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— by Halpin, Frank P.
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PLAN OF THESIS:

THE UNIVERSAL

PART I---HISTORY OF THE UNIVERSAL

CHAPTER I---THE APPEARANCE OF THE UNIVERSAL IN PHILOSOPHICAL THOUGHT.

At the outset we shall endeavour to show how the problem of the universal gradually took shape as philosophy progressed through the centuries. The various philosophical systems of the East, that is, those of Babylonia and Assyria, Egypt, China, India and Persia, dealt rather with religious beliefs than with philosophy. Consequently we find very little, if any, consideration given to the universal in these ancient systems of thought.

It is only when we turn to the philosophy of ancient Greece that we find any noticeable trace of this question which has played such an important part in the greatest of all sciences. There was a striking contrast between the Oriental mind and the Greek mind. The people of the Orient were extremely imaginative and religious. Their imagination and their religious inclinations were the cause of their building up various systems of worship and myth. Their thinkers sought truth indirectly and were influenced more by imagination and myth than by logical principles. The Greek mind was more direct. It had a craving for truth and did not wish to be impeded and side-tracked by allegories or myths. Consequently Greek religion, which of course was mythical, had little influence on the development of philosophical doctrines. However, in passing, we might say that in one point, at least, Greek religion influenced Greek philosophy, and that was in the doctrine of immortality. This doctrine, nevertheless, always presents itself as

having a theological origin.

The Greeks at the beginning of their philosophical speculation tried to picture in their imagination the origin and the evolution of the universe. Hence their philosophy, like their religion, was first expressed in poetry. Gradually, however, with the passage of time, their doctrine became more and more rational.

When Heraclitus gave himself over to philosophy he preached the doctrine of universal change. He taught that the only reality is Becoming. Nothing remains the same. Things are always changing. The basis of all change, that is, the underlying principle of all change, is fire, which Heraclitus taught was an invisible, warm matter rather than the fire which consumes matter. That which co-exists with fire is "strife," which tends to separate the fire and thus give rise to things which exist and which we perceive. Besides "strife" there is "harmony," which directs all things back to the fire whence they came.

One of the chief reasons why Heraclitus adopted this doctrine was his distrust of knowledge acquired through the senses. He believed that the senses were deceptive. They make us think that things are permanent, whereas in reality they are always changing. In this way he evolved his doctrine of Becoming and placed his trust only in rational knowledge, or, as we might say, in intellectual kmowledge. In this distinction between the senses and the intellect we have the germ of the universal, which is the subject of this thesis. The senses perceive what is singular and contingent, while the intellect sees what is universal and necessary. "He (Heraclitus) was the first to call attention to the transitoriness of the individual and the permanence of the law which

governs individual changes, thus formulating the problem to which Plato and Aristotle afterwards addressed themselves as to the paramount question of metaphysics." # Xenophanes, of the Eleatic School, laid some stress on sense knowledge, but did not trust it entirely, since he believed that we arrive at the truth gradually. If, contrary to Xenophanes' teaching, we were to place all our trust in the senses, knowledge, for us, would be acquired immediately, as soon as one or more of the sensitive faculties had come into play. Parmenides, who was likewise an Eleatic philosopher, went so far as to say that the senses lead to error and that truth is found only in thought, for, as he said, "nothing can be but what can be thought." While Parmenides and Heraclitus both distrusted the senses more or less, and placed their confidence in rational knowledge, the conclusions they derived were diametrically opposed. Parmenides taught that Being is the only reality, while Heraclitus taught that it was Becoming. From the point of view of this thesis, the important thing is that these early philosophers perceived the difference, more or less clearly, between the senses and the intellect, and that distinction is of paramount importance in any discussion on the universal.

Anaxagoras was another Greek philosopher who may have had some influence on the conception of the universal. He introduced the idea of the supersensible into philosophy. In doing this he brought in the idea of Mind, or "Nous."

