the minor physical works, and the *sixth* the Zoology. To these is to be added the twenty-first volume, which contains the *Philosophia pauperum*.

§ 200.

ALBERT AS A PHILOSOPHER.

1. Like Avicenna, whom he ranks above all other commentators of Aristotle, Albert, in expounding the works of the latter, reproduces his doctrines in his own style, and therefore not always in the words of the author; and wherever he believes that a break occurs he makes it good. In many works he makes use only of such translations as are made directly from the Arabic, in others he employs Græco-Latin versions. In his works upon logic, he uses as his guide the parts of the *Organon* which contain the old logic in the translation of Boëthius; but the *Analytics* and *Topics* also in the translation of John, and in the annotated editions of Alfarabi, Avicenna, and Averroës. He does not wish to have logic regarded as properly science, but as only a preparation for it, because it does not treat a particular being, as the other parts of philosophy do, but rather all being as it comes to verbal expression, and thus belongs to the *philosophia sermocinalis*, and not the *res* but the *intentiones* (conceptions) *rerum considerat*. Its peculiar mission is to show how we are to pass from the known to a knowledge of the unknown, and it is therefore to be divided, as Alfarabi had already correctly shown, into the doctrine of the definition and into that of the conclusion and proof, since the hitherto unknown may be an *incomplexum* or a *complexum*. The writings of the *Organon* therefore are divided into two principal parts, according as they furnish the data for correct definition, as the works *De prædicabilibus*, *De prædicamentis*, *De sex principiis*, or as they show how to find, not only the subjects and predicates of judgments and conclusions, but also the judgments and conclusions themselves, like the rest of the works of the *Organon*.

2. The nine tracts *De prædicabilibus*, also cited as *De universalibus*, give a paraphrase of the *Isagoge* of Porphyry, in which the relation of the *prædicabilia* is maintained to be such that the *differentia* is for the *genus* what the *proprium* is for the *species* and the *accidens* for the *individuum*. In this connection it is noticeable that Albert answers the question in regard to the universals in the many-sided way which had been suggested to him by Avicenna (*vid. supra*, § 184, 1).

The universals are *ante res*, as original types in the Divine mind; *in rebus*, inasmuch as they give the *quid est esse* of the latter; *post res*, since our minds deduce them from individual things. With this combination of all previous answers the strife between them is done away with. For this reason, the question whether Albert and the scholastics who follow him are realists or nominalists implies a misunderstanding of the difference between the two periods of scholasticism. In the present period the decisive questions are quite different. The work *De prædicamentis* considers under this name the Aristotelian categories, which are so arranged that the nine remaining ones are opposed as *accidentia* to *substantia*, with the express explanation, that if the *principia essendi* and *cognoscendi* were not the same, our knowledge would be a false knowledge, and therefore the distinction of substantial and accidental being runs parallel with our distinction of substance and accident. In connection with the distinction of *substantia prima* and *secunda* (*vid. supra*, § 86, 6), the former is designated as a *hoc aliquid*, which *materiam habet terminatam et signatam accidentibus individuantiis*, and is an *ens perfectum*, or has *ultimam perfectionem*. Several such *accidentia individuantiis*, up to the number of seven, among them the *hic et nunc*, are given in various places. After quantity, quality, and the *ad aliquid* are considered, it is shown that in the *qualitas* the *agere* and *pati* are also contained, in the *ad aliquid*, the *ubi*, *quando*, *positio*, and *habitus*. This last assertion, which closes the subject of the *postprædicamenta*, is really in conflict with the fact that Albert expounds Gilbert's book *De sex principiis* (*vid. supra*, § 163, 1), which was intended to fill a blank at this point, as conscientiously as if it were a work of Aristotle.

3. The two books *Perihermeneias*, divided respectively into five and into two tracts, form the transition to the theory of the conclusion and the proof. They follow the work of Aristotle (*vid. supra*, § 86, 1) step by step, expounding and defending it. The nine tracts of the *Lib. I. priorum analyticorum* come next. They ground the conclusion on the *dici de omni et nullo*, and develop its *figuræ* and its various *conjugationes*, and then proceed to a very precise investigation of the way in which the thing forms itself always according to the modal character of the premises. At the close of the fourth book the rules are conveniently grouped

which concern the threefold *mixtio* of the *necessarii et inesse*, of the *inesse et contingentis*, and of the *contingentis et necessarii*. The reductions of one figure to another are discussed at considerable length, not only of the second and third to the first, but also *vice versâ*. Seven tracts upon *Lib. II. prior analyt.* follow. These treat the finished conclusion, its demonstrative power as well as its possible errors, and in the same connection notice always the strifes of the schools. *Lib. I. posteriorum* follows in five tracts; *Lib. II. poster.* in four. They contain the investigations to which Albert assigns the highest place, because here the formal *necessitas consequentiæ* alone is no longer considered, but the material truth of the conclusion, the *necessitas consequentis*. Since this is dependent upon the truth and certainty of the premises, thirteen degrees of certainty are first distinguished, then follow detailed investigations upon the deductive process, and it is shown how knowledge and how ignorance result. The three degrees are distinguished of the *intellectus*, which goes beyond the proof, of the *sensus* and *opinio*, which fall short of it, and of the *scientia*, which rests upon it. The discursive knowledge of the latter is contrasted with the intuitive knowledge of the intellect, and the three degrees are closed with the *intelligentia*, as the perception of the principles of all definition and proof, which are not themselves further definable and demonstrable.

4. Between this undemonstrable certainty, and the first demonstrable proposition, a medium is needed. This may be called *inventio*. Previously the *ratio disserendi* has been considered as *ratio judicandi*, but now it is to be considered as *ratio inveniendi*. This is the subject of the eight books of *Topicorum*, which follow in twenty-nine tracts the Aristotelian work of the same name (*vid. supra*, § 86, 5). The object is to show how that which is in the highest degree certain can be deduced from the probable by dialectic conclusions, or, what is practically the same thing, how problems can be solved. In the first book dialectics in general is treated; in the six following books, dialectics as applied to individual problems; in the eighth, dialectics as the art of disputation. These are followed by the two *Libri elenchorum*,—the first in seven tracts, the second in five,—which point out, either in form or in content, the violations of the rules of the conclusion of which sophistical demonstrations are guilty. Albert in this connection justifies his divi-

sion of the investigation into two books, the relation of which he compares to the relation between dialectics and apodictics.

5. As regards the parts proper (*essentiales*) of philosophy, *theoretical* philosophy (*scientia theoretica, realis, speculativa*, etc.) is divided into metaphysics, mathematics, and physics, which have to do with intelligible, imaginable, and sensible being. Although the order just given is the essential order, the beginning, nevertheless, is made, *ordine doctrinæ*, with *Physics*, since our perception commences with the senses. Thus Albert presents a treatment of the *scientia naturalis*, expounding the physical writings of Aristotle (*vid. supra*, § 88) as he had already expounded the *Organon*. This treatment is intended to acquaint readers, especially of his own order, with this science, and with the *littera* of Aristotle. The second volume of his works contains *Physicorum libb. VIII.*, *De cælo et mundo libb. IV.*, *De generatione et corruptione libb. II.*, *De meteoris libb. IV.*, which follow Aristotle quite closely. In them the fundamental conceptions of mathematics are also considered, so that Albert is able to speak of these investigations as his *quadrivium*, and to cite them as his teachings in regard to the *scientiæ doctrinales*, or *disciplinares* (*cf. supra*, § 147). The discussion of meteors is followed by the first two hundred pages of the third volume, which contain the three books *De anima*, a commentary interrupted by *digressiones*, in which other views are mentioned and reconciled, wherever possible, with the opinion of Aristotle. The soul is represented as an entelechy of the body; and yet, since certain of its functions are not connected with organs, it is asserted that they, and therefore the soul, are *separatæ*. This is not very consistent. In the theory of the senses a prominent part is played by the *species* or *intentiones* which proceed from the things, and which are called *spirituales* because they are immaterial. With the five senses and the *sensus communis* are said to be connected the *vis imaginativa* and *æstimativa*, which are common to all animals; further, the *phantasia*, which at least the higher animals have; and finally the *memoria*. No other part is treated with so many digressions as the *intellectus*, or the *pars rationalis*, of the human soul. The point is, to show that it is unchangeable, independent of matter, receptive of the general, and therefore not a *hoc aliquid* or *individuum*, and yet that every man has his own intellect, by virtue of which he is immortal. For this purpose

Albert criticizes the theories of Alexander of Aphrodisias, of Themistius, Avempace, Abubacer, Averroës, Avicbron, of earlier Platonists and later ones who follow them, and defends against them what he considers to be the true opinion of Aristotle. In this connection it is shown that the *intellectus possibilis* is *potentia* in a sense entirely different from that in which matter is *potentia*. Less is said in regard to the *intellectus agens*, the *Metaphysics* being referred to upon that subject. The *intellectus practicus* is made the transition to the consideration of the *voluntas*, which is distinct from it, and which in man takes the place of the *appetitus* of animals. The will is free. It is not forced to a choice even by the demonstrations of the reason, but works as a pure *causa sui*. When action is to take place, the two must be combined; the reason declares an act good (*discernit*), the will undertakes it (*impetum facit*). The general and innate principles of the *intellectus practicus* form the *synderesis*, which errs no more than the theoretical axioms of the reason with which its content corresponds. From the *synderesis* as major premise and from the perceptive reason, which furnishes the minor premise, arises the *conscientia*. The union of the *intellectus* and *voluntas* gives the *liberum arbitrium* in which man is *arbiter*, because he has reason, and *liber*, because he has will. Not the *liberum arbitrium*, but the *libertas* involved in it, must be regarded as the seat of evil.

6. These investigations in natural science, which are all contained in the second and third volumes of Albert's works, are condensed into a comprehensive outline in the *Summa philosophiæ naturalis* (vol. xxi.), which is called also *Philosophia pauperum*, because, by means of it, the members of the Mendicant Order are to be put in a position to become acquainted with the whole of Aristotle's physics. Many doubt whether Albert himself made this epitome, which exists moreover in various recensions, some things which are contained in Jammy's edition being wanting, for instance, in those of Martin Lanzsperg (Leipsic, 1513), and Jac. Thanner (Leipsic, 1514). This is the case with the section on comets. The investigations upon the *intellectus* which are connected with Aristotle's *De anima* are interesting. The distinction is first drawn between the *intellectus formalis* or *quo intelligimus*, that is between the *species intelligibilis* or the conception, and the *intellectus* as a power of the soul which grasps the former,

and in union with it becomes *intellectus in effectu* or *intellectus qui intelligit*. Albert then proceeds to show that the understanding, as *potentia cognitiva*, is either theoretical (*speculativus*) or practical. The former perceives the truth *sub ratione veri*, the latter *sub ratione boni*. The latter, further, when it aims at the general good and opposes the evil, is *sinderesis*; but when it "*non semper stat in universali*," it is *intelligentia* or *ratio* according as it aims at the eternal alone or at the lower as well. The *intelligentia*, the highest step of the *intellectus*, is distinguished from the *sinderesis* by the fact that it busies itself only with the eternal and therefore never with evil. It is again distinguished from the *ratio* by the fact that it grasps its object intuitively, while the *ratio* compares and draws deductions, that is, acts discursively. Moreover, a male (higher) and a female (lower) part are distinguished in the *ratio*. The "*vir*" attains to *intelligentia*, the "*mulier*" is *sensualitati conjuncta*. In the second volume of Albert's works are found in addition five books *De mineralibus*, which he compiled from Avicenna and other authors, and also from his own observations, only scattered hints on the subject being contained in Aristotle. The most interesting things in the work are an alphabetical list of precious stones, to which he ascribes beneficial effects, and a critique of alchemy which is exceedingly enlightened for his time. Jammy puts the work *De sensu et sensato*, as well as the remaining *Parva naturalia*, after the *Metaphysics* in the fifth volume. Why he does this is not clear, since the former is closely connected with the work upon the soul, as Albert himself recognises, and the latter are appealed to in his *Metaphysics*. The same may be said of the twenty-six books *De animalibus*, which constitute the sixth volume, and into which is incorporated all that is contained in the Aristotelian works *De part.* and *De generat. anim.*, as well as a great deal from the history of animals. This is especially true of the first nineteen books; the last seven show greater originality. Albert's own studies appear most prominently in the seven books *De vegetabilibus et plantis*, which are still mentioned with respect by botanists. In addition to these are to be mentioned the two works, *De unitate intellectus contra Averroëm*, and *De intellectu et intelligibili*. In the former, thirty-six arguments are brought against the thirty grounds with which the followers of Aver-

roës combat the immortality of the individual personality. It is urged that these arguments show that the assertion of Averroës' followers proceeds from the doctrine of ideas, while the genuine Aristotelian doctrine is, that every one has not only his passive but also his active understanding. In the second work, which is a supplement of that upon the soul, the question of the universals is taken up; and, just as above, the correct standpoint is asserted to be a mean, to a certain extent, between nominalism and realism. The terminology, however, is in this case different from that in the work *De prædicabilibus*. The genera are to be called *universalia* or *quiditates* only as they are *in rebus*; as *ante res* they are to be called *essentia*, as *post res*, *intellectus*. An important part is played here also by the distinctions between *intellectus possibilis* and *intellectus in effectu*. The latter can be *actu intellectus* as well as *intellectus habitu*. At the same time it is shown that there are various degrees of the actual understanding, according as it is *adeptus*, *assimilativus*, or *sac-tus*. The latter is characterized as a snatching up of the soul into God, and therefore almost coincides with the *raptus* of Avicenna.

7. Three fourths of the third volume are occupied by Albert's *Metaphysics*, or *Prima philosophia*, which he calls also *Divina philosophia* or *theologia*, because it comes into existence only through Divine illumination, and has to do with the Divine. In the historical utterances of the first book, all materialistic views are grouped together, in accordance with their culminating point, as Epicureanism. Epicurean philosophy always means to Albert materialistic philosophy; Epicurus, very often, a materialist. Since the name has here become *appellativum*, his etymologizing, which is, to be sure, comical, has nevertheless some sense. In the same way the name of the opponents of Epicurus, *Stoici*, is given a wider significance; and therefore it is not merely on account of a confusion of names that the Eleatics and Pythagoras, Socrates and Plato are designated as Stoics, that is, as those who teach that not matter but form "*dat esse*." The Peripatetic view is, in the opinion of Albert, superior to both. In the course of the work, the Aristotelian investigations are often interrupted by digressions, for instance in the *third* book, where twenty-seven *dubitaciones* (aporimes) are met, first with Aristotelian arguments, and then with grounds of his own. The *fourth*

book expounds, without digressions on the part of the author, that which Aristotle had said in regard to the proposition of the non-contradictory and of the excluded middle. In the *fifth* book, on synonyms, Albert has added some things of his own. The most important addition is his effort to deduce the four *causæ* from a certain principle, the *materialis* and *formalis* (*quid erat esse, quidditas*) being combined as *causa intrinseca*, the *efficiens* and *finalis* as *extrinseca*, and then the *hoc esse* being reduced to the *materia*, the *esse* to the *forma*. Albert considers in addition, in digressions of his own, unity, number, original matter (with the conception of which absence of form is irreconcilable), the general, the genus and its relation to matter, etc. The meaning of the terms employed in relation to the *universalia* is here modified again, so that by this designation is understood only what falls within the comparing understanding, and thus it is said that *universale non est nisi dum intelligitur*. In a digression in the *sixth* book, Albert seeks, by the distinction of the first and second cause, to reconcile the accidental nature of many events with the knowledge of God, which coincides with His being. The *seventh* book is a paraphrase almost entirely free from digressions; the *eighth* contains at the close a discussion, in which an apparent contradiction in the Peripatetic doctrine of the substantiality of matter and of form is removed by a distinction. Albert has given the title *De substantia* to both of these books. The *ninth* book, *De potentia et actu*, is simply a paraphrase of Aristotle, likewise the *tenth*, *De uno et multo*, with the exception of an unimportant digression on measure. The eleventh book of Aristotle's *Metaphysics* was unknown to Albert. His *eleventh* book is therefore a paraphrase of Aristotle's twelfth, while his *twelfth* corresponds to the latter's thirteenth, his *thirteenth* to the latter's fourteenth. In the eleventh alone are found a few digressions, partly summaries of what had already been developed, partly more exact definitions of Aristotelian propositions. Among the former, for instance, are the observations that the physicist considers everything in relation to motion, the metaphysician in relation to the object, and that all becoming is an *educi e materia* and needs an *actu existentis*, etc. Among the latter, the most important are those which attempt to reconcile the simplicity of the first cause with the fact that it is thought of thought, as well as with the multiplicity of its predicates.

The latter are said to belong to the first cause not *univoce* with other subjects, but only in an eminent, often in a negative sense, so that the *causa prima*, in distinction from the *intelligentia prima* and *materia prima*, is called *primissima*. Further, it is minutely explained how the heavenly intelligences descend from the original substance and become individualized through the heavenly spheres which are assigned to them. Finally, Albert enlarges greatly upon the question why two starless heavens must be assumed above the heaven of the fixed stars, the lower being set in motion by the supreme good, its object and goal, which is enthroned in the upper. A system of intelligences, subordinated the one to the other, and setting in motion the heavenly spheres (cf. *supra*, § 184, 3), is said to constitute the true Peripatetic doctrine.

8. In addition to theoretical philosophy, Albert assumes only a *practical* philosophy, assigning poetics to logic, as an antithesis to rhetoric. Ethics is *monastica*, *economica*, or *politica*, according as it considers the individual man in himself, or as a member of the family, or as a citizen. The first alone is treated by Albert in his commentary on the *Nicomachean Ethics* (*vid. supra*, § 89, 1). The commentary on the *Politics*, which follows the *Ethics* in the fourth volume of Jammy's edition, betrays another author, not only in the external form,—a literal translation of the entire text of Aristotle preceding the analysis, as in the commentaries of Averroës and of Thomas,—but also in the language. The commentary on the *Ethics* contains little except the paraphrastic expositions of Aristotle, but it must be regarded as important that *virtutes cardinales* and *adjunctæ* are distinguished, and that Albert has given to the seventh book the title *De continentia*. Many virtues are mentioned in their Greek names, and then explained, for the most part by a very peculiar etymology. Albert seeks to show that the eighth book, *De amicitia*, and the ninth, *De impedimentis amicitiaë*, form a necessary part of the *Ethics*. Otherwise the two books contain no more original matter than the tenth, which is partly a literal, partly a free translation of Aristotle. Albert sees in this fact no cause for censure. For at the end of his works on natural science, he says with a sort of pride, that he has wished only to make known the Peripatetic teachings, that no one will be able to discover what his own views are, and that therefore he is to

be criticized only after a comparison of his presentation with that of Aristotle's own works. The same statement is repeated almost word for word at the end of his commentary on the *Politics*. If it be remembered how few helps he had in his task, his pride will be found justifiable.

9. The last statement makes the difference between Albert's own doctrine and that of the Peripatetics appear greater than it is. Only in two points is Aristotle criticized, and one of these, the eternity of the world, is characterized as a denial of Aristotelian principles; and the other, the definition of the soul, as capable of being supplemented and thus improved. On the other hand, there is one work of Albert's which, not being in the form of a commentary, shows most clearly his agreement with Aristotle, and especially his relation to the writing *De causis* (*vid. supra*, § 189), and to the other Oriental Aristotelians. These are the two books *De causis et processu universitatis* (vol. v., pp. 528-655), the first of which, *De proprietatibus primæ causæ et eorum quæ a prima causa procedunt*, is divided into four, the second, *De terminatione causarum primariarum*, into five tracts. After a detailed critique of the Epicurean, that is the materialistic, and of the Stoic, or idealistic view, as well as of that of Avicbron (*vid. supra*, § 188), it is asserted that an absolutely necessary, supreme principle stands at the summit of all being, and that the most important of its twelve properties for further progress is the absolute simplicity by virtue of which there exists in it no difference between the *esse* or the *quo aliquid est* and the *quod est* or the *quo aliquid est hoc*. This difference, which later plays a very important rôle as *existentia* and *essentia*, approaches, it is true, very closely to the distinction of *forma* and *materia*; and yet Albert does not wish to identify them completely, because the *quod est* belongs also to immaterial beings. The *omnimode et omnino* being,—or, if one prefers, supra-existent being, since being is his work,—is exalted above all fixed predicates, and therefore above all names, so that there can be attributed to him only in a transcendental sense that which signifies, not relative but general usefulness. Good for instance is predicable of all, golden not of all, for it is not predicable of the living. *Summa bonitas, ens primum, prima causa, primum principium, fons omnis bonitatis*, are the names under which Albert treats the supreme principle, which for him coincides with the gracious God. This highest principle knows everything.

but manifoldness only in its unity, the temporal as eternal, the negative in its relation to the positive, and hence evil only as a want of good. His knowledge is neither universal nor individual, since it is arrested by no limit and by no contrast. As *causa sui* he is free, which is no detriment to his necessity. His will is limited only by his goodness and wisdom, in virtue of which he is not able to do anything irrational. All effects, principles as well as things, flow (*fluunt*) from this first principle, so that the further they recede from it the more imperfect they become. His fulness causes the overflow; that which has flowed out from Him is not equal to Him, but is similar, and therefore longs to return. This loss of perfection is characterized at one time as the passage of the general into the particular, at another time as limitation; and it is also said, in agreement with the Jew Isaac, that that which follows takes its rise always in the shade of that which precedes, and this *umbra* is made the *differentia coarctans*. The first outflow from that principle is distinguished from it by the fact that it is no longer absolutely simple, since in it the *esse*, which it has from the first principle, and the *quod est*, which arises out of nothing, fall apart. It is therefore *in essentia finitum, in virtute infinitum*. This primary emanation is the *intelligentia*, and can therefore no longer be called God. Its nature is to know. Since it knows itself, as effect, it knows *a posteriori*. The first cause, on the contrary, knows everything for the opposite reason *a priori*. Not indeed because of its own nature, but by virtue of the being imparted to it, intelligence is again outflowing and active; and its outflow, the second, mediate irradiation from the first principle, is the *anima nobilis*, the animating and vivifying principle of the heavenly spheres. These are thus set in motion by the intelligence because it is their *desideratum*, by means of the *anima* which is their *motor*. The multiplicity within the intelligence is, in the case of the higher natures, neither numerical nor specific, for they are grouped neither under a like species nor under a common genus, but each order of intelligences consists of a single individual. It is otherwise with the lower orders, which are individualized because they are materialized. The fact that the former are immaterial and yet individual, is explained by showing that, because of the contrast between *esse* and *quod est*, a principle, to a certain extent material, exists in them. This is not *materia (hyle)* but nevertheless *materiale (hyleale)*,

and hence Albert calls it, in agreement with the *Liber de causis, hyleachim*. God, in whom this opposition is wanting, is therefore not an individual. It can be more readily admitted that God is *hoc aliquid*, but since the *suppositum* in Him coincides completely with His being, it is to be thought of by no means as *materia*, nor even as *hyleachim*. Albert calls the *natura*, the *forma corporeitatis*, the principle of the lower corporeal motions, a fourth principle which falls below (*deficiens*) the three mentioned. The *anima* and the *natura* are the tools by which the intelligence introduces the forms, which it contains in itself as content, into the *materia*, or, as it is more often put by Albert, draws them out from matter, the *inchoatio formæ*. By this means things originate. They take their (generic) name and their *quidditas* from the form, while matter contracts them to a *hoc aliquid*. The first actual (formal) body is the heavens. As the forms inherent in the *anima* are materialized in it, so the forms which have streamed into the *natura* (*formæ naturales*) are materialized first in the elements, so that there are to be added to the four first-mentioned principles, the bases of natural existence, four more—matter, form, heaven, elements. What Albert says in explaining these conceptions of matter, appears somewhat indefinite from the fact that he at one time emphasizes in it the positive element, its being *suppositum* or *subjectum* (*ὑποκείμενον*), and again the negative element, its being *privatio* (*στέρησις*) (cf. *supra*, § 87, 2). Since heaven is everlasting, he attributes matter to it only in the former sense. The second element is especially emphasized when the materiality of things is predicated as synonymous with their nonentity. Unformed matter is often designated by Albert as *pæne nihil*, because it is the capacity and impulse for form.

§ 201.

ALBERT AS A THEOLOGIAN.

I. Albert begins his theological career also as a commentator, first as a commentator of the Scriptures, then of the *Sentences* of Lombard. The commentary on the latter fills three volumes of his works (vols. 14–16). The text of the *Sentences* is followed by the *divisio textus*, and this by the *expositio*, which formulates in separate articles the ques-

tions which arise, states the affirmative and negative arguments, and finally gives the solution. The *divisio* is wanting only in paragraphs which are very easily understood. References to what has already been said in the commentary often take the place of detailed explanations; for instance, in connection with the Sacraments, reference is made to what has been said on the cardinal virtues. Reference is also occasionally made to Albert's earlier philosophical works, especially to the tract on the soul. Only in a very few points, in reference to other *moderni*, does he express disagreement with what Lombard asserts. In general he aims, just as in his commentaries on Aristotle, to develop, not his own, but his author's view.

2. The task which Albert has set himself in his *Summa theologiæ* (vols. 17, 18) is quite different, and is to be compared with the aim of the work *De causis et processu universitatis* pointed out above (§ 200, 9). Title, method, and designation of the sections, remind us so much of Alexander of Hales (*vid. supra*, § 195), that the thought cannot be avoided that something, which the Franciscans already had, was to be offered here to the Dominicans. Albert thereby stands in somewhat the same relation to the *Sentences* of Lombard as Alexander did to the work of Hugo; that is, he follows him, not as a commentator, but as a continuator. For that very reason he calls his work a theological, not merely a doctrinal *Summa*. In the first tract it is admitted that theology as pure science is an end in itself; but the attainment of blessedness is pointed out as its aim as a practical science. The second tract takes up the distinction of the *frui* and *uti*, and shows that the *frui* is not limited to the Deity, nor the *uti* to the present world. There are also other things besides God which are *fruibilia*; and not only *in viâ*, but also *in patriâ* is found that which is *utile*. The third tract treats of the knowableness and demonstrability of God, and these are limited to the *quia est*, while the *quid est* is knowable only *infinite*, that is, not positively. The *vestigium* of God in the lower orders of creation and His *imago* in human beings, are the starting-point for the cognisance of God. Illumination by grace must be added to our natural light in order to complete the knowledge. To Lombard's five proofs for the existence of God, Albert adds two, drawn from Aristotle and Boëthius. All the previous investigations are designated as *præambula*;

and the fourth tract proceeds to the proper subject, to God as the true Being (*essentia*), of whom Anselm has correctly said, that only he who does not understand himself can think of Him as non-existent. As the absolutely simple, in whom *esse*, *quod est*, and *a quo est* coincide, God is the absolutely unchangeable. In the fifth tract the conceptions, *æternitas*, *æviternitas* (*ævum*) and *tempus*, are represented as incommensurable, because they each have another unity (*nunc*) as measure; in the sixth, the One, True, and Good is considered. These three predicates, which belong besides to all beings (*cum ente convertuntur*), belong also to God, the first on account of the fact that it is not possible for Him not to be, the second on account of His simple and unmixed being, the third on account of His unchangeableness and eternity. The distinction drawn here between *veritas rei* and *signi* serves later for the solution of many difficulties, for instance, of such as are presented by the Divine foreknowledge. True substantiality is ascribed to the good alone; evil appears only in connection with it, as limping in connection with walking. In the seventh tract the Trinity is investigated, and the ecclesiastical doctrine is established as the only correct one by means of a number of distinctions, for instance, of the *proprietas personalis* and *personæ*, of the eternal and temporal *processio*, etc. In the eighth tract very subtle investigations are undertaken in regard to the names of the three Persons, for instance, *Utrum Pater pater est quia generat, vel generat quia pater est?* Further, in regard to *filius*, *imago*, *verbum*, *Spiritus sanctus*, *donum*, *amor*. The ninth tract considers the connection and distinctions of the Persons, the tenth the conceptions *usia* (*essentia*), *usiosis* (*subsistentia*), *hypostasis* (*substantia*), *persona*, in which connection the distinctions of Augustine, Pseudo-Boëthius, Præpositivus, and certain later writers are all mentioned with praise, and finally, the Latin terminology is recommended as the most accurate. The expressions *trinus*, *trinus et unus*, *trinitas*, *trinitas in unitate*, and others are in like manner gone through with. In the eleventh tract the equality of the Divine Persons follows, by virtue of which each is equal to each and each to all. The twelfth treats *de appropriatis*, that is, of the secondary attributes of the Persons, which follow from the distinctive property of each—might being ascribed to the Father, wisdom to the Son, and will to the Holy Spirit, not indeed exclusively, but in an especial sense.

3. In the thirteenth tract, under the title *De nominibus quæ temporaliter Deo conveniunt*, the conceptions *dominus*, *creator*, *causa* are discussed, and God is shown to be the only *causa formalis* or *exemplaris* of things, since in knowing Himself He knows the ideas of all things, but in such a way that they unite in Him as radii in a centre. In the same way He is the only *causa efficiens* and *finalis* of all things. In the fourteenth tract figurative names are considered, and the propriety of attributing multiplicity to the absolutely simple is discussed. The fifteenth tract treats of knowledge, foreknowledge, and decrees. The distinction drawn in logic between the *necessitas consequentiæ* and *consequentis*, as well as the theological distinction between *præscientia*, *simplicis intelligentiæ*, and *beneplaciti* or *approbationis*, are used to solve the difficulties in this connection. In the sixteenth tract practical foreknowledge, predestination, is discussed, and,—by means of a distinction between *præparatio*, *gratia*, and *gloria*,—the opinions of those who deny all merit to man, and of those who assert it are reconciled. The *reprobatio*, as the opposite of *prædestinatio*, and the relation of the two are considered at the close. The next tract discusses providence and fate. By the latter is understood the causal relation of all movable things, which is established by the former. All except the immediate acts of God are subject to this; but it does not exclude other secondary causes, for instance, the free will. The eighteenth tract announces a discussion of the way in which God exists in things, the way in which things exist in God having formed the subject of the previous tracts. The omnipresence of God is defined as meaning that He is *essentialiter*, *præ-sentialiter*, and *potentialiter* in all things. The relation of the angels to space is next considered; and at this point, since philosophers can say little on the subject, the aid of the *Sancti*, especially of the Areopagite, is invoked. The nineteenth tract treats of the omnipotence of God, which can do everything that shows might, and that does not, as evil does, show weakness. Although an opponent of those who teach that God can do only what He actually does, Albert warns against emphasizing the omnipotence of God at the expense of His goodness and wisdom, by which His actions are determined. The investigations as to whether God can do the impossible, are in part very subtle. The last tract of the first book discusses the will of God, which is limited to

the good, that actually was, or is, or is to be, while His knowledge embraces everything, good and bad, actual and possible, and His power everything good, the possible as well as the actual. The will of God is groundless, not determined. In it *thelesis* (θέλησις) and *vulisis* (βούλησις) are distinguished. It cannot be withstood; and if it appears that it can, it is to be shown that it is not so by means of the distinction between the absolute and conditioned will, and especially by the distinction between the will itself and the revelation of it. In the latter, the *signum voluntatis*, five species are distinguished, which the verse (?)

Præcipit et prohibet, consulit, impedit et implet

expresses. Each of these contains again subordinate species, since the *præceptio* can be partly *executoria*, partly *probatoria*, and partly *instructoria*.

4. The second part of the *Summa theologiae* corresponds to the second book of the *Sentences*; and in the first tract a remark, which Lombard makes in censure of the errors of philosophers, is followed by an extended polemic against them. Aristotle is also accused of error in respect to the eternity of the world, since his teaching would lead to the doctrine that it could not have originated naturally. Moses Maimonides' book is often cited as *Dux neutrorum*, and severely criticized. In the three following tracts the angels are considered. They are defined as composed, not of *materia* and *forma*, but nevertheless of the *quod sunt* and *quo sunt*, and in so far of *materiale* and *formale*. The nine orders of the heavenly hierarchy are drawn from the authority of the Saints, since philosophy has nothing to say in regard to them. The time and place of their creation, their properties, their personality, which rests, not indeed upon any particular matter, but upon a *materiale*, the *quod est* of the angel, and reveals itself as a union, not, to be sure, of accidents, but nevertheless of properties—these and many other questions are considered. In the fifth tract, the fall of the angels is discussed. It was caused by the longing for more perfect blessedness, that is, more perfect likeness to God, therefore by ambition, which results in pangs of conscience, and thus gives rise to the *synderesis*. The sixth tract considers the power of the angels, and the relations of rank among them; the seventh, the demoniacal temptations, of which six different species are given. The

eighth tract treats *de miraculo et mirabili*, and defines the former as proceeding from the will of God, and taking place above and against the ordinary course of nature; the *mirabilia*, on the other hand, are accelerations of the processes of nature, which magicians pretend to be miracles. The object of miracles is to awaken belief; their condition is faith. The ninth and tenth tracts discuss the angels again, their office as messengers and guards, as well as their familiar nine orders. The eleventh takes up the subject of the six days' work, which is what the creation,—really accomplished in a moment,—appears to be to the spectator. The expectation with which the angels await the fulfilment is their *cognitio matutina*; their praises of the accomplished work are their *cognitio vespertina*, and hence the account which Moses receives speaks of evening and morning. Since all was created at once, the chaotic state was the primitive, and was followed by acts of separation. Although Albert unites the doctrine of the nine heavens with the Mosaic account of the creation, making the crystal heaven the waters above the firmament, etc., he nevertheless cannot help confessing that peripatetic philosophy teaches much whose acceptance is forbidden by the Church. The belief in the pre-existence of matter, the identification of the stellar spirits with the angels, etc., he rebukes severely. The twelfth tract considers the creation of man from the side of the soul. The various definitions of the soul are discussed, and those of Aristotle are found insufficient, although all that concerns the relation of its chief powers is accepted. The soul, composed of *esse* (or *quo est*) and *quod est*, is, since not absolutely simple, a *totum potestativum*. Even if it is not a complete *imago Dei*, but only *ad imaginem*, it nevertheless shows more than *vestigium Dei*. The soul is not formed out of God, nor out of any matter whatever, but is created from nothing. The acceptance of the second error is due to the idea that individuality can be rescued only by giving it a material basis. It is forgotten in this connection that the real ground of individual being lies in the fact that *quod est id quod est*, and that strictly speaking, even in material things, the *hic* and *nunc* are predicated by it. Traducianism, transmigration of souls, and pre-existence are combated, and it is shown that God, notwithstanding His rest (from the creation of new *genera*) directly creates individual souls. The formal ground of man's creation is the fact

that it is possible for a likeness of God to be produced ; its end, knowledge and enjoyment of God ; its subordinate object, compensation for the fallen angels. *Sensualitas* and *calor naturalis*, from the side of the body, and the *spiritus phantasticus*, or *vivificus*, from the side of the soul, are given as the bonds of union between the two ; and afterwards the entire controversy with the Averroists (*vid. supra*, § 200, 6) is repeated, and it is maintained that the soul is *tota in toto corpore*, which may be easily reconciled with the assignment of its functions to certain organs.

5. With the fourteenth tract Albert turns to the subject of Sin. He considers first man before the fall, and proposes a number of questions as to what would have happened if man had not fallen. The further investigations upon the *liberum arbitrium* distinguish in it the two elements *ratio* and *voluntas*—the latter as *causa sui*, or as *sibi ipsa causa, agi et cogi non potest*. All previous definitions of the *liberum arbitrium* Albert attempts to reconcile with his opinion. The fifteenth tract also, whose subject is the natural powers of the soul, is devoted chiefly to free-will ; and it is maintained that the latter cannot be lost, even in a condition of sin. The sixteenth tract, which treats of Grace, forms a supplement, and contains under this title, not only the distinction between prevenient and co-operant grace, and between *gratis data* and *gratum faciens*, but also the conception of conscience in its two steps, *synderesis* and *conscientia*, as well as the division of the virtues into *virtutes acquisitæ* (four cardinal) and *infusæ* (three theological virtues). The seventeenth tract discusses original sin. The *peccatum originale originans*, where the *persona naturam corrumpit*, is distinguished from the *pecc. orig. originatum*, where the matter is reversed. Casuistical questions are then proposed, as, for instance, What if Eve alone had sinned? Finally, the *libido* (*fames*) is defined as punishment and sin at the same time ; and the question as to how the permissive will of God is related to it, is made the subject of investigation. The propagation of evil desire from him in whom all men existed bodily, to his posterity, is considered in detail, as well as its partial disappearance in the Saints, and its total destruction in the blessed Virgin. The eighteenth tract treats of the *peccatum actuale*, its divisions, the distinction between the *p. mortale* and *veniale*, the seven principal sins, and those derived from them. The nineteenth

discusses sins of omission ; the twentieth, sins in words ; the twenty-first, distrust and partiality in forming judgments ; the twenty-second, the roots of sin. The view that the motive of action alone is to be considered, is combated. The twenty-third tract takes up the sin against the Holy Spirit, the continued sin of malice ; the twenty-fourth, the power of sinning. In so far as power belongs to sin, it comes from God ; in so far as it is sin, it does not. With this tract the work closes.

6. The *Summa de creaturis* (vol. 19 of Albert's Complete Works) is in its *first* section a recension, earlier in date, and for the most part briefer, of that which is treated in the first eleven tracts of the second part of the *Summa theologiæ*. There is a difference however in the fact that the parallelism with Lombard is less conspicuous. In four tracts the four *coæquævis* (already so called by Bede), matter, time, heaven, and angels are considered. They are not, indeed, eternal, but are everlasting ; and one of them, matter, is designated as the *inchoatio formæ*, because it contains in itself all forms with the exception of the human soul, which is poured into the previously organized body at the moment of its creation. These forms are drawn out of matter through the four principles, warmth, cold, dryness, and moisture. The fact that Albert here identifies the angels with the stellar intelligences may be cited as an instance of a real difference between his early and later views. The *second* part of the *Summa creaturarum* treats of man ; and its eighty-six questions, which consider man's *status in se ipso*, discuss in detail what the *Summa theol.* II., *tract.* 12, 13, and the work *De anima* had developed more precisely in regard to the senses and the intellect. This is followed by *de habitaculo hominis*, where Paradise and the present order of the world are considered. The latter will probably not be disturbed by the condemnation of sinners.

§ 202.