Turner--History of Philosophy, p. 57

It seems fairly certain that Anaxagoras was referring to something immaterial. He said that the senses are not reliable, because they see the object incompletely, while the mind sees it completely, i.e. it sees everything that is contained in it. Although, as Plato and Aristotle said, he did not make full use of his idea, he nevertheless made a contribution to the universal when he said that the senses perceive only part of what is contained in the object while the mind sees the object in its entirety. According to Thomistic philosophy the mind perceives the universal essence of what is perceived by the senses. The latter bring to the sensitive part of the soul impressions of single, concrete, material substances, and from these impressions the intellect forms a universal concept of the essence contained in the object.

Socrates prepared the way for some of the teachings of Plato and Aristotle. He was the founder of induction in philosophy; i.e. of the method of discovering that which is general or universal. This is best shown when we consider his method. He used to question his pupils in such a way as to confound them and make them see how little they knew. When they were forced to admit their ignorance he proceeded to present to them particular instances until they were finally led to the formation of a general principle which pervaded all the particular instances. This formation of a general from a particular concept is known as induction. It is really the formation of a universal concept. Socrates wanted to bring men to a knowledge of things, not in their transient, superficial appearances, but in their unchangeable natures, and hence he founded induction. We must not infer from this, however, that Socrates despised sense knowledge. He merely

wanted it to be controlled by a close observation so that no false conclusion might be drawn from it.

We now come to a philosopher who by the doctrines he professed deserves to be called an exaggerated realist. Plato conceived a doctrine of ideas which he believed to have an objective existence outside the mind. Socrates had taught that we can have knowledge of a thing only when we have a concept of it. Plato concluded from this that the idea is the only reality. He criticized Heraclitus and the Eleatics for their partially true doctrines. Heraclitus, as has already been mentioned in this thesis, taught that everything is Becoming and that there is no such thing as the fixed state of Being. On the contrary the Eleatics believed that Being is the only reality and that Becoming is non-existent. Plato said that both Being and Becoming are realities. Upon examining Becoming, Plato came to the conclusion that it is composed partly of Being and partly of Non-Being, and he concluded from this that the only reality is that which does not change, namely the idea, which remains always unchanged despite the alterations which we perceive by our senses. The idea, according to Plato, is that which gives a thing its reality and stability. He teaches that the idea is absolutely necessary for Being and scientific knowledge. The latter depends on the existence of the idea, for, since we know by concepts or ideas, the idea must exist if knowledge exists. The same holds for Being. It is the idea that constitutes reality; but Being is a reality; therefore the idea is absolutely necessary for Being.

The Platonic Ideas are universal essences, but they are not universal in the Thomistic sense of being in things. They are, on the contrary, sepsrate from the things which we perceive in the world. They are the cause of them. Plato

did not teach that these Ideas existed only in the human mind, but rather that they existed in a world of their own. What we conceive in this world are merely faint reflections of the Ideas existing in another. Hence these Ideas have an existence that is not dependent on our minds. They are the cause of the reality of things, and they are the cause of our knowledge of the various objects found in the world. They are the uncaused causes. Hence we may say that the Platonic Ideas are "universal in causing" rather than "universal in being," which is the Thomistic explanation. We say that an essence is "universal in being" because it is found in many separate individuals. Plato seems more inclined to consider Ideas as "universal in causing." The Thomists teach that only God is absolutely "universal in causing." This may explain why St. Augustine believed that the world of ideas and the mind of God are one and the same.

It is difficult to understand how the unity and the multiplicity of ideas can be reconciled. Plato himself is not very clear on this point, and it is to be feared that he had no very clear understanding of it. He tried to explain it by saying that just as a concept is differentiated into various determinations, so in its objective existence "the Idea is identical with another thing and at the same time is different from other things. In this way we have unity in plurality and plurality in unity." #

Plato in his philosophy conceives three worlds. They are the physical world, the world of concepts, and the world of ideas. According to him, the ideas exist objectively outside the human mind and apart from the concrete objects of the physical world. Every concept that we have owes its

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Turner--History of Philosophy, p. 102.

existence to an idea subsisting by itself. There is an idea for every concept and for everything that exists. Only "Becoming" has no idea corresponding to it. The world of concepts is governed by logic, while the world of ideas is subject to the laws of Being. Just as our concepts have a logical unity, so the ideas have a certain order and division which ranges from the most general or universal down to the individual. Plato considered that the idea of good was supreme over all the others and was the cause not only of their existence, but also of our knowledge of them. We cannot be certain as to what Plato meant exactly by this supreme idea of good. He may have meant God, but he spoke of it in such a way as to make us think that he did not consider it as possessing a personality.