Although Albert does not succeed in bringing all the points of his theology into such an agreement with peripatetic teaching that every reader must accept it as demonstrated, it would nevertheless be an injustice to him to suppose that the remaining differences brought him into conscious contradiction with himself, or even led him into dishonourable accommodation. He is the most honourable Catholic, and at the same time an

honourable Aristotelian. When the discrepancy is too great, he seeks to remove it by a separation of the theological and philosophical provinces; as, for instance, when he says that philosophers must look upon the world as an emanation from necessary being through the agency of the highest intelligence, while theologians, on the contrary, must regard it as it originates through the fact that God first creates the two elements heaven and earth, that is the spiritual and the corporeal; and again when he speaks in numerous passages reprovingly of *theologizare* in metaphysical questions, and finally whenever he shows a tendency to ascribe to theology a dominantly practical character, on account of its constant reference to blessedness. His sentence: *Sciendum, quod Augustino in his quæ sunt de fide et moribus, plus quam Philosophis credendum est si dissentiunt. Sed si de medicina loqueretur plus ego crederem Galeno vel Hippocrati, et si de naturis rerum loquatur credo Aristoteli plus* (*Sent.*, ii., dist. 13, art. 2), was a sure canon for him. He does not indeed decide whether the doctrine of the State belongs to the *moribus*, in regard to which Augustine is entitled to the last word, and whether the doctrine of the intelligences and of the spirits belongs to the *fides*, or to the doctrine *de naturis*, where Aristotle is the final authority. The fact that Albert, although always filled with glowing piety, had devoted himself first to secular studies alone, and only afterwards to theology, is the reason why the stream of his knowledge, like many a stream into which a tributary flows, appears bi-colored. The fusion can be much more complete where the idea exists from the beginning that everything, and therefore also the teachings of the philosophers, is to be studied only in the interest of theology and for ecclesiastical ends. If it should happen in consequence that in many points the Aristotelians were interpreted less according to their own meaning, the transformation of their teaching will nevertheless not bring the one who undertakes that transformation into the difficult position of the *persona duplex*. This is the reason not only why the Church has placed St. Thomas above the blessed Albert, but also why an undeserved superiority over his master is often assigned to him by philosophical writers. Bonaventura supplemented that which had been taught by Alexander of Hales. In the case of Albert this was not necessary. All that was needed was that the two elements which were united in him

should be more intimately interwoven. This actually took place through the agency of Thomas.

§ 203.

THOMAS.

Dr. Karl Werner: *Der heilige Thomas von Aquino*. 3 Bde. Regensb., 1858.

1. THOMAS, son of Laudolf, Count of Aquino, and Lord of Loretto and Baleastro, was born in 1227 in the castle at Roccasicca. In his sixteenth year, against the will of his parents, he entered the Dominican Order, by which he was directed to Albert for theological instruction. The Master, who early recognised his genius, clung to him with touching affection which was never disturbed by jealousy. In the year 1245 Thomas went with him to Paris, and after his return, in the year 1248, became second teacher and *magister studentium* in the school at Cologne. In addition to his especial work, the interpretation of Scripture and of the *Sentences*, he was busied also with philosophical studies, a fact which is proved by the essays, *De ente et essentia* and *De principio natura*, which were written at that time. Four years later he was sent to Paris to take the degree of Doctor of Theology, and opened his lectures there as Baccalaureus in the midst of the greatest applause. The strife between his Order and the University hindered his promotion, which did not take place until 1257, after he had written several closely connected theological treatises. In Anagni he fought at Albert's side in defence of his Order; and his tract in reply to William of St. Amour's work, *De periculis novissimi temporis*, is regarded by many as only a reproduction of what Albert had said there. He wrote again later upon the same subject, the accusations against the Mendicant Orders. On the 23rd of October, 1257, he received simultaneously with his intimate friend Bonaventura (*vid. supra*, § 197), the degree of Doctor of the Paris University, and laboured for a year as *regius primarius* of the Order, and afterwards with the other doctors in the professor's chair. His *Questiones quod libeticæ et disputatæ*, some commentaries upon the Scriptures, and his uncompleted *Compendium theologiæ* belong to this time. The *Summa philosophica contra gentiles* was also begun here, but was completed after he had been called to Italy by the Pope. There, in one

place after another, he taught and laboured for the sake of awakening the Christian life within his Order as well as outside of it. In company with others he was very active in the introduction of the festival of Corpus Christi. To this time belong also the translations of Aristotle from the Greek, which were made at his suggestion, and which became the basis of his commentaries. He spent several years in Bologna, where he completed the *Catena aurea* and began his principal theological work, the *Summa theologica*. He returned thither again after a short stay in Paris, but soon transferred his labours to Naples. Called to the Council of Lyons, he died on the way thither, in the Cistercian monastery Fossa Nuova, in the neighbourhood of Terracina, on the 7th of March, 1274. The report arose early that he had been poisoned by Carl of Anjou. He was canonized on the 18th of July, 1323. His contemporaries had already honoured him with the title of *Doctor angelicus*. After several of his writings had been printed separately, a complete edition of his works in 17 folio volumes was published in Rome in 1570, at the command of Pius V. The Venetian edition of 1592 is a reprint of this. The edition of Morelles, Antwerp, 1612, has in addition an eighteenth volume, which contains several previously unpublished, but perhaps also some ungenueine, writings. The Paris edition of 1660 has twenty-three, the Venetian edition of 1787 twenty-eight volumes in quarto. The edition which has been appearing in Parma since 1852, I have not seen.

2. In view of the introductory works contributing to the understanding of Aristotle which Thomas found already written by Albert, his commentaries upon that philosopher have not the epoch-making significance which belongs to those of his master. Their chief value lies in the fact that he makes use of better (only Græco-Latin) translations, which enable him to avoid many misunderstandings that Albert could not escape, and in the fact that the reader can always see what he found in the text and what he himself added, since (like Averroës) he always gives the entire Aristotelian text in the translation, and then subjoins the commentary. In the method of Albert, which is copied from Avicenna, this is difficult, often impossible. Besides, Thomas's mode of presentation is far better, and his Latin much purer than that of his master. In the Antwerp edition the *first* volume contains the uncompleted

commentary upon the *Perihermeneia* and upon the *Analytics*, the *second* the commentary upon the *Physics*, the incomplete one upon *De cælo*, as well as that upon *De gen. et corr.* The *third* volume contains the commentaries on *De meteoris* on *De anima* and on *Parv. natural.*, the last incomplete. The *fourth* contains that on the *Metaphysics*, and on the *Liber de causis*. The original work *De ente et essentia*, which in other editions is given as No. 30 among his *Opuscula*, is here quite peculiarly placed among the commentaries. This might better have been done with No. 48 of the *Opuscula*, the *Totius Aristotelis logicæ summa*, which agrees perfectly with the contents of the first volume, and besides is denied by many to have been written by Thomas, and ascribed to Hervæus Natalis (*vid. infra*, § 204, 3). Prantl calls attention to one passage which betrays a Spanish author. The *fifth* part contains the expositions of the *Ethics* and of the *Politics*. In these commentaries as well as in those upon the *Sentences* of Lombard, which fill the *sixth* and *seventh* volumes, and in the abridged second commentary in the *seventeenth* volume, Thomas shows only formal variations from Albert, all of which are however improvements, since the carrying back of the investigation to a smaller number of principal Questions simplifies the review of the whole. Since the exegetical writings of Thomas upon the Old and New Testaments (vols. 13-16 and 18) do not belong here, the presentation of his teachings must be drawn chiefly from his *Summa philosophica* or *Contra Gentiles* in the *ninth* volume, his *Summa theologica* (vols. 10-12) and his *Opuscula* (vol. 17). The *Quæstiones disputatæ* or *Quodlibetales* also contain some things which are of interest for his philosophical standpoint.

3. The chasm between theology and philosophy is much narrower with Thomas than with Albert, because he emphasizes more strongly than the latter the theoretical element in theology, and identifies blessedness with the knowledge of the truth. God, as the real truth, is the chief object of all knowledge, of theology therefore as well as of philosophy. Although what concerns God cannot be learned by the mere reason, since Trinity, Incarnation, etc., go beyond reason, it is nevertheless possible, even in respect to these points, to show by means of the reason that they are not irrational. For other points there are direct proofs of reason: positive and negative in regard to the existence of God (*quia est*), negative in regard

to his nature (*quid est*). Even these demonstrable things are also revealed, in order that the weak and the uneducated may be sure of them. In the proofs for the doctrines of faith, a difference must be made, according as a believer or an unbeliever is addressed. Appeals to authority and grounds of probability, which are admissible with the believer, would not do for the unbeliever, for the former would not help at all, and the latter would only make him distrustful toward a thing thus defended. It is therefore to be proved from reason and philosophy alone that the doctrines of the Church have to fear the attacks of neither. This is the end which Thomas proposes to himself in the work from which all these points have been drawn, and which rightly bears the three titles *De veritate catholica*, *Summa philosophica* and *Ad gentiles*, according as its contents, its method, or the public to whom it is addressed is thought of. In the *Proœmium* to the first book Thomas himself announces, as the course which he is to follow, the investigation first of what belongs to God in Himself, then of the progress of the creature from Him, and finally of its return to God. The first three books discuss only that which the human reason is able to investigate. As a supplement to this, the fourth book considers the points of doctrine which go beyond the reason.

4. The *first* book, containing 102 chapters, opposes first those who declare, as Anselm does in his ontological demonstration, that the existence of God needs no proofs, and then those who hold it to be incapable of proof, and maintains that from the fact of motion (*a posteriori* or *per posteriora*) an original Unmoved must be concluded. (The *Summa theolog.* adds to this four other proofs.) Motion first of all and then, *via remotionis*, all other limits are excluded from this original, and thus its absolute simplicity results, in virtue of which not only no opposition of matter and form, but also none of *essentia* and *existentia* are to be constituted in God. Every determination from without is thereby excluded from God. It is then remarked that no predicate can be ascribed to us and to God *univoce*, all only *analogice*; and it is afterwards shown that God is neither substance nor accidents, neither genus nor species, nor *individuum*; that His nature is one with His knowledge; that His self-knowledge and His knowledge of things are one act; that from this knowledge nothing is excluded, not even therefore the material, the accidental, the

evil. Since to know a thing as good is the same as to will it, God must will His own nature, but at the same time also things other than Himself. The difference between the two is, that the former is unconditionally, the latter conditionally (*ex suppositione*) necessary. That which is in itself impossible, that which is contradictory, God cannot will. The ultimate ground of His willing is He Himself, who is the good, and therefore God wills for the sake of the good. He does not will for the sake of something good, which He wishes to reach for the sake of gaining it, but He wills in order to dispense good. After an investigation as to whether and in how far joy, love, etc., are to be predicated of God, the book closes with the blessedness or absolute self-satisfaction of God.

5. The *second* book, containing 101 chapters, begins with the apparent contradictions between theology and philosophy in regard to eschatology. The entirely different standpoints of the two are the reasons for the difficulty. Philosophy asks always what things are, theology, on the contrary, whence they come; and therefore the former leads to the knowledge of God, the latter proceeds from it. For this reason the philosopher is obliged to pass over a great deal that is very important to the theologian, and *vice versâ*. There is no more of a contradiction in this than in the way in which the geometrician and the physicist speak of surfaces and lines. The creation of things, their manifoldness and their constitution, are given as the principal subjects of the book; and then the power of God is taken up, and from this is drawn the truth that God created things out of nothing, inasmuch as the *materia prima*, this possibility of all things, is the first work of God. Since the creation is thus no mere motion or change, it is absurd to oppose it with arguments drawn from the conception of change. That which is said by Thomas in his work *De substantiis separatis* (*Opusc.*, 15) against the Platonic doctrine of emanation, according to which things have their being from *natura*, their life from the *anima*, and their knowledge from the *intelligentia*, may be looked upon as a supplement to this polemic against the dualism which sees in God at most only the director or sculptor of things. The opinions of Dionysius the Areopagite, as a representative of the true doctrine of creation, are contrasted with the views which Albert, in his work *De caus. et proc. univ.* (*vid. supra*, § 200, 9), had closely approached. This, however,

does not prevent Thomas from calling the creation a *simplex emanatio* (*Phys.* viii.), in opposition to the *Fieri est mutari* of Averroës. Aristotle is said to have erred in maintaining the eternity of motion, but it is asserted that he never denied creation from nothing. In the *Summa philosophia* Thomas expresses himself more briefly. The activity of God is often compared with that of an artist, in accordance with the propositions of the first book, which state that His activity is neither compelled by any force from without, nor, on the other hand, is merely arbitrary. God alone prescribes Himself limits in the *mensura, numerus, et pondus* according to which He orders everything. It cannot be said that He can do only what He actually does, for He is obliged to do only this. When a thing whose creation does not rest upon unconditioned necessity, has been once created, such necessity may be asserted of many other things; for instance, it is necessary that that which is composed of opposites should die, that the absolutely immaterial cannot perish, etc. The arguments for the eternity of the world are refuted; and the objection that the eternal will of God cannot operate in time, is answered by the observation that even a physician can decide to-day that an operation shall be performed to-morrow. In the same manner, before their temporal existence, things lay in the Divine thought in an eternal way as ideas. These ideas constitute the forms or quiddities in actual things; and finally, the understanding abstracts them,—as that which is general and common to all things, and the only direct object of our knowledge,—from the things themselves; and thus realism, conceptualism, and nominalism are all three right. The agreement of things with the eternal ideas constitutes the truth of the things; the agreement of our thoughts with the things constitutes the truth of our thoughts. In passing over to the second main point, the manifoldness of things (chap. 39–44), the views of those are first combated who deduce this manifoldness from accident, as Democritus; from material differences, as Anaxagoras; from opposites, as Empedocles, the Pythagoreans, and Manichæans; from principles subordinated to the Deity, as Avicenna; from the activity of an angel, who divides matter, as some new heretics; or finally from previous sin, as Origen. The true cause of the differences between things is then taken up. It is said to lie in the fact that only an endless manifoldness can be the copy of

the Divine perfection, and can actualize the unlimited number of possibilities which exist in matter. With the forty-fifth chapter the third principal point is taken up—the nature of different things. There were needed first intellectual, free, immaterial natures, which should be not only forms but actual substances, and which should be distinguished from other substances by the fact that they do not consist of form and matter, and from God by the fact that in them the *esse* and the *quod est*, that is the *actus* and the *potentia*, are distinct. The continuation of the analysis of this important conception is found in the earlier work, *De ente et essentia*, with which the uncompleted *De substantiis separatis* may be compared. It is there shown that that which is the *materia* in the complex substance,—for instance in man,—is, in the intellectual substance, that which,—as the *quod est*, as *essentia*, as *natura*, or again as *quiditas*,—is opposed to the *esse* or *quod est*, and which the creature has from itself or from nothing, while it has its *esse* from God. In the former connection therefore, it may be called the unconceived, and in so far absolute, in the latter nonentity; so that the intelligence may be characterized as limited upwards, as limitless downwards. The book *De causis* expresses itself in the same manner. In the fifty-fourth chapter of the *Summa* the word *substantia* is used instead of *essentia*. The imperishability of the intelligences is deduced, as in the treatises named above, from the absence of matter. In the same way their knowledge is not conditioned by images of material things, but on the contrary they know themselves and things, without being stimulated to it from without. Thomas ascribes to the highest intelligences, the angels, the moving of the heavenly bodies as their first business. He seeks then to prove in a most subtle way how it is possible that a species of intellectual substances should be united with a body as its animating form. He shows further, that the nutritive, sensitive, and thinking soul is to be thought of as one, and then proceeds to the refutation of Averroës' doctrine of the unity of the human understanding. The unity of the various functions of the soul is deduced, as Thomas expressly states in his theological *Summa* (i., qu. 76. art. 3, § 4), from a general principle expressed by the formula "*unitas formæ*," which became one of the watch-words of his school. In the passage referred to he formulates this principle as follows: *Nihil est simpliciter unum nisi per formam*

unam per quam habet res esse, and deduces from it among other things the fact that it is one and the same form by which a thing is a living thing and by which it is a man. Otherwise it would be necessary to look upon it as a *unum per accidens*. The tract *De unitate intellectus contra Averroistas* (*Opusc.*, 16) serves as a continuation of chaps. 59 ff. of the *Summa*. In both places Thomas seeks to refute Averroës by means of Aristotle, according to whose doctrines, rightly understood, the *intellectus possibilis*, that is, the capacity of actively seizing the forms, is a part of the soul and therefore individually determined, but at the same time immortal. The opinions of others besides Averroës are combated in the *Summa*; of those who, in agreement with Galen, regard the soul as a temperament, or, like the Pythagoreans, consider it a harmony, or, with Democritus, hold it to be corporeal; or of those who identify the *intellectus possibilis* with the *imaginatio*. It is then shown how it is conceivable that an actual substance can nevertheless be the form of a body and thereby go beyond its union with the body, so that the latter becomes a complete substance only by the addition of the former, while at the same time the substance is not *materia immersa vel a materia totaliter comprehensa*. Aristotle's doctrine, that an intelligence animates the heavens, may perhaps be an error, but it proves that he saw no contradiction in the view that a substance may be the form of a body. Of course by its union with the body the knowledge of the intelligence so united is conditioned corporeally, begins with sensuous observations, needs phantasms, etc., all of which is not the case with the higher intelligences. The most complete presentation of how the various steps of sense,—the passive understanding, which receives the forms of material things, and finally the active understanding, which transforms them and maintains them in their purity,—are necessary to knowledge, is found in the treatise *De potentiis animæ* (*Opusc.*, 43), whose authenticity it is true is questioned. It is asserted in the *Summa* that the active understanding as well as the *intellectus possibilis* is a part of the soul, which fills the whole body, and is personally determined. Otherwise man would be responsible neither for his thoughts, the products of the *intellectus speculativus*, nor for his acts, the products of the *intellectus practicus*; and much contained in Aristotle would be quite incomprehensible. The immortality of the human

soul follows from this, as well as the mortality of the animal soul. It is true that memory in a proper sense can hardly be attributed to the soul after death. The pre-existence of the soul, its emanation from the divine substance, its propagation by the parents, are all rejected. It is created and bestowed upon the organized matter. An intelligence as (substantial) form can be united only with a human body, therefore there are no demons with ethereal bodies, but there are bodiless intelligences. Since they lack materiality they cannot be individuals belonging to a species or genus, but each forms a species by itself. This leads to the *Principium individuationis*, which Thomas discusses in the treatises already mentioned and also in an essay especially devoted to the subject (*Opusc.*, 29). This problem assumes a prominent position now that the alternative between *ante res* and *post res* has lost its significance. In its solution Thomas follows his master closely, diverging from him only in fixing more exactly what had been left by Albert somewhat indefinite, owing to his use of different expressions. To every *ens*, except the absolutely simple being, two elements belong, the *esse* or *quo est* and the *essentia* or *quod est*. The former is *actus*, the latter *potentia* (*passiva*). In material beings they are *forma* and *materia*, which are united to the *ens* or the *substantia* as specific difference and genus. The *materia prima* gives, in union with the first forms, the especial material; for instance, the elements, which can themselves become again bearers of forms which they are adapted to receive. If the material which is adapted to receive a particular form is only great enough to receive this form a single time, there will be but one individual of this species, as is the case for instance with the sun. It is different when the form is united with more than one part of the material adapted to receive it. There arises then a multiplicity of individuals of the same species, so that this participation (*quantitas*) is the ground, and the temporal and spatial determinateness of the parts of the material (*materia signata per hic et nunc*) is the principle of individuality. When others, in opposition to this doctrine of Albert and Thomas, desired to put the principle of individuality in the form, Bonaventura (*vid.* § 197), a friend of partisans of both views, sought a middle course. He taught that matter *and* form constitute the individual, as the ground of differences in impressions lies neither in the

wax nor in the seal, but in the combination of the two. Thomas taught otherwise. According to him, it is *hæc caro hæc ossa*, which, in Socrates, make of man in general an individual man. It is not thereby said that individuality ceases when the union with the body comes to an end. Since in these numerically different individuals not only the *esse* is a product, as in the case of the intelligences, but also their *quiditas* is an *a materia signata receptum*, it cannot be said of them, as above of the angels, that they are limited only upwards; they are limited both upwards and downwards. The statement that matter (designated now as *signata* and again as *quanta*) individualizes, became a second watch-word of the school of Thomas, and was attacked by his opponents as severely as the phrase *unitas formæ*. It appears that the latter was combated chiefly in Oxford, while the Thomistic *principium individui* was opposed in Paris, where the Bishop, Stephen Tempier, constituted himself the organ of a strict censorship over it. According to what was stated in §§ 151 and 194 to be the nature of scholasticism in general and of Aristotelian scholasticism in particular, its internal strifes can be carried on only in such a way that the appeal is always made to ecclesiastical dogma, which indeed reason and peripatetic philosophy in the present case subserve. It is quite in order for the Oxford teachers to urge against the *unitas formæ* the consideration that the body of Christ lying separated from His soul in the grave would then be no longer body, or for the Parisians to maintain, in opposition to the *principium individui*, that the angels would not be individuals if that principle were accepted. To admit the existence of scholasticism and yet to complain of its conduct, is foolish. It is indeed (to-day) unphilosophical to appeal to dogma in questions of logic, as it would be (to-day) madness to undertake a crusade. And nevertheless we do not consider the historian very rational who, in recounting the crusades, complains because its heroes did not think and act as a rational man of to-day would think and act. After what has been said in § 180, the grouping of these two things is more than a mere comparison.

6. The *third* book, in 163 chapters, shows how God is the end of all things, and discusses His government of the world, that is, of the complex of temporal things. All action has a good as its end, and therefore evil as such cannot be willed. As privation, it has neither complete reality nor a positive

ground, and hence much less an absolute principle as its author. The ultimate end after which everything strives is the ground of all things, God; and in the universal struggle to become like Him there is produced a series of steps, in which each is the goal of the preceding, and man is the goal of all things that are subject to propagation. In higher natures this struggle for likeness with God becomes a thirst for knowledge of one's self and of God. The highest blessedness consists in knowledge, not indeed in the immediate knowledge of all men, nor in demonstrative knowledge, nor in belief founded upon authority, nor in speculative knowledge, but in that which goes beyond them all and is fully attained only in the future life. Here below man participates in this contemplation of God, which is eternal life, only in part, and as a result of divine illumination. The consideration of the preservation of the world is followed by the consideration of its government. The divine activity is said not to exclude the self-activity of things. On the contrary, God's goodness has given to the latter a mark of similarity to Himself, in that they too may exercise causality. Therefore the course of nature, accident, and free-will are reconcilable with the government of God, since He uses for this secondary causes, especially freely acting creatures, angels, etc., as well as the influences of the heavenly bodies. The crossing of secondary causes produces accidents which are without existence only for the first cause. Within the general order of the universe subordinate systems of causes and effects must be conceived, within which, for instance, events happen only in answer to the prayer of faith, not otherwise, without altering the order of the world as a whole. That God can never act against His own counsel is self-evident; nor can He act contrary to nature. Miracles therefore are only phenomena which nature alone cannot produce. The government of the world is related differently to rational and irrational creatures. To the former are given laws, the latter are compelled by laws; the former are treated as ends, the latter as means. Love to God and to one's neighbour forms the essential content of the law. Since this is the end of man, the natural and divine laws coincide, and it is false to base what is right only upon divine ordinance and not upon nature. The determination with which Thomas opposes those who maintain that a thing is good because God has commanded it and not *vice versâ*, is a result of his views of the will which, in God as well as in

man, has knowledge as its presupposition and its basis. In this doctrine he left his school a third watch-word: that the good is good *per se*, and not *ex institutione*. The *perseitas boni* became a new mark of his followers. As to the details of his ethics, property and marriage are permitted by natural and divine laws, but poverty and celibacy are not for that reason to be looked upon as inferior, much less to be scoffed at. Reward and punishment, like merit and guilt, have various degrees. Punishment threatened by God in part as satisfaction, in part as a warning, may be exercised by the authorities as servants of God. The one who opposes capital punishment because it excludes reformation, forgets that the criminal who is not affected by the proclamation of the death sentence will scarcely reform himself, and overlooks the fact that in this case the danger to the whole is certain while the benefit to the individual is very questionable. Power to fulfil the law is given by grace, which is not compulsory, but at the same time cannot be earned. It makes us acceptable to God and works in us belief and hope of blessedness; upon it depends the gift of perseverance, as well as freedom from sin, which is possible even for one who has fallen from grace. Although a man can be converted only through grace, it is nevertheless his own fault if he is not converted, as a person who shuts his eyes is to blame for not seeing that which cannot be seen without light. Only in individual cases are the eyes of these also opened by prevenient grace, and they are the predestinated or elect.

7. The *fourth* book, in 97 chapters, repeats the order of the first three, defending against the objections of opponents that which is above our reasons and has been revealed to us in regard to the nature of God (chap. 2-26), the works of God (chap. 27-28), and the chief end of man (chap. 79-97). Accordingly, in connection with the Trinity the errors are first refuted exegetically, and then in chap. 11 it is shown that the predicates of God discovered by the reason alone and given in the first book, lead to the result, that if God thinks Himself, the products of this thinking must be the eternal Word, the likeness of God and the original type of all things, in which they all as eternal pre-exist (*quod factum est in eo vita erunt*), and through which they are revealed to the ones thinking. In the same way the doctrine of the Holy Spirit is first considered exegetically, and then it is shown that as soon as God is con-

ceived as willing it must rationally be admitted that He must exist as love towards Himself, and thus also as Holy Spirit, who works in us love, just as the Son produces knowledge. Reference is also made to the traces of trinity in things, and to its image in man. Among the works of God of which we could not gain a knowledge by mere reason the incarnation occupies the first place. Since this removes the effects of the fall, Thomas is confident that it is conditioned by sin, and therefore would not have taken place had there been no sin. When, however, he at the same time calls it the goal of creation, in which *quadam circulatione perfectio rerum concluditur*, sin appears clearly as a condition of the highest end, as *felix culpa*. He next combats with exegetical weapons the errors of those who reject with Plotinus the divine nature in Christ, or with Valentinus and the Manichæans, deny Him a human body, or empty the latter of a human soul, with Arius and Apollinaris, or express themselves heretically in regard to the union of the two natures, as Nestorius, Eutyches and Macarius had done. The arguments against the Catholic doctrine drawn from reason are then quoted (chap. 40), and refuted (chap. 41-49). In addition, it is directly proved why the essential points in the life of Jesus, His birth from the Virgin, etc., if not unconditionally necessary, are yet adapted to the case. After remarks similar to the preceding have been made in regard to original sin, Thomas returns to this *convenientia* and decides that the dogma of the incarnation contains *neque impossibilia neque incongrua*. The doctrine of the means of grace, which is taken up in chap. 56, forms the transition from the works of God to the exaltation and return of the creatures to God, showing as it does what He contributes towards this exaltation. The distinction between the Old and New Testament Sacraments is then pointed out, and the necessity that there should be seven of the latter is shown. Baptism and confirmation are considered very briefly, the eucharist, and especially transubstantiation, and afterwards the confessional are discussed most fully, and the subject is brought to a close with the sacrament of marriage, in connection with which reference is made to what is said elsewhere. The third section begins with objections against the resurrection, which are refuted. Since the soul is the form of the body and nevertheless immortal, it exists, in its separation from the body, in a condition contrary to its nature, so

that its subsequent re-embodiment is entirely in accordance with reason. The new body is called spiritual, because it will be entirely subordinated to the spirit; but it will not be essentially different from the present body. There can therefore quite well be bodily punishments after death. Immediately after death man receives his personal reward. At the last judgment he is given what is due to him as a member of the whole. The unchangeableness of the will after death explains the fact that many remain in condemnation, although God forgives every penitent. Since man is the end of creation, everything which has served to lead mortal man to immortality must, as unnecessary, come to an end at the close of time. Among these things Thomas reckons the motion of the heavens.

8. The express aim of the *Summa theologica* is to give to beginners in theology a simplified presentation of that which the theologian must know. The work, therefore, from a philosophical point of view, is by no means as important as the *Summa ad Gentiles*. Nevertheless it forms a supplement to the latter, since in the two sections of the second part it treats practical questions which are entirely omitted in the philosophical *Summa*. In the *prima secundæ* the virtues and their opposites are considered in general, in the *secunda secundæ* in detail, partly in and of themselves and partly in various special relations. First the three theological, then the four cardinal virtues are discussed, and all the other virtues follow as their daughters. The first thing to be emphasized is the subordination of the practical to the theoretical. Not only is *visio* put before *delectatio* in the state of blessedness (ii., 1, qu. 4), but in his theory of the will Thomas always maintains that we will a thing only when we have first recognised it as good, but then we cannot do otherwise than will it (*Ibid.*, qu. 17). On this account reason is the lawgiver for the will. It is reason which speaks in conscience, and the latter is thus not incorrectly named after knowledge (*sciens*). It has the threefold function of attribution, of prescription, and of accusation or exculpation (*Ibid.*, qu. 19 and 79). The part of the soul which has desires furnishes to the law prescribed by reason the material for conduct in the passions. Of these love and hate, joy and sorrow, hope and fear are discussed with especial fulness; and it is considered at the same time in how far they have their station in the *pars concupis-*

cibilis or *irascibilis*, these two sides of sensibility. The conception of the *habitus* is then explained, and thus all the data in the Aristotelian definition of virtue are given, but nevertheless instead of it an Augustinian definition is adopted and defended (*Ibid.*, qu. 55). The Platonic-Aristotelian *virtutes intellectuales et morales* are designated as the *acquisitæ*, or also as the human virtues, the three theological as the *infusæ* or as the Divine, and among the latter *charitas*, among the former *sapientia* and *justitia* are assigned the first place (*Ibid.*, qu. 62, 65, 68). *Charitas* gives to all the other virtues their proper consecration. They are all supported by the gifts of the Holy Spirit, which are seven in number, like the seven principal virtues and vices. After extended discussions of sin and its propagation the author takes up law, the revealed command of reason, which is for the general good and which proceeds from Him whose place it is to care for the whole (*Ibid.*, qu. 90). The eternal law of the government of the world becomes, in the consciousness of the intelligent creature, the *lex naturalis*, the basis of all human or positive laws, whose aim is only to supplement for the general well-being that which the natural law has left undetermined. To these forms of law are to be added the law of God revealed in the Old and New Testaments. Wherever positive laws conflict with the word of God or with the *lex naturalis* they are not binding upon the conscience. In the *secunda secundæ*, in connection with the discussion of justice and its activity in law, the relation of positive and natural law is more precisely treated. At first natural law is identified with the *jus gentium*, although it properly has a wider significance, since it is to be extended also to brutes. It is then pointed out that there are certain relations which are not merely legal ones, as for instance the parental and governmental, although those who stand in these relations are from another point of view subjects of law (ii. 2, qu. 57 and 58). To give to every one his due is defined as the principle of all justice. The investigations in regard to the remaining virtues, in regard to the various elements of grace and the mutual relation of the two, differ from those of Alexander and Albert only in the fact that Thomas greatly limits the *liberum arbitrium*, making it only the ability to determine our willing by calling up various considerations which act as motives. But even here it is maintained that the first impulse to this comes from God, and that our prepara-

tion also for the reception of grace is solely a work of grace. Thomas is much less of an indeterminist than Albert.

9. The diligent study of the greatest of all philosophers had led Albert to take an interest in the world, and the same was true of Thomas, except that in his case it was not, as in the case of the former, the world of sense which occupied him, but the moral world, the State. Albert had left the *Politics* of Aristotle unexpounded, and Thomas did the same with his *Natural History*. In physics in general he only repeats what Albert had taught. On the other hand, besides his commentary upon the *Politics* of Aristotle, he wrote many things which bear upon his views of the State. They are to be drawn partly from his theological *Summa* and partly from works devoted especially to the subject. Of the latter the *Eruditio principum* (vol. 17, Antwerp edition), a somewhat unscientific book of instruction for princes, is to be omitted, since it is hardly a work of Thomas himself. The four books *De regimine principum* (*Opusc.*, 20) likewise do not belong wholly to him, for in the third book the death of Adolph of Nassau is mentioned. His followers claim him as the author only of the first two books, and ascribe the others to the Dominican Tholomæus of Lucca (Bartholomæus de Fiodonibus). The principal ideas, which agree well with what is found elsewhere in his works, are as follows: the members of the body constitute a unity only by their submission to a principal organ; the powers of the soul are united only by their subjection to reason; and the parts of the world form one whole only by their subordination to God. In the same way the unity of the State becomes possible only through subjection to a ruling chief. Man's helplessness, social impulse and power of speech all prove him predestined for life in a State. The unity becomes most complete when the ruling head is only one, and the healthy monarchy is the best government, although its abuse, the tyranny, is the worst. This is distinguished from the monarchy by the fact that the ruler seeks his own instead of the common good. Besides, as experience teaches, the danger of tyranny is far greater in aristocracies and democracies, than in a monarchy; and the probability that a violent change will improve matters is always so small that a people does better even under a tyrant to await the help of God, which will come the more surely and quickly the more virtuous the nation is. The aim of the State is to bring its citizens nearer

their highest goal, the condition of blessedness, but the direct care for this has been committed to Christ and to His vicegerent upon earth, to whom, in this respect, even kings are subject. The king therefore has to provide for the arrangement and preservation of all that contributes to the attainment of the great end. This may be comprehended under the single formula: The king is to labour for the maintenance of peace. Nevertheless his calling is still higher, indeed, more godlike, inasmuch as he stands related to the people as the reason is related to the powers of the soul, as God is related to the world. The incomparably greater burdens which rest upon the king give him a right to greater honour and greater forbearance from men, as well as greater reward from God. As God first arranges the world and then preserves it as thus arranged, every king has to do the latter, and whoever first founds a State the former also. The entire second book treats of regulations which are necessary to every State, beginning with attention to the nature of the land, then giving the most minute directions in regard to means of fortification, of communication and of commerce, and closing with the subject of care for religious services.

§ 204.

1. If the number of its partisans and the duration of its existence were to decide the value of a school, none could compare with that of the Albertists, as they were originally called, or THOMISTS, as they were later designated. To the present day there are those who see in Thomas the incarnation of the philosophizing reason. The first scholars and disciples were naturally found within the order to which the teachers belonged. Thomism was declared to be the official philosophy of the Dominican order, which was therefore much incensed with Bishop Tempier of Paris when he granted every one liberty of opinion in relation to this system. If we proceed chronologically, and limit ourselves to the time in which philosophy had not yet advanced beyond Thomas, we must mention first, although conditionally,—

2. VINCENTIUS BELLOVACENSIS (cf. F. Chr. Schlosser: *Vincenz von Beauvais*, etc., Frankfort, 1819, 2 vols.). This poly-

mathist is to be named only conditionally, because philosophy interests him only in so far as it is in general a subject of knowledge, and because his work breaks off just where the presentation of the true theology is to begin. He was a Dominican in the monastery of Beauvais, after which he is ordinarily called. After his *Liber gratiæ*, his writings in praise of the Virgin and of John the Evangelist, a work *De Trinitate*, and a handbook for princes of the blood (translated by Schlosser in the work mentioned above), he compiled, at the command of Louis IX., his *Speculum magnum* from the many books which were at his disposal. The work is thus named to distinguish it from his Minor Mirror, in which he had celebrated the beauty and order of the sensible world. It is an encyclopædia of everything which was known or thought to be known at that time, and when compared, for instance, with the works of Johannes Sarisberiensis, the most learned man of the twelfth century, shows the progress which had been made in a hundred years. It is divided into three parts, and should be called, not, as ordinarily, *Speculum quadruplex*, but *triplex*, since the fourth part, the *Speculum morale*, is an appendix of later date. In the Venetian edition of Hermann Lichtenstein (1494), a folio volume is devoted to each of the four *specula*. The edition of Duaci, 1624, also in four folio volumes, reads better. The historical mirror (*Spec. historiale*) shows what the views of that age were in regard to history. It was composed in 1244, and not in 1254 as Schlosser, who makes judicious extracts from the work, incorrectly says. The *Speculum naturale*, which was finished in 1250, is the fullest part. It brings together everything that passed for natural science at that time, and, among a great many other names, very frequently cites the name of Albert. The name of Thomas occurs much more rarely. Scarcely a single name is wanting which was distinguished in the history of the sciences among the ancients, and among Mohammedans, Jews and Christians, down to the author's own day. In addition to the names of individuals he often cites *Auctoritates* (abbreviated in the Venetian edition to *Actor*), which signifies a repertorium, either composed by himself or previously existing, of the nature of the one which was ascribed to Bede (*vid.* § 153). (Among the manuscripts of Santa Croce at Florence is to be found, according to Bandini, *Liber de auctoritatibus Sanctorum editus a Fratres Vincentio Belluacensi Prædicatorum*).—

The doctrinal mirror (*Speculum doctrinale*), which Vincent worked upon until shortly before his death (1264), remains unfinished. The *Spec. naturale* had closed with the misery of sin, and the *Spec. doctrinale* takes up the subject at this point, maintaining that nothing furnishes so much help in this misery as science. The divisions of science are then given. The *trivium*, which embraces the *scientiæ sermocinales*, is followed by practical philosophy, as *Monastica*, *Æconomica*, *Politica*. In the last the entire system of canonical as well as civil law is treated. A discussion of the seven *mechanical* arts follows, and finally the theoretical sciences—physics, mathematics, and theology. In connection with physics, reference is made to the *Spec. naturale*; under mathematics, the whole *quadrivium* is treated; while in the last section only false theology is discussed, the work breaking off at the point where the consideration of true theology was to begin.