Plato's theory of knowledge is quite different from that taught by St. Thomas. According to Plato, the world of phenomena presents to us only the shadows or imitations of the realm of ideas. Since what we perceive by our senses is imperfect, he teaches that in the domain of phenomena there is a negative, limiting principle which is the partial non-Being found in the object. To explain phenomena Plato found it necessary to believe in the existence of a soul which permeates the universe, making it a living being. This soul is the immediate cause of the various phenomena such as life, motion, order and knowledge, and it is also perfect and harmonious. Just as in the case of the supreme idea of good, it did not occur to Plato that this soul would naturally possess a personality. But, to return from our digression, Plato believed that the soul was not only immortal, but that it existed before it entered the body, and that during that

period of pre-existence it had a perfect vision of the ideas; in that state it was happy. Undergoing a period of punishment, the soul was imprisoned in a body which restricted its perception to this world of sense phenomena. The objects of sense knowledge were merely faint reflections of the ideas. When the soul perceived an object it was reminded of the ideas which it had once clearly seen, but which it had since forgotten. Hence, to Plato the act of learning was really an act of remembering.

Plato's doctrine of ideas is, as yet, the closest approach to the question of the universal that we have encountered. His doctrine of ideas existing immutably in a world of their own, apart not only from the realm of sense knowledge, but also from the sphere of mental concepts, really branded him as a realist, and, further still, as one who professed exaggerated realism. He did not, like the Thomists, teach that the universal as such exists only in the intellect and that to the universal concept thus formed corresponds the universal nature, existing not alone and separate from the material concept, but actually inherent in each individual object which is perceived by the senses. On the contrary, he would have us believe that the objects of sense perception are only imitations of the idea (or what we call the universal). We teach that the universal exists outside the mind in the individual only; not formally, however.

It was on the doctrinesof Aristotle that St. Thomas based his philosophy, because they are the doctrines that are most reasonable. Instead of allowing his imagination to carry him away, Aristotle started from the plain facts of experience, and from these evident facts he came to conclusions by which he

built up his system. With regard to the universal, his teaching was that it has no objective existence outside the human mind. Our senses perceive what is concrete and single, and our intellect, which is the faculty by which we understand universal essences, abstracts from the concrete individual that which is found in that individual, but which exists in other things as well, and it perceives this common factor in one concept without special reference to any particular one of its inferiors. Hence the single and concrete is the cause of the abstract and universal in our intellect. It is not merely the occasion of our remembering the universal as seen in a previous life, as Plato teaches. A knowledge of the universal is not just a case of memory, but it is rather a result which has its beginning in the perception of the concrete and singular by our senses.

Aristotle made an analysis of Plato's doctrine of Ideas and pointed out many defects in it. By his doctrine of Ideas Plato intended to offer an explanation of the manner in which things came into existence and into our knowledge. Aristotle shows that these Ideas cannot fulfil this function, since they are reputed to exist apart from things and not in them. Since they are not in things they cannot explain how things came to be, and since they are separate from the things that are known, and have no intelligible relation with them, they cannot account for our knowledge.

By his Ideas Plato also intended to explain motion and change. But he insisted too much on the static phase of the Ideas, and hence they fail to explain motion and change, which are realities and hence should be contained in the Idea. Since the Idea, considered as static, does not contain these notions, it cannot explain them. Furthermore, the Idea is separate from

the world of phenomena, and motion and change are found in the world of phenomena. Hence these separate Ideas cannot explain motion and change, since they have no contact with them.

Plato contends, in addition, that there is a certain community between the Idea and the phenomenon, and that part of the Idea is to be found in the phenomenon. If this participation is a reality there must be an Idea representing it, since all reality, according to Plato's teaching, must have an Idea. Hence there is an Idea which represents the participation between, for example, the idea of a man and the man as he is found in the world of phenomena. It is not difficult to perceive that this forces us to admit that the Ideas go on ad infinitum, for, the participation between man and the corresponding Idea being something real, it must correspond to an Idea of participation which participates in it, and this carries us on to infinity. To demonstrate this in a more concrete and general manner let us suppose the following: A = Man; B = the Idea of Man; C = the real participation of B in A; D = the Idea of the participation of B in A; E = the participation of D in C. There is no end to this series. Plato mentioned participation and called it by various names, but he failed to explain it.

Finally, Plato conceived his doctrine of Ideas in order to establish an object for scientific knowledge. As long as Ideas exist, science has its object. It is not necessary for ideas to exist apart from the phenomena, and hence Plato need not have given his Ideas a separate existence in a world of their own.

With this we conclude that part of our thesis which attempts to show how the universal gradually evolved and took shape in the hands of the ancient philosophers. The first great thinkers such as Heraclitus, Anaxagoras and others did not, perhaps, actually speak of the universal, but what they

taught contained, at least in a remote manner, the seed of the universal, which, however, was not to develop to its full stature until the Middle Ages. Those who did most for the universal in ancient times were, of course, Socrates, Plato, and Aristotle. Socrates, as has already been stated, invented induction, which is nothing less than a method of discovering a universal concept through an examination of individual objects. Plato's doctrine was extreme and in later times would have been classed as exaggerated realism. Aristotle was more inclined to view things as they really are. He based his conclusions on sensible experience and did not allow his imagination to rule him. We now turn our attention to the question of the universal as it was studied and developed in the Middle Ages.

CHAPTER II

THE CONTROVERSY CONCERNING THE UNIVERSAL

SECTION I

From the time of Aristotle until the Middle Ages the problem of the universal does not seem to have occupied the minds of philosophers to any great extent. The general trend of philosophy in Greece and Rome was for some time afterwards toward the practical and away from the theoretical. The dominant idea appears to have been happiness. Men were seeking the means to find happiness, and this led to a stressing of the study of ethics. Greek philosophy had also been on the decline, perhaps on account of the loss of patriotism and national independence. This decline reached its culmination in scepticism and eclecticism. The result was that the mathematical and natural sciences no longer associated themselves with philosophy, but made progress by taking paths of their own. With the foundation of Alexandria the Alexandrian movement came into being. It was an intellectual revival which resulted in the union of Greek philosophy and Oriental religion. One of the chief ideas behind this union was that a much needed reform in the religion of the people might be brought about. The Neo-Platonic system, which was one of the results of the Alexandrian movement, tended toward mysticism.

The Christian era was ushered in by the Patriotic or first Christian philosophers, who tried to establish a relation between the revealed truths of religion and ancient pagan thought. Some were thus led into heresy; others subordinated philosophy to the teachings of Christ. For some centuries afterwards what had once been the Roman Empire was

plunged into barbarism and ignorance until the dawn of Scholasticism. This was a reaction against the intellectual decay which had set in, and it gradually widened its scope until it began to include the study of philosophical subjects. It was during the second period of Scholasticism, that is, between the years 1050 and 1200, that the problem of the universal was again thrust upon the minds of philosophers.

In the writings of Boethius, who lived centuries before the advent of Scholasticism, we find a passage which presents the problem of the universal and which was the cause of the controversy which raged over it during the Middle Ages. There were three questions brought up concerning this topic. They were: (1) Have universals an objective existence outside the human mind or are they merely imaginary (entia rationis)? (2) If they have an objective existence are they material or immaterial, i.e., corporeal or incorporeal? (3) Do they exist in concrete things perceptible by the senses or do they exist outside them? In attempting to answer these three questions the philosophers of the day developed three solutions, namely, Nominalism, Conceptualism, and Realism. The last mentioned opinion (Realism) is subdivided into Exaggerated and Moderate Realism.