3. PETRUS HISPANUS, who was born in the year 1226 and died in 1277 as Pope John XXI., stood in direct connection with the philosophy of Albert and Thomas. His fame is due rather to a translation which he made than to his original works, which were mostly on medical subjects (*Canon medicinae*, *De problematibus*, *Thesaurus pauperum*). His *Summule*, so called in an old edition printed by Melchior Lotter in Leipsic in 1499, were published by the same man in 1510 under the title *Textus septem tractatum Petri Hispani*, and afterwards innumerable times, either as *Summule logicæ* or as *Septem tractatus Petri Hispani*, and finally as *Tredecim tractatus P. Hispani*, the seventh tract being divided. They are not only, as Éhinger, editor of the *Σύνοψις εἰς τὴν Ἀριστοτέλους λογικὴν* (Wittenb., 1567), has pointed out, in the preface to his work, closely related in their contents to that Synopsis, but are an almost verbal translation of it. The Synopsis is ascribed to the Aristotelian Michael Psellus, who was born in the year 1020. The translation of Peter was not the first, for, some decades previous, the Synopsis had been transformed by W. Shyreswood into a Latin school-book, which still exists in manuscript. Lambert of Auxerre also translated the work, and in a way which seems to show that he as well as Shyreswood had predecessors. The translation of Petrus Hispanus is distinguished from both by its greater literalness. The fact that the *Summule* contain some things which are wanting in

Ehinger's edition of the original does not signify much, for Prantl (*op. cit.* Pt. ii., p. 278), is doubtless right in thinking that these passages also belong to Psellus, and have simply dropped out of the manuscript used by Ehinger. This is of course true only of the passages which are found in the oldest editions of the *Summulæ*, above all of the *Soph. Elench.* and then of the first six chapters in the seventh tract (*De terminonum proprietatibus*, called formerly *Parvis logicalibus*). The fact that in the *Tractatus obligatoriorum* as well as in the *Tract. insolubilium* is found a reference to Buridanus and Marsilius proves that both are of later origin. The edition of Lotter does not contain them, but they are found in an annotated school edition published in Cologne in 1494. It is likewise clear that a number of the other investigations are later additions. The peculiar idea that the *Summulæ* are the original work and the Synopsis the translation, has been completely refuted by Prantl. The most important variation from the original lies in the fact that the *Summulæ logicae* contain the familiar *vores memoriales*: *Barbara, Celarent*, etc. Even if the person who first employed these terms had before him the Greek words *γράμματα, ἔγραψε*, etc., he nevertheless rendered a service in inventing a notation in which the consonants also signify something. Shyreswood and Lambert, however, use these words as already familiar, and therefore Petrus Hispanus was not the inventor of them, though he is the earliest one to hand them down to us. However that may be, his translation, regarded as his own work, was used for a long time as a school-book, and that not by the Dominicans alone. Upon this school-book was based that method of instruction in logic which was at first called the *via moderna*, or *modernorum*, until it became the only one, having driven out the *via antiqua*, or earlier method, which was not given to grammatical and rhetorical subtleties. We pass by the contents of this mechanical logic, and especially the *suppositiones, syncategoremata*, etc., of the seventh tract, for we are not giving a history of logic (particularly, since Prantl), and moreover, if we discussed them here, we should repeat ourselves, for they are to be treated, as is most fitting, in connection with William of Occam (*vid.* § 216), who is led by these investigations to important results. Ægidius of Lessines, Bernardus de Trilia, and Bernardus de Gannaco are Thomistic Dominicans of less importance. If HENRY GOETHALS

(Henricus Bonicollius) was actually a Dominican, he is the only one of this Order who really philosophizes, and yet occupies an independent position over against Albert and Thomas. He was born in Muda near Ghent, and died as an archdeacon in Tournai in 1293. He bore the title of *Doctor Solennis*, and taught for a time at the Sorbonne. He is called ordinarily a *Gandavo* or *Gandavensis*, sometimes also *Mudanus*. In addition to his commentaries upon the *Metaphysics* and *Physics* of Aristotle he wrote many things which have been printed, for instance an Appendix to the literary histories of Jerome, Gennadius, and Siegebert, which has been often published, most recently in the *Bibliotheca ecclesiastica* of Fabricius (Hamburg, 1718), under the title *Liber de viris s. de scriptoribus ecclesiasticis*. The most important work from which to form a judgment as to his scientific standpoint is the *Summa questionum ordinarium* (published by Jodocus Badius Ascensius in Paris, in 1520), in which he treats, in the first twenty articles, science in general and theology in particular, and then, down to the seventy-fifth article, with which the work closes, God and His most essential attributes. It is noticeable that he emphasizes more than Thomas does the *liberum arbitrium* in God. The work contains no direct polemics against the latter. But its arrangement and its contents differ considerably from those of the theological *Summa*. Henry wrote also the *Quodlibetica theologica in LL. Sententt.*, which were issued by the same publisher in Paris in 1518. They contain an account of the general disputations, written in part immediately after they were held, in part somewhat later. Fifteen disputations altogether are reported, in which 399 questions were decided. Some of these are verbally identical with those which are answered in the *Summa*. Other quite casuistical questions were evidently caused by particular cases which had arisen. The freedom of choice is emphasized in many places more strongly than in the *Summa*. The *materia prima* is said to have a degree of reality, so that it is not a contradiction to say that matter exists without any form. In the doctrine of the universals (*Quodl.*, 5, qu. 8), Henry shows more of a leaning towards nominalism than Thomas. Although the right of the Popes to remove princes is asserted, regret is expressed that the Church has its own courts of justice (*Quodl.*, 6, qu. 22).—One of the truest followers of Thomistic teaching is HERVEUS of Nedellec (NATALIS). He was a native of Brittany,

and died in the year 1325 as the fourteenth General of the Dominican Order. In his time he had as great a reputation among the Thomists as Jo. Capreolus, the *Princeps Thomistarum*, had a hundred years later. His commentary upon the *Sentences* was printed by Hervey (Venet., 1503). In 1486 appeared *Hervei Natalis Britonis quatuor quodlibeta, Venetiis impressa per Raynaldum de Novimagio Theutonicum*, which was again published in a more complete form in Venice in the year 1513 under the title *Quodlibeta undecim*.

4. Thomas' great reputation however was not confined to his own Order. One of his hearers was Ægidius of Colonna (*de Columna, Romanus, Doctor fundatissimus*), General of the Augustinian (Hermit) Order, who died as Bishop of Bourges in the year 1316. He introduced the teaching of his master among the Augustinians. At the same time he was a very prolific writer. His work *De regimine principum* was written for the son of a French king, and *De renunciatione Papæ* in defence of Boniface VIII. A long list of his works is contained in Trithem. *Script. eccl.* Some of them have been printed, among others *De ente et essentia*, *De mensura angeli*, *De cognitione angeli*, Venet. 1503, and several works on logic which Prantl mentions. His work *De erroribus philosophorum* (published in 1482), as well as many of his *Quodlibeta* (published by Löwen in 1646), condemn Averroës much more severely than Thomas had done. This hostile attitude grew constantly more decided among the Thomists, for the reason that in Paris the number of those who drew upon Averroës in the interest of heterodoxy greatly increased. The Dominicans naturally showed this hatred most. Other clerical and learned bodies also soon showed themselves favourably disposed toward Thomism. Through the agency of Humbert, Abbot of Prulli, it gained an entrance among the Cistercians, and through Siger of Brabant and Godefroy of Fontaines, the Sorbonne was opened to it. To a later period belong Thomas' triumphs among the Jesuits, as well as among the barefooted Carmelites of Spain, who produced those gigantic works of Salamanca and Alcala, the *Census theologicus collegii Salmanticensis*, which expounds in nineteen folio volumes the theological *Summa* of Thomas, and the *Disputationes collegii Complutensis*, which develops in four folios the entire Thomistic system. The third volume of Werner's work (mentioned in § 203) contains an accurate account of the

fortunes of Thomism, accompanied with a rich digest of the literature.

5. The Franciscan Order was the only one which opposed the Dominican in this matter, as it was accustomed to do in other things. It decided against the doctrines of the two great Dominican Aristotelians. Every deviation from its own Alexander and Bonaventura was denounced and looked upon as dangerous. In this sense, for instance, William de la Marre attacks the false doctrines of Thomas in his *Correctorium fratris Thomæ*, but is met with the reply that he has written a *corruptorium*. RICHARD of Middletown (*Ricardus de media valle*), *Minoritanæ familiæ jubar*, as the editor of some of his works has called him, has the greatest scientific importance among the Franciscans of this time. His commentary upon Lombard (*Super quatuor libros Sententiarum*, Brixia, 1591) and his *Quodlibeta* (*ibid.*) show uncommon shrewdness. In almost all the points in which Duns Scotus (*vid.* § 214) later opposed the Thomists, Richard of Middletown appears as his predecessor. For instance, in the fact that he emphasizes more strongly the practical character of theology (*Prolog.*, qu. 4); and again in the fact that he puts the principle of individuality not in matter, but in something added to it (ii., dist. 3, Art. v.), although, to be sure, he wishes to regard this as a negative, as the exclusion of participation; further, in the emphasis which he lays upon the unlimited pleasure in the will of God, as well as in that of man, as a result of which much, because dependent only upon the will of God, is withdrawn from philosophical demonstration (*Fidei sacramentum a philosophicis argumentis liberum est*, he says, iii. dist. 22, Art. v., Qu. 2). The circumstance, too, that the later definitions of the Church are respected almost more than the utterances of the Bible, appears an approach to the method used somewhat later by Duns Scotus. The sinlessness of the Virgin is not yet conceived as a consequence of *conceptio immaculata*, but of *sanctificatio antequam de utero nata esset*. This sanctification in the mother's womb is said to have taken place immediately after the *infusio animæ* (iii. dist. 3, Art. i., Qu. 2). It is clearly only a short step to what Duns Scotus asserts. Richard appears to have lived until the end of the thirteenth century. Duns Scotus refers to him frequently, especially in his commentary on the fourth book of the *Sentences*, because at this point Richard had shown his strength.

§ 205.

The promise of Erigena (*vid. supra*, § 154, 2), which was regarded as blasphemous arrogance at the time it was made, was fulfilled by Albert and Thomas, and won for them the highest ecclesiastical honours. As he had promised, they showed that every objection against the teaching of the Church can be refuted by reason and philosophy, and indeed as a positive accomplishment they proved from the principles of philosophy the truth of almost every ecclesiastical doctrine. Scholasticism thereby fulfilled its mission and reached its culmination. Whenever a school reaches this point its victorious waving of banners ordinarily consists in inviting the masses to share its triumphs, in extending itself to wider circles. If the character of the school is not thereby to be lost, methods must be invented which shall make it easier to become a specialist in philosophy, a scholastically educated man. On the other hand, whenever the limitation of a system to a school, however numerous, is looked upon as a defect, the popularization of the system begins. While *scholars* are drawn in masses, when philosophizing is made mechanical, and transformed more or less into a method of reckoning, the *unschooled public* is attracted by being addressed in its own language. That which to-day is more metaphorically called a translation, since it consists in the mere omission of technical terminology, was at that time, when science actually spoke in another language, a proclamation of its contents in the national tongue. It is a strange coincidence, that in the case of both the men who occupy this position in scholasticism, disappointment in love was the first cause of their assuming it. The one, Don Raymond Lully, seeks in both the ways just mentioned to spread through wider circles what scholasticism had discovered. But the second side of his activity occupies so subordinate a position in comparison with the first, that to-day scarce any thought is given to the doctrines proclaimed by him in Provençal poetry and prose, while his name has been handed down to posterity on account of his great Art, which furnished to that age,—what a universally applicable table of categories or a rhyme of certain constantly recurring elements has been for later times,—a means of becoming with ease a scholastically educated philosopher. With the other writer referred to, it was different. He sang, not for the school, but for the world,

for the world of his contemporaries as well as for posterity. He accomplished greater things than Lucretius (*vid. supra*, § 96, 5), because the scholastic distinctions constitute a material even more unpoetical than the atomic doctrines of the Epicureans; and because his unsurpassed poem still kindles inspiration in his fatherland, even in the lowest hut, and in other lands awakens what is more than this, an admiration based upon intelligent comprehension. This man was Dante Allighieri.

§ 206.

LULLY.

Helfferich: *Raymund Lull und die Anfänge der Catalonischen Literatur*. Berlin, 1858.

I. RAYMOND LULLY was born in the year 1235 of an aristocratic Catalonian family in the island Majorca. He early entered court life, and rose to the position of Grand Seneschal at the knightly court of King Jacob of Majorca. A husband and father, he was occupied at the same time with various love adventures, until he was completely prostrated by the dreadful outcome of one of them, when he suddenly renounced all his public and family relations, and, confirmed by visions, decided to become a combatant for Christ, and summoned all who followed the occupation of arms to a war against the unbelievers, while he himself undertook the more difficult task of fighting with spiritual weapons, proving to unbelievers the irrational nature of their errors, and the rationality of Christian truth. The two difficulties which stood in his way, ignorance of the Arabic language and a want of the proper education, he proceeded to overcome. A Mussulman became his teacher in Arabic, and, with the passion which characterized him in everything, he threw himself into the study of the *trivii*, logic. The enthusiasm with which he pursued his analytical studies, combined with his impatience to begin his missionary activity, gave rise to the idea,—which at once took the form of a vision,—that the possession of certain general principles and of a trusty method of deducing the particular from the general, would render unnecessary the chaos of material to be learned. He was no sooner in possession of this, his scientific doctrine, than he set himself to work. A disputation

in Tunis with the most learned of the Saracens, on account of its victorious result, became a source of danger to him, and he was compelled by ill treatment to flee to Naples. From there he went to Rome, in order to win the favour of Pope Boniface VIII., in part for his own missionary activity, and in part for the advancement of the study of Arabic. Similar attempts with the King of Cyprus, as well as with many cardinals united in a council, remained without effect. He again entered into a disputation with the Mohammedans in a Saracen city, Bugia, and again victory and imprisonment were his lot. Returning to Europe he exhorted those assembled at the council of Vienne to combat Mohammedan teaching abroad, and Averroistic teaching at home, and then went, an old man, a third time to the Saracens, when he actually suffered the ever-coveted martyr's death, in the year 1315. During his restless life he wrote continually, partly in Latin, partly in Arabic, and partly in Catalanian, that is, Provençal. The latter works were early translated into Latin, some of them by himself and some by others. He wrote principally upon his great Art, but he composed also theological and devotional works. Many were lost even before his death, and many others have never been printed. He is said to have written over a thousand works. The titles of more than four hundred are still preserved. The *Opusculum Raimondinum de auditu Kabbalisticò* was printed in Venice in 1518. That this work was written by Lully appears to me doubtful, and that not merely because it contains the Scotist *formalitas* and *hæcceitas* (vid. § 214, 5, 6), the latter in the form *echeitas*, in which it is found also in other writers. It carries the abstractions and the barbarisms (*homeitas, substantieitas, expulsivieitas* and the like) further than any other work. This, as well as the *Ars brevis* (first printed in 1565), is found among other treatises,—of which the most important is the *Ars magna et ultima*,—in the collection published by Zetzner at Strasburg, in the year 1598, under the title *Raimundi Lullii opera quæ ad adinventam ab ipso artem universalem pertinent*. The collection has often been republished, for instance in 1609 and 1618. In addition, works of his upon alchemy have been printed at various times. In the year 1721 the *first* part of a complete edition in folio by a priest and doctor of all four faculties, Ivo Salzinger, appeared in Mainz. It contains, in addition to a biography and full introductions, the *Ars compendiosa inveniendi veritatem* (that is, the *Ars magna* and *major*).

occupying 49 pages, the *Ars universalis* (the *lectura* to the former) of 124 pages, the *Principia theologiæ*, 60 pp., *philosophiæ*, 66 pp., *juris*, 34 pp., *medicinæ*, 47 pp. This first volume was followed in the year 1722 by the *second*, which is so related to the former that it shows the application to Catholic doctrine of the principles developed in the first volume. but without the scholastic cipher; representing, in the *Liber de gentili et tribus sapientibus* (94 pp.), a Jew, a Christian, and a Saracen justifying their belief on rational grounds; in the *Liber de Sancto Spiritu* (10 pp.), a Greek and Latin displaying their points of difference before a Saracen; and in the *Liber de quinque sapientibus* (51 pp.) proving philosophically, in a similar setting, the Latin, Greek, Nestorian, and Monophysitic doctrines. The four books *Mirandæ demonstrationes* (244 pp.) follow, and the *Liber de quatuordecim articulis SSæ. Rom. Cath. fidei* (190 pp.). The *third* volume, which also appeared in 1722, contains, like the first, only esoteric writings: first the *Introductoria artis demonstrativæ* (38 pp.), and then the *Ars demonstrativa* (112 pp.), which was evidently written before the former. The latter is followed by the *Lectura super figuras artis demonstrativæ* (51 pp.), this by the *Liber chaos* (44 pp.), the *Compendium s. commentum artis demonstrativæ* (160 pp.), the *Ars inveniendi particularia in universalibus* (50 pp.), and finally the *Liber propositionum secundum artem demonstrativam* (62 pp.). After the issue of the third volume the publication was delayed for a time by Salzinger's death. Finally, in the year 1729, the *fourth* volume appeared, edited by a number of men appointed for the purpose. Upon its title-page it announces a relation to the third volume similar to that which the second bears to the first. It contains *Liber exponens figuram elementarem artis demonstrativæ* (10 pp.), *Regulæ introductoriæ in practicam artis demonstrativæ* (6 pp.), *Quæstiones per artem demonstrativæ seu inventivam solubiles* (210 pp.), *Disputatio Eremitæ et Raymundi sup. lib. Sentt.* (122 pp.), *Liber super Psalmum quicumque s. liber Tartari et Christiani* (30 pp.), *Disputatio fidelis et infidelis* (33 pp.), *Disputatio Raimondi Christiani et Hamar Saraceni* (47 pp.), *Disputatio fidei et intellectus* (26 pp.), *Liber apostrophe* (51 pp.), *Supplicatio professoribus Parisiensibus* (8 pp.), *Liber de convenientia fidei et intellectus in objecto* (5 pp.), *Liber de demonstratione per æquiparantiam* (6 pp.), *Liber facilis scientiæ* (11 pp.), *Liber de novo modo demonstrandi s. ars prædicativa*

magnitudinis (166 pp.). The *fifth* volume, also published in 1729, contains *Ars inventiva veritatis s. ars intellectiva veri* (210 pp.), *Tabula generalis* (80 pp.), *Brevis practica tabula generalis* (43 pp.), *Lectura compendiosa tabulae generalis* (15 pp.), *Lectura supra artem inventivam et tabulam generalem* (388 pp.). It may have been the attack of a Jesuit upon the orthodoxy of Lully, published in Bamberg in 1730, which so delayed the appearance of the *sixth* volume; at least, when it did appear, in 1737, the editors considered it necessary to appeal to the authority of the Jesuits. The volume contains, in Latin translation, the *Ars amativa* (151 pp.), the *Arbor philosophiæ amoris* (66 pp.), *Flores amoris et intelligentiæ* (14 pp.), *Arbor philosophiæ desideratæ* (41 pp.), *Liber proverbiorum* (130 pp.), *Liber de anima rationali* (60 pp.), *de homine* (62 pp.), *de prima et secunda intentione* (24 pp.), *de Deo et Jesu Christo* (38 pp.). In the year 1740 the *ninth* volume appeared; in the year 1742 the *tenth*. The two contain only the *Liber magnus contemplationum in Deum*, in 366 chapters, of thirty paragraphs each. Since no library, so far as is known, possesses the seventh and eighth volumes, Savigny's supposition, that they were never issued, is probably correct. Only forty-five works are contained in the eight printed volumes, while Salzinger, in his first volume, gives the first and last words of 282 works, and to these are to be added those which he had not seen. Among those mentioned by him, seventy-seven are upon Alchemy. Salzinger himself says in regard to many of the latter, that they were finished more than a decade after Lully's death.

2. Lully is not satisfied with the claim that all objections to the doctrines of the Church can be refuted. He ascribes to philosophy also the power of proving positively, with irrefutable grounds of reason, the Church's teaching in all its parts. From this he excepts neither the Trinity nor the Incarnation, as Thomas does, for according to his *Mirand. demonstr.*, to do this is to dishonour the human understanding. The foolish principle, he says, that it increases the merit of belief to accept undemonstrable things, drives away from Christianity the best and wisest of the heathen and the Saracens (*De quinque sapient.* 8). If one wishes to convert them, one should learn to prove to them, not only that they are wrong, but that the Christians are right. This conduct at the same time honours God most, who does not wish to be more jealous and disobliging than nature, which conceals nothing. If the understanding

could not perceive God, His purpose would have miscarried, for He created man in order that He Himself might be known. For this reason the most pious theologians, Augustine, Anselm, and others, have refuted the doubts of unbelievers, not by the citation of authorities, but with rational grounds; and one of the many proofs that the Catholic Church possesses the truth more than the Jews and Saracens, is that she has not only more monks and hermits, but also many more who busy themselves with philosophy. *Rationes necessariae* are the best weapons of defence. Antichrist also will do wonders, but he will not prove the truth of his doctrines (*Mirand. demonstr.*). For this reason Lully is never weary of contradicting the statement, which he ascribes to the Averroists, that a thing which is false in philosophy may be true in theology. It is true, that not every one can demonstrate the truth; and the proofs for it are not so easy that every uneducated person, and every one whose time is taken up with wife, children, and worldly business, can find them. They may be content with faith. God, who wishes to be honoured by all, has also cared for them. They are not, however, to draw limits about those who are accessible to arguments, nor are they to forbid them to doubt, for man "*quam primum incipit dubitare incipit philosophari*" (*Tabula gener.*, p. 15). The latter, however, are not to think that the proofs for these truths are as easy to grasp as those for geometrical or physical propositions. In these spheres it is the custom to limit oneself to drawing conclusions downward from the cause to the effect, or upward from the effect to the cause. A third method, of drawing conclusions sideways *per æquiparantiam*, is not known in these branches, but it is this very mode which plays the most important rôle in the higher science. For instance, the compatibility of predestination and of free-will is proved by representing the former as an effect of the divine wisdom, the latter of the divine righteousness; and it is then proved of these two divine attributes, that they mutually promote each other (*De quinque sap., Mirand. demonstr., Introductoria*, etc.).

3. In accordance with the principles here given, Lully, in a great number of works, represented the whole doctrinal system of the Church as answering the demands of reason. Here belong his *Liber de quatuordecim articulis*, etc., that is, Upon the Apostles' Creed, his *Apostrophe*, originally written in Provençal, his dialogue with a hermit upon 140 contested

points in the *Sentences* of Lombard, as well as the dialogue of the hermit Blanquerna upon the *Quicumque*, finally his *Disputatio fidelis et infidelis*, which discusses nearly all the points of faith. Two fundamental ideas, in regard to which he likes to appeal to Anselm, recur frequently in his reasoning: the idea that God wishes to be known, and that nothing greater than God can be conceived. The former insures to him the possibility of theology as a science, the latter is a constant guide in the determination of its content. Every predicate that is convertible with the *minoritas* is *eo ipso* to be denied of God. Every one that stands and falls with the *majoritas* is to be ascribed to Him. The works of Lully which have been mentioned treat only theological questions. In the *Quæst. art. dem. volubiles*, physical and psychological questions are joined to these. His followers have regarded as one of his most important productions, his fullest work, the *Liber magnus contemplationis*, the five books of which are divided into 10,980 paragraphs, each beginning with an address to God. Lully's entire teaching is contained in this work. The merit of belief, he repeats here, does not consist in accepting the unproved, but in accepting the supernatural. In so far it agrees with knowledge, but falls below the latter, inasmuch as it can contain also what is false, while knowledge can contain only truth. In belief the will, in knowledge the understanding is the proper organ. Those of slow understanding are directed to belief as the easier of the two.

4. The fact that the few dogmas pronounced by Thomas undemonstrable are represented by Lully as admitting of proof, would not of itself be sufficient to account for the phenomenon that a school of Lullists arose, in number almost equal to the Thomists, and that long after it had vanished voices were continually heard which called him the keenest of all philosophers. This is all the more difficult to account for, since it is not to be denied that his proofs are often mere arguments in a circle, and are always quite devoid of artistic form. His fame in fact rests rather upon that which has won for him the title *Doctor illuminatus*, and which he himself regarded as his chief service, his "great Art." The spread of this was dearer to him than his missionary activity; for when he was informed in a vision that membership in the Dominican Order would best promote the latter, he nevertheless entered the Franciscan Order, because he expected thereby better to advance his "great Art." Since

this Art varied in its forms at different times in Lully's own hands, it is necessary to begin with the simplest form, and to show how it constantly expanded. The *Introductoria*, evidently written in his later years, precedes the *Ars demonstrativa* of earlier date (*Opp.*, vol. 3), and forms the best introduction to an understanding of the system, because in it the relation of the Art to logic and to metaphysics is shown. The former considers the *res* as it is *in anima*, the latter as it is *extra animam*, while the new Art is said to consider the *ens* without reference to this difference, and therefore forms the common foundation for both the others. While these two sciences therefore take as their starting-point principles which are furnished them, this fundamental science has rather to invent the principles for both of them, as well as for all sciences. It is therefore related to invention in the same way that logic is related to deductive thinking. Since the principles of all demonstration are contained in this fundamental doctrine and theory of the sciences, it is possible to trace back to its formula every correct proof which is given in any science. In grammar, the scholar, when he has once learned the inflectional endings of the conjugations, can inflect every verb, and thus in this basal science certain *termini*, the proper principles of all thinking and being, sometimes figuratively called *flores*, are to be fixed, and the use of them to become familiar. For the latter purpose nothing is so helpful as the employment of letters to indicate these fundamental conceptions. Salzinger rightly compares this with the use of letters as numerical signs, and urges in justification of it the great advance made in mathematics since the time of Vieta. The first step is therefore to learn the meaning of these letters.

5. Since God is the principle of all being, and the chief object of all thought and knowledge, He is designated by the letter A. It is then further considered what the attributes of God (*potentiæ, dignitates*) are, through which He acts as the principle of all things, and these are then assigned their letters. Since the last six letters of the alphabet, as will be seen below, are called into use elsewhere, there remain, as designations of the fundamental predicates of God, to which all others can be traced back, the sixteen letters B-R. Their attributive relation to God is now represented in such a way that about a circle, which is designated by the letter A, a ring is laid, divided into sixteen equal parts, whose separate segments are as

follows: B *bonitas*, C *magnitudo*, D *æternitas*, E *potestas*, F *sapientia*, G *voluntas*, H *virtus*, I *veritas*, K *gloria*, L *perfectio*, M *justitia*, N *largitas*, O *simplicitas*, P *nobilitas* (instead of the last two *humilitas* and *patientia* were originally used), Q *misericordia*, R *dominium*. This scheme, the *Figura A* or *Figura Dei*, thus contains the entire doctrine of God, since by the union of the central circle A with any one of the surrounding segments, sixteen propositions result. But the matter does not stop here. All these predicates are so completely one in God that each imparts itself to the others, and thus combinations result. This process of mutual participation Lully designates by the derivative syllable *ficare*, since *bonitas bonificat magnitudinem*, *æternitas æternificat bonitatem*, etc. He now places the sixteen combinations BB, BC, BD, etc., very mechanically in a perpendicular line one below the other, and then beside them CC, CD, CE, etc., and thus obtains sixteen columns of constantly decreasing height, which form a triangle, and this he calls the *secunda Figura A*. The hundred and thirty-six combinations of ideas (*conditiones*) are ordinarily called *cameræ*, since the various columns, and in them the various combinations, are separated by lines, so that squares result. Afterward he gives a shorter method of reaching these combinations. It is not necessary to write down these columns, but only to divide two concentric rings into sixteen parts, designating them with the letters A to R, and to make the one movable about its centre. Then, if the like letters are first placed opposite each other, and afterward the movable circle is turned a sixteenth of a revolution upon its axis, and so on, the 136 combinations which are given in the *secunda Figura A* will be successively obtained. These combinations are Lully's pride, since they not only give a hold for the memory, but also serve as a topic for exhausting the circle of questions, and, indeed, are designed to supply data for answers (*vid. infra sub 12*).

6. To the *Figura Dei*, or A, is now to be added a second, the *Figura animæ*, or S. The former has to do with the chief object of our knowledge, the latter with the subject of it, the thinking spirit, which is designated by the letter S. While God has the scheme of the circle, to S is given the square. The four corners are designated by the letters B–E, B indicating *memoria*, C *intellectus*, D *voluntas* and E the union of all three *potentiæ*, so that it seems to be identical with S.

There is a great difference, however, inasmuch as E signifies only the perfectly normal condition of S, when the memory retains, the understanding knows, and the will loves, a condition which is represented in the scheme by making the square blue (*lividum*). If this condition is changed, hatred taking the place of love, the union of the *memoria recolens* (F), of the *intellectus intelligens* (G), and of the *voluntas odiens* (H), is denoted by the letter I, and the square is made black. Since however many things, for instance evil, may, indeed must, be hated, I or *quadratum nigrum* is not always an anomalous condition. This, however, is the case in the *quadratum rubeum* and *viride*. The square becomes red when the *memoria obliviscens* as K is joined with the *intellectus ignorans* as L, and the *voluntas diligens vel odiens* as M, to form N. Finally it becomes green, denoting that the soul is in a state of conjecture and of doubt, when its first corner O unites the characters of B, F, and K, that is, the memory retains and forgets; when the second corner P combines the natures of C, G, and L, that is, the *intellectus* both knows and is ignorant; and finally, when its third corner Q joins in itself D, H, and M, that is, when love and hatred mingle in the will. When the soul therefore is R, or *quadratum viride*, it is not as it ought to be, and should strive to be E or I, or at least N. When these four squares are now laid one upon the other in the order given, not in such a way as to cover each other, but so that the different coloured corners show at equal distances, a circle will be formed with sixteen points in the following order; B, F, K, O, C, G, L, P, D, H, M, Q, E, I, N, R. In later representations, where the important thing is to emphasize the parallelism of the separate figures, this order is replaced by the alphabetical. When further, as in the figure A, the sixteen *termini* are combined, there results a *secunda Figura S*, which contains the same number of *camerae* as the *secunda Figura A*, namely 136. (Thus, for instance, in the *Ars demonstrativa*, *Opp.*, 3.) In virtue of this *tabula animæ*, E I N R is very often used as the formula for the entire soul. Still oftener E alone is employed, because it denotes the normal condition. This designation became such a habit with Lully that, in works which have no scholastic character and which do not employ the system of notation at all, E is nevertheless used instead of *anima*.

7. To the two figures already mentioned is to be added the

Figura T, called the *figura instrumentalis*, because it is needed with all the others. The equilateral triangle here takes the place of the circle and of the square. The principal ideas of relation which serve as points of view in the consideration, and especially in the comparison of things, constitute the content of this figure, to which Lully was led through the doctrines of the predicables, predicaments and post-predicaments. The three are united to form a triangle, and five differently coloured ones are placed one above the other (*lividum, viride, rubeum, croceum, nigrum*), as in the case of the squares, so that their points divide the circle drawn about them into fifteen segments or *camerae*, each of which has the colour of the triangle of which it forms a part. The three blue segments B, C, D, are *Deus, creatura, operatio*, the green E *differentia*, F *concordantia*, G *contrarietas*, the red H *principium*, I *medium*, K *finis*, the yellow L *majoritas*, M *æqualitas*, N *minoritas*, the black O *affirmatio*, P *dubitatio*, Q *negatio*. The separate corners are then subdivided, in B (*Deus*) *essentia, unitas, dignitas* being written, in C (*creatura*) *intellectualis, animalis, sensualis*, in D (*operatio*) *artificialis, naturalis, intellectualis*. To the three corners of the green triangle E, F, G, are added the words *intellectualis et intellectualis, int. et. sens., sens. et. sens.* H (*principium*) is more closely defined by the words *causæ quantitatis temporis*, I (*medium*) by *extremitatum mensurationis conjunctionis*; and finally, to K (*finis*) are added *perfectionis, privationis, terminationis*. The yellow triangle L M N is defined as having to do with the relation of substances, accidents, substances and accidents. Finally, O P Q, affirmation, doubt, and negation, are supplemented by *possibile, impossibile, ens, non ens* as their object. These colour definitions are always given with their subjects, so that *angulus de essentia Dei, de creatura intellectuali, de differentia sensualis et sensualis, de minoritate substantiæ, de negatione entis*, etc., is spoken of. The *Figura elementalis* was originally treated as an appendix to the *Figura T*, and in the *Ars universalis* was even called the *secunda Figura T*. It results from the combination of four colours and the names of the four elements, which form four squares, each containing sixteen smaller squares. It is seen in this connection that Lully did not look upon the elements as combinations of original antitheses, as the Aristotelians did. According to him fire is of itself only warm; it is dry merely *per accidens* on account of the communication of earth, as the

latter, dry in itself, is cold only on account of the communication of the atmosphere, etc. Every element therefore contains at the same time the others. This doctrine is further developed in the *Liber chaos*. The original order of the letters in the *Figura T*, as well as their meaning, was later modified. The original order was a result of the fact that, between every two of the like coloured points, four differently coloured ones were inserted, and thus between A and B the letters D G K N. This order was changed by the substitution of the alphabetical order, as in the case of the *Figura S*. The meaning of the letters was altered, because in the *Figura Dei*, God was designated by the letter A, while in the blue triangle He was denoted by B. In order to bring them into agreement, the triangle was marked A B C instead of, as at first, B C D, and thus in Lully's later writings each letter has the meaning which originally belonged to the following one. But the matter does not stop here. Lully soon finds that these five triads of instrumental concepts are not enough. He is obliged to add to the *Figura T* a *Figura T'*, which is formed, like the former, of five triangles revolving about a common centre. In order to avoid confusion he calls these *semi-lividum*, *semi-viride*, etc., and the whole often *semi-triangula*. To the first triangle (*semi-lividum*) belong A *modus*, B *species*, C *ordo*, to the second (*semi-viride*) D *alteritas*, E *identitas*, F *communitas*, to the third (*semi-rubeum*) G *prioritas*, H *simultas*, I *posteritas*, to the fourth (*semi-croceum*) K *superioritas*, L *convertibilitas*, M *inferioritas*, to the fifth (*semi-nigrum*) N *universale*, O *indefinitum*, P *singulare*. As in the case of the figures A and S, there are formed also in the present instances *secundæ figuræ* by the combination of the separate segments. Originally there were only 120 *cameræ ipsius T*, later just as many in the *secunda Figura T*, 120 being the necessary number with fifteen elements. The two are then finally united, and 465 *cameræ* result, which are represented first by thirty columns, each shorter by one than its predecessor, afterwards by two concentric rings, one of them movable.

8. The figures A, S, and T (*Dei, animæ, instrumentalis*) are the fundamental and most important ones. The figures V (*virtutum et vitiorum*) and X (*oppositorum*), however, were early added. The former contains, in fourteen segments, alternately red and blue the seven virtues and mortal sins,

and its *secunda figura* is of course a triangle of 105 combinations. The second gives eight opposites, *sapientia et iustitia*, *prædestinatio et liberum arbitrium*, *perfectio et defectus*, *meritum et culpa*, *potestas et voluntas*, *gloria et pœna*, *esse et privatio*, *scientia et ignorantia*. The first members of each couplet are blue and designated by the letters B–I, the second are green and denoted by the letters K–R. Later the first, fifth, sixth, and eighth pairs are omitted, *prædestinatio* and *liberum arbitrium* become B and K, *esse* and *privatio* C and L, the two following pairs retain their positions and their letters, and instead of the omitted ones, *suppositio* and *demonstratio* are given as F and O, *immediate* and *mediate* as G and P, *realitas* and *ratio* as H and Q, and *potentia* and *objectum* as I and R. If now these sixteen *termini* are brought into alphabetical order, and combined, with or without revolution, there will result the *secunda figura X*, with 136 *cameræ*. Lully appears likewise to have employed the figures Y and Z in the beginning, or at least soon after the invention of his Art. These are represented as two undivided circles, and designate, the one the value of truth, the other that of falsehood, and thus, if the letters of the table S be employed, the normally loving soul E loves Y, and the normally hating soul I hates Z, and every combination of ideas which falls in Z, or into which Z falls, is false.

9. Originally Lully can scarcely have thought of going beyond the figures A, S, T, V, X, Y, Z. This is shown by the fact that he treats these letters themselves as elements of combinations, from which a new figure results, containing in 28 *camera* the combinations A A, A S, A T, etc., S S, S T, etc., and calls it the *figura demonstrativa*, as if the whole *Ars demonstrativa* were contained in it. We need not be surprised at the name *figura nona* for this, since the *figura elementalis*, the appendix to the figure T, is reckoned with the others (not the *Figura T*, which is certainly of much later origin). But the more thoroughly these *termini* are carried out, the more clearly must it appear that not all knowledge is capable of being brought within the propositions which are contained in the 633, or if the 28 be added, 661 combinations. It seems as if this first appeared when Lully began to treat the four University studies according to his new method. The three figures, which, with a full commentary upon them, are contained in the first volume of his works,

were then proposed. They are called *Principia Theologiæ*, *Philosophiæ*, and *Juris*. Each one of these sciences is reduced to sixteen principles: theology to *divina essentia, dignitates, operatio, articuli, præcepta, sacramenta, virtus, cognitio, dilectio, simplicitas, compositio, ordinatio, suppositio, expositio, prima intentio, secunda intentio*; philosophy to *prima causa, motus, intelligentia, orbis, forma, materia prima, natura, elementa, appetitus, potentia, habitus, actus, mixtio, digestio, compositio, alteratio*; law to *forma, materia, jus compositum, jus commune, jus speciale, jus naturale, jus positivum, jus canonicum, jus civile, jus consuetudinale, jus theoreticum, jus practicum, jus nutritivum, jus comparativum, jus antiquum, jus novum*. These sixteen principles, designated by the letters B–R, form in each of the three cases a large triangle containing 136 combinations, which the commentary treats at length. The *Principles of Medicine* follow another scheme. They are represented as a tree whose roots form the four *humores*, and from whose trunk, by means of the four principles, warmth, dryness, cold, and moisture, the natural (healthy) and unnatural (unhealthy) phenomena are drawn.

10. But when now in so great a number of figures the same letters are used with constantly changing significations, rules must be given to avoid confusion. Lully therefore introduces numbers as indices, for the purpose of distinguishing the letters and the combinations of the various figures. The same method was subsequently employed by Descartes in designating the different forces. The letters of the figure S stand unaltered, those of the figure A are changed to A¹, B¹, C¹, etc., those of the figure T to A², B², C², etc., those of the figure V to A³, B³, etc., those of the figure X to A⁴, B⁴, etc., those of the *Figura Theologiæ* to A⁵, B⁵, etc., the *Principia Philosophiæ* to A⁶, B⁶, etc., the *Principia Juris* to A⁷, B⁷, etc. The fact that in the *Termini* of the *Figura T'*, a comma takes the place of the numerical index, is one argument going to prove the later date of this figure. Later, the number of the figures is increased to sixteen, and as there are no letters left to designate them, a new method of notation must be found. A *T signatum* (T') had been inserted among the *titulis*, and in the same way V' is now used for the *titulus figuræ Juris*, X' designates the *figura Theologiæ*, and Z' the *figura Philosophiæ*. A', S' and Y' still remain, and these are used to denote those figures which have not yet been men-

tioned. *Figura A'*, or *influentiæ*, is a blue triangle whose three points correspond to the *Termini*, B *influentia*, C *dispositio*, D *diffusio*, which divide the ring surrounding them into three parts. Y' denotes the *figura finium* or *finalis*, which shows a ring divided into six parts designated by the letters B-G, in which C *conueniens* is blue, E *inconueniens* red, G *partim sic partim sic* a mixture of the two, and in which B represents a blue, D a red, and F a mixed combination of *Termini* of the earlier figures. By this figure and by a variation of it (*secunda figura finalis*) it is said to be possible to post oneself in all investigations. The *Figura S'* or *figura derivationum* refers to the fact that grammar has contributed not a little to the invention of the entire system. Thirteen divisions of a ring with the syllables *re, ri, ans, us, le, tas, mus, do, ne, er, in, præ*, denote the most important etymological forms. *Magnificare, magnificabile, and magnitudo*, are related to one another, as *re, le, and do*, etc. The *figura elementalis*, which has also a second figure just like the others, remains without any distinguishing letter, since the last seven letters of the alphabet have already served twice as designations of figures. The same is the case with the *figura universalis*, in which, as the sixteenth figure, Lully unites all the previous ones. This figure shows the methods of rotation in the forming of combinations carried to its furthest extent. A metal apparatus is constructed whose centre is formed by a round surface, about which the various coloured rings revolve. The immovable centre is blue, and contains the figure A' (*influentiæ*) in the form of a triangle B C D. The next ring, surrounding the centre, contains for the sake of the combinations the same three *termini*, and the ring being tinted, so that the point B' comes between B and C of the stationary triangle, there results a hexagon, which stands in the middle of the whole apparatus, and has at its angles the letters B B', C C', D D'. The next two rings, likewise blue, contain the letters of the *figura finium Y'*. There are two of these rings, in order to be able to bring out, by turning one of them, all the possible combinations of the *termini* of this figure. For the same reason, the *figura S'* or *derivationum*, which follows, is likewise represented by two rings. These rings, green in colour, contain in their thirteen divisions the syllables given above. Two equal rings next follow, each divided into four differently coloured parts. These represent the *figura elemen-*

talis, which has no letter to designate it. The next two rings are divided into fourteen parts, each of which is assigned one of the letters which designate the figures, and thus does not represent a *terminus*, but an entire figure, the *figura elementalis* being omitted. The colours in these rings are various. It is easy to see why Z is red and V a mixture of red and blue, but why T' should be red and S' green, etc., is harder to understand. Next come rings divided into sixteen parts, which bear the letters B-R. Lully does not consider it necessary to employ so many of these rings that every figure, which has sixteen *termini*, shall have two rings. Four appear to him sufficient to form the combinations of the *termini* which belong to the same figure, as well as of those which belong to different figures. This must have shown him that it was not a good idea to begin the *termini* of the figure T with the letter A instead of B.