The Nominalists attempted to prove that the universal is merely a name to which nothing corresponds. They taught "that the only common element is the name, given to a variety of objects because of some real or fancied resemblance."# According to their way of thinking, a collection of individuals

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Principles of Logic--George Hayward Joyce, S.J., p. 132.

is represented by a confused mental image picturing them according to certain similarities they possess. These similarities tend to strengthen the image, while the dissimilarities tend to weaken it. The image does not represent size, colour or anything of that sort, and is in itself of no use for thinking. However, this confused mental picture is given a name and in this way it is of use in the logical sequence of thought. The name thus applied is, if we are to believe those who uphold this doctrine, the universal. According to this solution of the problem the images referred to relate only to the sensible qualities of the individuals represented by them. Consequently, nominalism has no true bearing on the intellect, since it deals only with the sensible, which is comprised of the single and concrete. Nominalism leads us to conclude that the problem of the universal pertains only to the sensitive and not to any higher form of life. The nominalists reduce the judgment to a mere association of two sensible images, and they consider reasoning to be only the empirical sequence (consecutio) of representations. Thus the universal, as such, does not exist. Sensible phenomena are grouped together confusedly in the imagination and to this confused image a name is given, and that name is all that goes to make up the universal, since it is only an arbitrary sign applied to the image in order that it may be used to discover further truth by the process of reasoning.

The second doctrine which was put forward as a solution to the problem of the universal was known as conceptualism, because it taught that the universal consists not in a name nor in anything "a parte rei," but in a concept or idea formed by the human mind. According to the conceptualists the

universal is something entirely subjective; i.e. having its complete existence in the mind of the subject concerning it. Hence universal ideas are not abstracted from inferiors, but are rather manufactured by the intellect. They are a figment of the mind and are known not "a posteriori" by the abstraction of something common to many individuals, but "a priori" without any special reference to what the Thomists would call their inferiors. The doctrine of the conceptualists is more reasonable and less repugnant than that of the nominalists in that they admit that it is possible to form a universal idea, which the nomimalists deny. However, they seem to overlook the fact that the universal idea is based on the similarities existing in groups of objects and that consequently this similarity must be taken into account in any doctrine which pretends to solve the problem of the universal. The conceptualists do not perceive that the similarity existing in the objects is something existing not merely in the mind, but "a parte rei," and that hence a doctrine which considers only what is found in the mind itself does not give an adequate and satisfactory solution to the question.

The third solution to be considered is that of realism. This is in reality two doctrines, namely exaggerated realism and moderate realism. We shall first consider exaggerated realism. This system teaches that the universal is something which has an objective existence as a universal outside the mind. It does not teach merely that there is something existing in individuals which is abstracted by the mind and thus given universality, but it attempts to make us believe that the universal exists by itself, even before the soul perceives the individual through the bodily senses, and,

according to some philosophers, even before the individual has received its existence. In other words, the universal is not dependent on its inferiors. Perhaps the most outstanding example of an exaggerated realist is Plato, who, as has already been pointed out in a preceding section, taught that there is a world of ideas existing by themselves and that what we perceive by our senses are merely shadowy imitations. The doctrine of exaggerated realism may be summed up by the Latin phrase, "Universalia Ante Rem."

The solution which we attempt to prove in this thesis is that of St. Thomas Aquinas and others of his opinion, namely, moderate realism. According to this conception, the universal, as such, exists only in the intellect, but in the individual objects known as the inferiors of the universal there exists a basis upon which rests the formation of the universal concept by the mind. Consequently we may say that the universal exists fundamentally in the individual inferiors and "in actu" in the intellect. Moderate realism upholds the power of the mind (intellect) to abstract one thing from another. The imagination receives images of individual objects by means of the five external senses. The images or representations are not universal, but singular. The intellect perceives the essence of what is represented in the image and abstracts it from the sensible image, as predicable not only of the singular object perceived at the moment by the senses, but as predicable of all objects having the same essence or having that particular quality which is separated from them by the abstractive power of the intellect. This abstracted quality existing in the mind not only as predicable of all its inferiors, but also as abstracted from them, is the universal, the whole <u>formal</u> existence of which is

found only in the mind, but which exists fundamentally in the individual objects to which it is attributed.