11. Lully's doctrine of principles and of sciences, in the form which it assumes in this *figura naturalis*, reaches its greatest perfection, and at the same time is in full agreement with what is taught in the *Ars compendiosa*, in the commentary (*Lectura*) upon it (both in vol. i.), and in other writings of a similar character. Consequently the *Ars demonstrativa* and the *Introductoria* to it must be regarded as a more important source from which to learn his system, than other works, in which it appears simpler because the number of the *termini* is less. This is especially true of the *Ars inventiva veritatis* (vol. v.), with which the *Tabula generalis*, and the works related to it, are in comparatively close agreement. The most important variations from the earlier teaching are as follows. The figure hitherto named A is here called the *first*. It loses its last seven *termini* and forms a ring of only nine *camerae* with the unchanged *termini* B-K. At the same time the *tabula derivationum*, again greatly abbreviated, is united with it, and it is stated that every principle must be thought of as *tivum* (formerly called *ans*), *bile* and *are*. (H as *tivum virtuisficativum*, as *bile virtuisficabile*, and as *are virtuisficare*.) What was formerly called *figura T* is now usually cited simply as the *second* figure. It loses the blue and black triangle, and there remain therefore but nine *termini*, which no longer have their original letters, since B C D are applied to the green triangle and replace the original E F G, while the latter appear as the corners of the red triangle, that is *princi-*

pium, *medium* and *finis* formerly represented by I, K, and L. Finally, H, I, and K take the place of L, M, and N in the *triangulum croceum*. A third figure gives the possible combinations of the nine letters which form a triangle of only thirty-six *camerae*, the repetitions (BB, CC, DD, etc.) being omitted. In these *camerae*, therefore, BC, for instance, may represent four different combinations, *bonitas* and *magnitudo*, *bonitas* and *concordantia*, *differentia* and *magnitudo*, *differentia* and *concordantia*. Much may be said in favour of these simplifications, since by means of them conceptions like *Deus*, *dubitatio*, etc. are removed from the series of relations, and the *figura T* contains only *termini* of that kind. Nevertheless it must be regarded as a very unfortunate step when, for the sake of avoiding the ambiguity in B C just pointed out, a new method is used instead of the earlier system of indices. According to the new method, when a *terminus* belongs to the first figure it remains unchanged, but when it belongs to the second (T) a T is inserted before its letters, so that if the combination should be *bonitas et magnitudo* it would be written B C, but if *bonitas et concordantia* it would be written, not B C, but B T C, as if it were a combination of three elements. The designation by means of indices has so many superiorities over this method, that it may be doubted whether this, which is here represented as a later simplification of the system, was not really the more primitive form of it. Leaving out of consideration, however, the fact that when Lully wrote the *Tabula generalis* he was already fifty-eight years old, and when he wrote the *brevis practica tabula generalis* he was sixty-eight, it is difficult to believe that he could later have added to such conceptions as *differentia*, *prioritas*, etc., the conceptions *Deus*, *suppositio*, etc. Lully describes at this time, under the name of the *fourth* figure, an apparatus in which combinations of the third order are produced. These concentric rings, each divided into nine segments, can form with the letters B–R 84 combinations, when the two other rings are revolved. Every such combination consists properly of six elements, since every *terminus* has two significations, and these can of course be combined in twenty different ways, and hence the *Tabula* which follows the four figures is formed of eighty-four columns, each containing twenty combinations of the third order. The greater number of these however consist of four letters, on account of the unfortunate system of

notation just criticized. More than four letters are not needed, since the *termini* of the first figure are always placed before those of the second, and hence the T governs all the letters which follow it. Lully says in regard to these tables, that the philosopher should have them always at his elbow (as the mathematician of to-day his logarithmic and trigonometric tables), in order to know immediately to what column any problem belongs. Soon however a third signification is added to the two meanings which each of the nine letters already has. The *regula investigandi*, although not always deduced in the same manner, are nine in number, and hence are denoted by the letters B–K. Lully mentions them in the *ars inventiva veritatis*, in the *tabula generalis* and its *brevis practica*, in the *ars compendiosa* and the commentary upon it. Since the investigation proceeds toward a solution of the questions *utrum? quid? de quo? quare? quantum? quale? ubi? quando? quomodo? cum quo?* the *regula investigandi* coincide with these, and therefore nearly with the Aristotelian categories, which must then indeed submit to having two of their number denoted by the same letter K. Hitherto B had designated *bonitas* and *differentia*, and now it denotes also the *prima regula investigationis* and the *questio utrum?* so that the entire series of letters becomes a *tabula questionum*. The chief objects of thought also, in the series God, intelligence (angel), firmament, soul, etc., which is constantly recurring among the Aristotelians, are brought together, nine in number, in a *tabula subjectorum*, to which correct investigation is referred. The system of Lully is considered by later commentators, such as Bruno (*vid.* § 247), Agrippa of Nettesheim (*vid.* § 237, 4), Bernard de Lavinheta, and by admirers such as Alsted, Leibnitz and others, only in this simplified form. In the works published by Zetzner also it appears in the same form. Since the more recent presentations of the system for the most part follow these works, there are to be found in them only extracts from the *Ars magna et ultima*, and from the *De audit. kabbal.* But this leads the reader to do an injustice to Lully. For if it is not known how he came gradually to give various meanings to the same letters in the different tables, it must appear very arbitrary when the system opens with the statement “B signifies goodness, difference, whether? God, justice, avarice.” And further, it must appear inexplicable, when the construction with coloured triangles is

not known to have preceded, why the *angulus viridis*, etc., is continually spoken of. And it is thus easy to understand why one should hasten to complete the perusal of this system, so as to be able to say to the world that one has to deal here with a man at least half crazy. Like the *Ars magna et ultima* in the edition of Zetzner, all the writings in the fifth volume of Lully's complete works are devoted in their last part to questions. In the *Ars inventiva* the elements are given for the solution of 842 questions, and then to make up the thousand, 158 more questions are proposed, unaccompanied with such hints, *extra volumen artis*. The *Tabula generalis* contains 167 answered questions, the commentary upon it promises 1000, but breaks off at the 912th, and so on. In this connection reference is often made to earlier investigations, and it is shown how the demonstration is to be carried on *per definitiones*, how *per figuras*, how *per tabulam*, how *per regulas*, and how *per quæstiones*. The works *Ars amativa* and *Arbor philosophiæ amoris* (written in Paris in 1298) emphasize especially the fact that science as the knowledge of God is love for Him, and likewise that repentance and conversion promote knowledge. Otherwise the views in regard to scientific method are the same as in the *Tabula generalis*. But in the *Arbor philosophiæ desideratæ*, also contained in the sixth volume, a modification appears. The work was thus named because in it Lully explains to his son how, from the tree of memory, intelligence and will, that is, of the collective powers of the soul, if it be preserved by faith, love, and hope, the tree of philosophy grows, whose trunk is *ens*, since it has to do only with being, and from which nine branches and nine blossoms spring. He begins then with the latter and gives us the twenty-seven *flores*, the nine principles of the first and the nine of the second figure (as in the works last characterized), that is, *bonitas*, *magnitudo*, etc., *differentia*, *concordantia*, etc., and in addition to these nine other conceptions, B *potentia*, C *objectum*, D *memoria*, E *intentio*, F *punctum transcendens*, G *vacuum*, H *operatio*, I *justitia*, K *ordo*. Nine objects, designated by the letters L–T, then follow as the *rami* of this tree. They are L *ens quod est Deus et ens quod non est Deus*, M *ens reale et ens phantasticum*, N *genus et species*, O *movens et mobile*, P *unitas et pluralitas*, Q *abstractum et concretum*, R *intensum et extensum*, S *similitudo et dissimilitudo*, T *generatio et corruptio*. This presentation is then followed by the

description of an apparatus. Four concentric rings are divided each into nine segments, the two outer ones containing the letters B–K, the two inner ones the letters L–T. By turning the rings upon their axes all possible combinations may be obtained of the elements B–K (*flores*) and L–T (*rami*) among themselves, as well as among each other. The circles, it is true, do not state which of the three *flores* each letter indicates. With the *rami* error is not possible. The work *De anima rationali* divides the material into ten chapters, according to the questions *utrum? quid?* etc. In the *Liber de homine*, written six years later, the number nine is once more secured by the omission of the *utrum?* But the work *De Deo et Jesu Christo*, written in the same year, goes back again to the number ten.

12. It was certainly not Lully's intention that the turning of the rings should take the place of one's own thinking. At the same time it is certain that he expected thinking to be greatly aided by his system and his apparatus. The mnemonic assistance which they both furnish must have aroused his enthusiasm, for with all the Schoolmen he assigned a very high place to the memory. In his opinion the *voluntas odiens* may, under certain circumstances, be compatible with a healthy condition of the soul, but the *memoria obliuens* never. Such a man must be interested in a system which is at least an *ars recollendi*. But his Art is in fact more. It accomplishes namely what is accomplished by all topical schemes, from the hints of Cicero down to the models after which sermons are arranged: it furnishes points of view under which the object is to be considered. He himself shows how extraordinarily great the number of points of view are which offer themselves, when one,—in discussing the question, for instance, whether there can be a good and a bad God,—takes up the *tabula instrumentalis*, and asks in which of its triangles the conceptions under consideration lie. They will be found in all five triangles, so that the object is to be compared with all the conceptions contained in the five. Indeed this is not all, because the investigator will be referred to the figure A, etc. In short, Lully is right when he says that his system is an *ars investigandi*. But he claims still more for it. The difficulty, the apparent impossibility, of bringing some things into union, often has its ground only in the fact that the two are not carried back to the real principle which underlies them. If they were thus carried back

they might prove themselves to be one. When two trees standing at a distance from one another are attacked by the same disorder, he who has discovered that they both spring from one root, will see that the phenomenon is natural, while another man will regard it as an accident, or even a miracle. In the same way, according to Lully, a mass of difficulties will be easily solved, when we do not stop with the mere facts, which appear perhaps contradictory, but inquire in what the ultimate ground and principle of this and of that fact consist. If it is found that the reason for the one and the source of the other are identical, the difficulty disappears. The doctrine of principles alone leads to these proofs *ex æquiparantia*, as to many others, and it is thus an *ars demonstrandi*. Since all other sciences proceed in their demonstrations from certain presuppositions which are not further proved, and which no other science establishes, it appears as if the various sciences stood upon no certain foundation, or as if they contradicted each other, until their apparently irreconcilable propositions are deduced from the principles of all knowledge. But since demonstration only establishes that which we already know, the true significance of the doctrine of the sciences is not yet exhausted. It teaches us also what we have not hitherto known, is therefore an *ars inveniendi*. The experience that often an entirely accidental combination of two thoughts carries the mind into new paths, and that mere accidents often lead to the discovery of new truths, should teach us the advisability of combining every thought with as many others as possible. It often happens that a combination of ideas is trustworthy when one predicate, untrustworthy when another, is applied to it: for instance, the propositions, the mountain goat is an absurdity, and, it exists. If the system of designations by letters be used, it will be seen at once that a combination, in which the sign Z (falsehood) occurs, cannot be combined with another in which the sign Y (truth) is found. This is like mathematical calculations, which are seen to be false when they result in an imaginary quantity. When we realize how many problems have become soluble only since the extraction of higher roots has been reduced to a process of division, in connection with which the logarithmic table is employed, we shall not be surprised that Lully should hope for such great results from a combination of signs and of formulæ drawn from his tables. How little he intended

to leave to accident, and how far he was from thinking that the mere turning of the rings could make a master, is shown by the many hundreds of examples which he gives in his various works, to illustrate how the figures are to be used for the solution of questions. In some cases he divides the question into the conceptions contained in it, and then inquires in which *conditionibus* each of them is found; that is, he gives the complete demonstration. Thus, for instance, in the fourth distinction of the *Ars demonstrativa*, where he takes up the *Questiones* in connection with the first thirty-eight questions. In other cases he gives only the combinations of the *tituli*, that is, the figures by means of which the solution is to be reached, leaving the choice of the *camerae* in the figures to the reader; thus in the 1044 questions upon all sorts of subjects which follow those just mentioned. Lully is well aware that the reduction of all investigation and demonstration to these souls of all proof gives to reasoning a garb of mystery. This is all the better, for he wishes to make science easy only to adepts in it, who study it thoroughly. In connection with Lully's system we are reminded constantly of the new paths which mathematics later entered, and that not without feeling the influence of his Art. In the same way is suggested the mystery with which a Fermat hurled his propositions into the world, without giving the proofs for them.

§ 207.

In connection with Lully the common experience is exemplified, that the invention of a method applicable to everything speedily leads a person to take up the sciences as a whole. He had scarcely become a pupil when he became a teacher, an example which is often repeated. The case is different when the acquired material is to be handled poetically. A true poem does not result when a mere external scheme gives to the material furnished, whether complete or fragmentary, the appearance of an organism, but only when the material crystallizes itself, upon the coming together of all the elements. A man is able to play only with that which he understands thoroughly. To handle a subject poetically is play, in distinction from the worry and hard work of the mere rhymster. If the scholastic doctrines are not only to be made easier to scholars by means of rhymes to aid the memory, but are also to be

brought home in a true work of art to the spirit of all who have a soul for beauty, there is needed a man who, more learned than the most learned of his age, combines poetical genius with the learning which made him a living encyclopædia of all the knowledge of his time, and joins to both an accurate knowledge of the world for which he sings. Lully, in order to accomplish his work, was obliged to renounce the world. Dante was all the more fitted to carry out his mission because of the active part which he took in worldly affairs.

§ 208.

DANTE.

M. A. F. Ozanam: *Dante et la philosophie catholique au treizième siècle. Nouv. édit.* Paris, 1845. Fr. X. Wegele: *Dante's Leben und Werke, kulturgeschichtlich dargestellt.* Jena, 1852. Karl Witte: *Dante Forschungen. Altes und Neues.* Halle, 1869.

I. DURANTE ALLIGHIERI (also Alighieri, and originally Aldighieri) was born at Florence in May, 1265. He was aroused to poetic enthusiasm by very early love, and through his intercourse with Brunetto Latini, and afterwards with Guido Cavalcanti, he was led to a style of poetic composition which owes its origin to the study of the Roman bards, as well as to a knowledge of the Provençals on the one side, and of the Schoolmen on the other. The death of the object of his affections nearly drove him wild, and he then became better acquainted with the Schoolmen, devoting himself earnestly to the study of philosophy, and hearing lectures upon it in Paris and perhaps in Bologna. The Thomist Siger (*vid. supra*, § 204, 4) seems to have attracted him especially. His long residence in a foreign country may have contributed to the opinion that the rule of the party to which he had hitherto belonged was no longer for the good of his fatherland. However that was, at a period when the victory of the Papacy over the Empire had put an end to the influence of foreigners in Italy, but at the same time to the unity of the country, Dante went over to the Ghibelline party, and declared the well-being of Italy and of the world to be dependent upon the possession of strong power by an Emperor, Italian or non-Italian, ordained of God but not of the Pope. Holding such opinions, he could not have loved Pope Boniface VIII., even if the latter had not schemed against the party of which he was a member. In

the year 1301 he was sent to Rome as an ambassador from his native city, and was retained there until Charles of Anjou entered Florence in the interest of the Pope. He was then, in company with many others, exiled from Florence by the opposite party, on the 27th of January, 1302. From that time on he lived in various places, always hoping, either through the might of weapons or through the withdrawal of the edict of banishment, to be able to return to his home. He was however always deceived, and especially by the failure of the Roman expedition of Henry VII. After that he was for a long time the welcome guest of Can (Grande) della Scala, and later of Guido of Ravenna; but he always felt himself to be an exiled stranger. He died in Ravenna on the 14th of September, 1321.

2. The first extended work which he wrote was the *De monarchia libb. III.*, completed probably in the year 1298 (cf. Böhmer: *Ueber Dante's Monarchia*, Halle 1866). This was followed by the *Vita Nuova*, containing the history of his love for Beatrice down to the year 1300. The greater part of this work had been composed earlier. Dante places the events which are described in his principal work in the same year. After the *Vita Nuova*, he laboured, apparently contemporaneously, upon the two unfinished works, the *Convivio* (commonly called *Convito*), written in Italian, and the *De vulgari eloquentia* (not *eloquio*) in Latin. He appears to have devoted the last thirteen years of his life solely to the great work which has made him immortal—the wonderful *Commedia*, which was very early called the *Divina Commedia*. None of his works has been so often published as this. It has been printed with the greatest diplomatic accuracy in the edition of Karl Witte (Berlin, 1862). Among the editions of his remaining works, that of Fraticelli is especially worthy of praise. Among the German translations of the *Divine Comedy*, that of Philalethes, the late King of Saxony, is especially noteworthy, not only on account of the faithfulness of the rendering, but also on account of its accurate development of the scholastic doctrines. It has recently appeared in a new edition which is accessible to all. In 1864 appeared the translations of the two foremost Dante scholars in Germany, Blanc and Witte. That of the latter has already (1876) reached a third edition, and a volume of notes has been added.

3. The thread upon which Dante in his poem hangs his doctrines, is a passage through Hell, Purgatory, and Paradise, to each of which a third part of the work is devoted. Not only his eschatological, but also his political, dogmatic, and philosophical views are unfolded in the poem. He says expressly in his dedicatory epistle, that his work has more than one meaning. In the midst of the forest of errors where the principal passions roam,—lust of the flesh, pride, and avarice, the three which caused the fall, according to the greatest scholastic theologians,—he is met by Virgil, who appears as the instrument of grace, and is led by him first into the *Lower World*. This is thought of as an inverted cone, whose apex coincides with the middle of the earth and with the centre of gravity of the prince of hell. The first of its various stories (the *Limbus*) is destined for pious heathen and for unbaptized children, the remainder of them for sinners of all kinds. His visit to the different parts, and his conversation with his guide or with various ones among the damned, give him the opportunity of showing that the degree of punishment is proportioned to the guilt, the Aristotelian scale serving as an analogy. At the same time he takes occasion to express himself in regard to the condition and the chief personages of his fatherland, and to complain loudly that the Church has been given over to destruction by worldly possessions and worldly power. As the two most severely punished offenders, there appear, in the deepest abyss of hell, Judas and Brutus, the one the betrayer of Christ, the founder of the Church, the other the betrayer of Cæsar, the founder of the empire. Their treason was directed against that which conditioned earthly happiness and heavenly blessedness. They deserve therefore the greatest misery.

4. In the second part of the poem the journey upon and around the *Mount of Purification* is described. Its base is the antipodes of the gulf of hell, and upon its summit is found the earthly paradise. Not only is the ecclesiastical doctrine of purification after death here drawn out, but it is shown also how it is man's sinfulness which is to blame for the want of happiness on earth. Virgil, the symbol of the wisdom drawn from reason without the help of revelation, is here too the guide. This wisdom serves to show that only repentance can lead to the goal; and that all sins must be done away one after the other, and the mark upon the forehead erased, before the

summit of earthly happiness can be reached. Balconies encircling the mountain, and smaller in diameter the higher up they are, form the scene for the expiation of the seven mortal sins. When almost at the summit, Virgil is relieved by Statius, who is to be regarded as the symbol of philosophy already sanctified by Christianity. The earthly paradise upon the loftiest point of the earth shows, in an exalted vision, how the highest earthly happiness can be reached only when the Church (the chariot) rests upon the empire (the tree). It shows also that the gift of worldly possessions to the Church, although well meant, was destructive, and is one of the principal reasons why the relation of Church and State, as well as all well-being on earth, is disturbed.

5. Virgil had been honoured as the representative of all human knowledge before Dante's time. To Dante the Ghibelline he was especially dear, as the glorifier of imperialism, to Dante the writer, as the model of style. But he can at most lead the way only to the place where the symbols of knowledge and of imperialism are to be found. Into the heavenly *Paradise*, to which the third part of the poem is devoted, the wandering soul, as in the *Anticlaudian* of Alanus (*vid. supra*, § 170, 5), is led by another figure. Beatrice, the early departed object of his boyish and youthful love, whom he had once vowed to glorify above all women, is represented as the symbol of the highest wisdom imparted by revealing grace, that is, of theology; and she shows the way to the truths which are above reason. At her side and under her guidance the poet rises above the earth, and wanders through the nine heavenly spheres, ruled by the three hierarchies of superhuman beings. The description of the journey gives him the opportunity, not only to unfold the cosmical views of his time, but also to judge those in regard to whose blessedness and holiness he had no doubts, and finally to explain the relation between the active and contemplative life. Upon the way, which closes with a hasty contemplation of the Trinity, the most intricate theological and philosophical questions are discussed.

6. To say that Dante gives nothing, or at least very little, which is not to be found in Albert or in Thomas, is not to criticize him. In accordance with the position assigned to him, all that can be demanded is that these doctrines shall

have been so infused into his heart's blood that he may be able to reproduce them in such a way that they shall cease to be the property of the Schools. This is accomplished when he divests the scholastic doctrines of the language of the Schools and of the Church; and when he goes still further, and gives them a form in which, not only the scholar, but business men, knights, women, even the common man, can grow enthusiastic over them, that is, the poetical form. In his hands this form is not merely a garment put on for mnemonic or other purposes, like the rhymed *Sententiæ sententiarum* of Bonaventura (*vid. supra*, § 197, 3). In Dante genuine poetry and scholasticism so intermingle, that in his *Convivio* he analyses his love poems rhetorically, and comments upon them scholastically, without feeling that he thus sins against them, and in his *Divine Comedy* transforms the very arcana of scholastic philosophy, with its syllogistic arguments, so dry in the hands of every one else, into the description of a pilgrimage which at one moment terrifies and at the next inspires the reader. At the same time the poem does not make the frosty impression of an allegory, like the *Anti-claudianus*, for instance; but even if the fact, that Virgil, Statius, Beatrice, Matilda signify something other than themselves, be left out of account, it remains a charming thing, a poetical composition of the first rank, not only on account of the magical music of the language, but for many other reasons. Only complete mastery of the material could make possible such a poetical transfiguration of it.

7. It is not to be wondered at, after what has been said above (§ 203, 9), that of the two whom Dante especially follows, Albert should be his master in physics, and Thomas in politics and theology. Of the *natural sciences* none appears more familiar to him than astronomy. The designations of time in his poem show how well-known to him the constellations were; and there are not wanting instances in which he makes attacks upon the corrupt calendar of his day. The nine heavenly spheres were at that time commonly accepted. Of these, seven belong to the planets, the eighth to the fixed stars, while the ninth is the *primum mobile*, and all move within the extra-spatial empyrean. As remarked above, these are combined by Dante with the three hierarchies of the Areopagite, (*vid.* § 146), and that in such a way that the lowest (the sphere of the moon) has an angel, the highest (*primum mobile*) a seraph

as its mover; in the *Convivio*, where Dante differs with the Areopagite as well as with Gregory the Great in regard to the order of the angels, they are combined also with the arts and sciences of the *trivium* and *quadrivium*. Although Aristotle is for Dante, as well as for Albert and Thomas, the highest authority in physical matters, he differs with him where the two Schoolmen do. The eternity of matter he regards as an error. The original material was created, and not entirely without form, for an actual substance without form is a contradiction. But it has as its form immensity, so that the distinction, made by many Schoolmen in the six days' work, between the *creatio* (*confusio*), *dispositio*, and *ornatus*, can be adopted by him. Dante, in agreement with his great teachers, differs with Aristotle not only in regard to the lowest, but also in regard to the highest physical conception. The soul is not merely the form of the body, but is itself substance, and can therefore exist without the body. To be sure, such independent existence is only temporary, for the impulse to embody itself remains, and produces at one time the phantom body of the intermediate state, and at another the resurrection body.

8. In *politics* also Dante appears as a strict Thomist, wherever principles are concerned, and not merely questions of the day. He owes most to the works of Thomas and of Ægidius Colonna which bear the same title (*vid. supra*, § 203, 9, § 204, 4). The goal of man is a double happiness, an earthly and a heavenly. The way to the former is pointed out by reason (Virgil), and the moral and intellectual virtues which spring from reason suffice for attaining it. Nothing contributes more to it than peace, and the institution for the preservation of peace is the State. The State should be a monarchy, since a division of power weakens it. Beginning with these Thomistic propositions Dante goes on further. Strife may arise, not only among the subjects of a prince, but also among princes themselves, and therefore the latter as much as the former need a monarch over them. This leads to a universal monarchy, to a prince over princes, that is, to an emperor. In his *De Monarchia* Dante seeks to establish in the three books the three following ideas: first, an empire must exist; secondly, Rome for reasons drawn both from secular and religious history may lay claim to be the centre of such a monarchy; and finally the emperor is emperor, not by virtue of papal but by

virtue of Divine authority. The Emperor, as the feudal lord of all princes, is feudal lord of the Pope, if the Pope possesses land. Heavenly blessedness is to be distinguished from earthly happiness. The acquired virtues are not sufficient for its attainment; there is needed also the infusion of the theological virtues of which we become participants only through revelation and grace (Beatrice). The institution which leads to the attainment of this end is the Church, whose government is entrusted, not to the Emperor but to the Pope. It is a mortal sin, to renounce the duty of leading the Church, as Celestine had done. The more the Papacy keeps in view only spiritual rule, and only spiritual means to that end, the greater and more glorious it is. In this position it rightly demands that even the Emperor shall bow before the spiritual father. With the same anger with which he attacks the secularization of the Papacy, Dante (although his enemy) stigmatizes the violence inflicted upon Pope Boniface VIII. by the temporal power. That which had been seen once in the history of the world (*vid.* § 152), a ruler of Christendom who was at the same time feudal lord and favourite son of the Church, is what Dante longs for, as Plato had longed for a true republic. It is this which he does not cease to hope for, although he changes his mind in regard to the pillars of his hope.

§ 209.

CONCLUDING REMARK.

If the philosophy of an age is only the outspoken secret of the age (*vid.* § 3), the popularization of it ushers in its end. The greater the number to whom a secret is known, the less is it a secret. That which is known by many, or indeed by all, becomes trivial because universally known, and is no longer the peculiar property of the wise. The Sophists, by popularizing the pre-Socratic philosophy (*vid. supra*, § 62) did away with it; Cicero did the same for the entire classical philosophy (*vid.* § 106); and the popular philosophy of the eighteenth century did away with all that preceded Kant. In the same way, when the mastery of the mysteries of scholasticism has become an easily learned artifice, or melodious triplets initiate into the doctrines of the Aristotelians, the thorough investigator of necessity begins to feel that philosophy must be something different and something more. The concluding and therefore

negative reaction of the popularizing activity upon scholastic wisdom arouses the anger of the representatives of the latter, the Thomists, against the Lullists, for so neglecting the Latin language, and leads many modern writers to hail Dante as the beginner of a new period. They are more correct who have called his poem the dying strain of a system that has run its course.

THIRD DIVISION.

The Decadence of Scholasticism.

§ 210.

THE fact that at its very culmination the fall of scholasticism begins, is explained by its position in the history of the world. The adoption of Aristotelian philosophy by that scholasticism which was honoured by the Church has been characterized as an antitype of the crusades (*vid.* § 180). The first glorious and romantic crusade was followed by later ones in which religious need was a mere side issue, if not indeed wholly a pretence. Only the ignorant masses thought of the holy sepulchre as the object; those who saw more clearly had in view the weakening of the imperial power, the plundering of Constantinople, or commercial and other like ends, so that finally an Emperor infected with Mohammedan ideas, a recognised enemy of the Church under the ban of excommunication, recovered Jerusalem by means of a treaty with the unbelievers, while the really pious King of France, who is honoured as a saint, appeared as a reactionary who was vainly fighting for a lost cause. In the same way, in the diagram of the development of scholastic Aristotelianism, the dominion of faith secured by Albert, asserted by Thomas, and glorified by Dante, must prove itself but temporary. The crusades, instead of promoting the ends of the Church, in the end only call into being new worldly creations and satisfy worldly interests. In the same way, out of the subjection to dogma of heathen secular wisdom must be developed a philosophy which renounces its allegiance to dogma.

§ 211.

Leaving this parallel out of account, however, it is easy to

explain why the introduction of Aristotelianism into scholasticism necessarily endangered the ecclesiastical character of the latter. It seemed to the Church unobjectionable that Aristotle should testify to the truth of her doctrines; but more carefully considered it was a very serious matter for her. It is plain that the trustworthiness of a person whose testimony is appealed to, is really regarded as higher than that of the person to whom he testifies. As a consequence, whoever becomes accustomed to demand that Aristotle and his commentators shall go surety for the doctrines of the Church, is in a fair way to seek for the testimony of that spirit which inspired Aristotle to write his works and the Arabs to produce their commentaries, instead of searching for the witness of the Holy Ghost. That spirit was one of reverence for the world, indeed of world deification, and the example of Albert and Thomas shows how soon the study of those philosophers leads a person to take an interest in the world—in the case of Albert in the physical, in the case of Thomas in the moral world. If familiarity with them and respect for them increase, it is unavoidable that an enhanced desire should result to know the world, and to find satisfaction in comprehending it scientifically. Roger Bacon, a younger contemporary of Albert, proves this. He was unable to sacrifice to the aims of his Order his love for natural science, as the latter had done. On the contrary, he sacrificed to the study of secular philosophy, and more still to the study of the world itself, first his property, then his peaceful life with his fellow-monks, and finally freedom itself. It is sometimes impossible to avoid smiling, when one sees how artfully this personified thirst for knowledge seeks to persuade himself, or his readers, that knowledge interests him only for ecclesiastical ends. No one has believed it: neither posterity, which is therefore accustomed to separate Bacon from the Schoolmen already considered, nor his contemporaries, who distrusted him as worldly-minded.

§ 212.

ROGER BACON.

Emile Charles : *Roger Bacon, sa vie, ses ouvrages, ses doctrines.* Paris, 1861.

I. ROGERUS BACON, who belonged to a well-to-do English family, was born in Ilchester in the year 1214. He first com-

pleted the *trivium* in Oxford, where he distinguished himself by his great industry. He then went to Paris, where he devoted himself wholly to the study of mathematics (*quadrivium*), which was followed by that of the three professions, medicine, law (especially canonical), and finally theology. Adorned with the doctor's hat, he returned to Oxford, and only then entered the Franciscan Order. This was done at the advice of the learned Bishop of Lincoln, Robert Grossetête, who was one of the few men for whom Roger shows esteem. He was not only busied with books, but associated also a great deal with celebrated scholars, and was occupied in teaching poor disciples, and especially in making experiments in physics. The latter occupation gradually consumed his entire property, some two thousand pounds, and, like the Picard, Petrus de Mahancuria, whom he highly honoured, he learned by experience how greatly a want of money hinders the progress of science. Still more, his labour was looked upon with suspicion by the Order, especially after the death of his patron Grossetête (1253), and he was forbidden by his superior to record his discoveries or to impart them to others. It was perhaps an attempt to disobey orders that brought upon him a severe punishment. At any rate, a residence of ten years in France (1257-67) was doubtless the result of a sentence of exile. It must then have been a welcome event to him when Pope Clement IV., who had become acquainted with him while papal legate in England, requested Roger to write down for his benefit his views upon philosophy. Since the Pope gave him no papers to secure him against his superiors, and sent him no money to meet the expenses incurred, the difficulties of the undertaking were very great. Nevertheless in fifteen months he completed his work proper, the *Opus majus*, and sent it to Rome by his favourite pupil, John of London. He wrote in addition the *Opus minus*, and the *Opus tertium*, which he sent at another opportunity. A year afterward, soon after Bacon's return to Oxford, Pope Clement died. With his successor Roger found little favour, so that when he was imprisoned upon suspicion of using magical arts, an appeal to the Pope produced no effect. How long he remained in prison is not known. He lived at least until the year 1292. Many titles of books ascribed to him designate only parts of his larger works. Of these there have been printed *Speculum alchimie*, 1541, *De mirabili potestate artis et nature*, Paris, 1542, *Libellus de retardandis senectutis acci-*

dentibus et de senibus conservandis, Oxon., 1590, *Sanioris medicinæ magistri D. Rogerii Baconis Angli de arte Chymicæ scripta*, 1603, *Rogeri Baconis Angli viri eminentissimi perspectiva*, Francof., 1614, *Specula mathematica*, Francof., 1614. I have seen none of these works. I therefore suggest it only as a possibility that the *Perspectiva* may be the fifth book of the *Opus majus*, and that the second work named may be the *Epistola de secretis operibus artis et naturæ*. The works known to me are the *Opus majus*, ed. Jebb, London, 1733 (of which the seventh part, the *philosophia moralis*, is omitted), the *Opus minus* (incomplete), and the *Opus tertium* (entire), as well as the *Compendium philosophiæ*, all published in octavo in London, 1859, by J. S. Brewer. The previously printed *Epistola de secretis operibus artis et naturæ, et de nullitate magiæ* is published in connection with them as an appendix.

2. The commission of the Pope included only philosophy; but in Roger's opinion it depended only upon the pleasure of the Pope whether the necessary means should be furnished for the advancement of science. It is therefore clear why he takes every opportunity to represent philosophy as the buttress of theology, and to point out how Church life, conversion, and, if necessary, the uprooting of unbelievers, are promoted by it. Philosophy, however, according to him, coincides exactly with the teaching of Aristotle. Avicenna follows as second, and Averroës only as the third philosopher. Although all three were unbelievers, they nevertheless received their philosophy from God, and are regarded as such high authorities by Roger that, especially in the case of Aristotle, he repeatedly assumes mistakes of translation in order not to accuse him of error. Although, in accordance with the principle *Ecclesiæ servire regnare est* (*Opus tert.*, 82), he intends to bring the Aristotelian philosophy into the service of the Church, he nevertheless does not wish to be ranked with Alexander (*vid. supra*, § 195), nor with Albert (§ 199-201), nor with Thomas (§ 203). The first he treats rather disdainfully, the two latter, "those boys, who became teachers before they had learned," with open scorn. The bitter outbreaks in the *Opus minus* and *tertium* in regard to the thick books upon Aristotle, written by a philosopher suddenly become famous, but understanding no Greek, etc., refer to Thomas. The theology of these men he considers of no value, since they expound the Sentences instead of the text, as if the former were of more

worth than the latter. Their philosophy, which finally drives out all true theology, is good for nothing, because the preconditions are wanting, without which progress in philosophy is impossible: a familiarity with the language in which the greatest teachers of philosophy wrote, and a knowledge of mathematics and of physics, by means of which they reached their results.

3. The *Opus majus* is quite correctly called in many manuscripts *De utilitate scientiarum*, and is later cited frequently as *De emendandis scientiis*. It aims to show the most correct way to attain a true philosophy, which shall be helpful also to the Church. In the *first* part (pp. 1-22) are given as the hindrances which stand in the way, presuppositions which are based upon authority, custom, and imitation, and are held fast with proud obstinacy. The objection, that the Church has declared against philosophy, is then refuted by the statement that another philosophy was under consideration then, and that the Church itself has since determined differently. The *second* part (pp. 23-43) treats the relation of theology and philosophy, both of which have been inspired by God, the only *intellectus agens*. They are so related to each other that the former shows to what end things are destined by God, the latter how and by what means their destiny is fulfilled. Therefore the Bible, which says that the rainbow appeared in order that the waters should disperse themselves, agrees perfectly with science, which teaches that the rainbow arises in connection with the dispersion of water. The author then relates how the divine illumination is propagated from the first man to his posterity, and how philosophy reached its climax in Aristotle and his school, at which point it was adopted by Christ, who drew from it many arguments for His belief, and in turn added to it much from His faith.

4. The *third* part (pp. 44-56) begins the subject proper. Whoever should desire to draw, from the fact that this part treats *de utilitate grammaticæ*, an agreement on the part of Roger with the old Hibernian method, would forget that he always expresses himself with great disdain in regard to the formal mental training which results from the study of the *trivium*. Grammar and logic, according to him, are native to all men; and the names for a thing which every one knows have little value. What he wishes, is not grammar as such, but the *grammatica aliarum linguarum*, that is, he wishes Hebrew and

Greek to be learned first of all, in order that the Bible and Aristotle may be read in the original, then Arabic, that Avicenna and Averroës may be read ; for translations even of the Scriptures are not entirely correct, and those of the philosophers are so bad that one could wish that Aristotle had never been translated, or that the translations were all burned. The majority of the translators have understood neither the language nor the subject. A great many examples are given to show how neglected linguistics revenges itself. In the *Opus tertium* it is especially pointed out how, particularly in Paris, the Dominicans have as a consequence falsified the text of the Bible by entirely arbitrary conjectures. Therefore, instead of grammar and logic, these *scientiæ accidentales, linguæ* should be studied. Not these alone, however, but also *doctrina*, and above all mathematics.

5. The importance of this subject is shown in the *fourth* part (pp. 57-225). Under the name mathematics are embraced all the branches of the *quadrivium*. Mathematics, the *alphabetum philosophiæ* according to the *Opus tert.*, is the foundation of all sciences, of theology as well as of logic. To the latter is especially related that part of mathematics which has to do with the heavenly bodies, *astrologia speculativa* and *practica*. The bad name which astrology has acquired is a result of its being confounded with magic. Roger confines himself almost exclusively to it in the *Opus majus*, after arithmetic and geometry have been only hastily touched upon. The *Opus tert.*, on the other hand, contains very careful investigations upon music. In that part of the larger work in which astrology is treated, Ptolemy and Alhazen are extolled as the unsurpassed, often as the unsurpassable masters. A familiarity with astronomy lies at the basis not only of a comprehension of many passages of the Bible, but also of all geographical and chronological knowledge, without which missions would be impossible, and a fixed ecclesiastical calendar could not exist. The condition of the calendar is in fact a disgrace, and needs the energetic hand of a scientific Pope. Finally, the power of the constellations must be considered, which is always sufficiently important, even though it can be overruled by the grace of God. A knowledge of them gives us also the comforting assurance that among all six existing religions none has been born under such fortunate constellations as the Christian, and that Mohammedanism is ap-