We have now presented the three (or four) attempted solutions of the universal, namely, nominalism, conceptualism and realism---exaggerated and moderate. We have given the general trend of each of these doctrines as a preliminary to a brief history of the opinions held by some individual philosophers on this subject at various periods during the history of philosophy, and especially during the Middle Ages. We now proceed without further delay to that part of this thesis.

SECTION 2

Nominalists.---Roscelin, who lived during the eleventh century, although he did not bequeath us his doctrine in writing, appears to have belonged to the Nominalist school, if we are to judge by what other philosophers of those days said of him. He spoke of genus and species as being merely names and nothing more. However, what attracts our attention most is his application of the nominalist doctrine to the Blessed Trinity in an attempt to explain it. He considered the oneness of the Divine Nature as the universality of that Nature with relation to the three Persons of the Blessed Trinity. Therefore, according to him, the common Nature in the three Persons is a universal. But in accordance with his philosophy the universal is merely a word. Consequently, he argued that there is no Nature common to God the Father, God the Son, and God the Holy Ghost. If we adhere to this doctrine we are led to conclude that there are three gods, not one. Roscelin exemplified one of the extremes toward which there was a tendency at that time, namely, too free an application of reason to religious doctrines which could not be adequately comprehended by the reason alone. The other extreme was that

of restricting reason unduly by those whose tendency was mystic. Scholastic philosophy tried to follow the happy medium between these two. On more than one occasion Roscelin was brought before an ecclesiastical council and obliged to retract his heretical doctrines. He and other philosophers were, by their teachings, responsible for a revulsion of feeling against dialectic.

Another philosopher who may, in a sense, be considered a Nominalist is William of Ockam, an Englishman born at Ockam, Surrey, somewhere near the year 1280. However, it is not right to consider him absolutely as a Nominalist, for he did not teach that the universal consists in a mere sound of the voice, as some others taught. On the other hand, he did not believe that the universal exists in things. He made a distinction between the word as spoken and written and the word as it exists in the mind. His doctrine was that the universal is the word existing in the mind.

Nominalism was also upheld by Hobbes, who professed a doctrine of sensism and subjectivism. He taught that names are used "ad placitum" to signify groups of objects and that the whole universality consists in the name, not in the concept nor in the individual objects themselves. He declared that when we announce what meaning we intend to attach to a particular word we are defining the word; i.e., this announcement is the definition of the word. All reality, according to him, is individual and corporeal, and hence he denies the existence of the immaterial, spiritual world.

Locke was of the opinion that names that we apply universally do not actually signify things, nor do they signify concepts held in common by all men, but rather do they attach themselves to ideas existing in the mind of the

individual who makes use of them. He considers that the ideas of essences that we have in our mind are not the essences as they exist in themselves, but that they are only a representation of the surface qualities of sensible objects. We cannot know the real essence of a thing. All we know is that a real essence of some sort exists. Thus he distinguishes between real and nominal essence. Most words are used to express the general ideas that we form in our mind, and consequently are only inventions which do not pertain to actual existence. This is Locke's doctrine of Nominalism.

Conceptualists.---Abelard, born in the year 1079, was regarded by some as the founder of conceptualism. This appears to be untrue, however. His doctrine seems at first sight to be that of a moderate nominalist, since he distinguished between what he called "vox" and "sermo." The latter term is the word considered as predicable of something. We may place him among the conceptualists, where he is generally considered, because his doctrine was not sufficiently developed. If it had been, we could justly be classed as a moderate realist. He taught that the universal does not exist apart from the individual. From his distinction of "vox" and "sermo" we may conclude that universality is something produced by the mind when it predicates a word of a group of individuals which it perceives to be similar. However, Abelard does not teach that the universal which exists in the mind has no objective value. Hence the feeling that he should be considered as a realist.

Kant, the German philosopher, who has had so much influence on modern thought, may be said to have professed a kind of conceptualism. In his "Critica Rationis Purae" he

set out to examine the cognoscitive faculties, and the doctrine he evolved in so doing appears to be conceptualistic. He believed that there are four kinds of judgments: one in which the predicate is found by means of an analysis of the subject (analytical judgment); one in which the predicate does not come to be known through any analysis of the subject (synthetical judgment); one which concerns itself with single, contingent, concrete, sensible objects (judgment "a posteriori"); one which has to do with what is necessary and universal (judgment "a priori") and which comes from within the soul. All science, i.e. knowledge that does not concern single, contingent facts, is found in the judgment "a priori" and in it alone. These judgments from which science is derived are also synthetical; i.e. new knowledge is acquired by means of them. No new knowledge could be acquired through analytical judgments, because they are merely explicative. Hence Kant taught that science is to be found in the synthetical, "a priori" judgment.

Consequently Kant was of the opinion that our scientific knowledge does not come from outside our body, but rather from our own soul. As a result all scientific knowledge is purely subjective. But this type of knowledge, as has already been pointed out, is the only means we have of knowing the necessary and universal. The natural conclusion is that the universal is entirely subjective. In other words, its whole existence consists in mental concepts which have their origin in the mind. These concepts do not correspond to anything outside the subject.

The object perceived by the senses is thus known physically and metaphysically. The physical knowledge pertains

only to the senses, and the metaphysical knowledge concerning the object comes from the knowing subject. What the senses perceive is called the phenomenon. Our minds cannot know the real, hidden essence of the thing in itself, or what is called the noumenon. Thus it is evident that there is lacking a connection between the universal existing in the mind and the real essence of the object perceived. Consequently, the universal, as such, according to Kant's system, has no "fundamentum in re," as the moderate realists would say, and so it is found entirely in the concept. Kant, however, does not deny the existence of the object.

Realists.---Let us now consider a few of the important names among those who upheld the doctrine of realism, whether exaggerated or moderate. William of Champeaux was born about 1070. He was held in high esteem on account of his sanctity and learning. From what has been said of him it appears that he taught that the universal is present in the individual in its entirety and essence. Thus his doctrine seems to exhibit the marks of exaggerated realism. He taught that the universal is numerically the same in all its inferiors and that what we believe to be many separate essences are really diverse accidents of the same identical universal essence which permeates them all. Abelard, a contemporary of William of Champeaux, refuted his doctrine with an argument which he was unable to answer. Hence it was that William developed a system of more moderate realism in which he taught that the universal is in the individual by reason of the modifications existing in that individual,

and not in its entirety as he had formerly believed.

Otto of Tournai likewise professed a doctrine of exaggerated realism. He composed a philosophical treatise on original sin, and in it he made use of his opinions on the universal to explain how the transgression of our first parents affected the human race. He ascribed to the human race unity of substance and explained the fact that original sin is found in the soul on its entry into this world, by teaching that such a soul has the same substance as the souls of Adam and Eve and that as a result it bears the same sin. According to Otto, God does not create any new souls. He merely brings into being new properties for the one identical substance which exists and has always existed in all souls.

Among the Indifferentists we encounter Adelard of Bath. Along with them he distinguishes that which gives an individual its individuality and that which it holds in common with other things of the same genus or species. They also separated essence from substance and said that the former pertains to the individuality of a thing, while the latter is numerically the same in and common to all things. Hence we infer that genus, species and substance pertain to the universal, while essence and the mark of differentiation pertain to the individual as such.

Walter of Mortagne appears to be a Platonic realist. From what his disciple, John of Salisbury, has said of his doctrine he taught that the universal as it exists in its inferiors is numerically one. However, there is some doubt as to whether this unity exists in the mind only (logical unity) or whether Walter of Mortagne believed it to exist "a parte rei." Hence some historians may

believe him to be an exponent of the doctrine of moderate realism.

By some Gilbert de la Porrée is considered as an ultra-realist, but if we consider only his doctrine of universals and leave aside what he taught in other philosophical questions we are inclined to conclude that he was a moderate realist. He spoke of native forms (formae nativae) which exist in things. Quite frequently these forms are considered as universals already existing independently of the human mind in the object itself. However the evidence that we have seems to indicate that he taught that universality is something produced by the mind when it perceives the similarities existing between individual objects. Gilbert de la Pprrée is one of the philosophers of the School of Chartres.

Alexander of Hales, an English philosopher of the Middle Ages, and known among other appellations as the Irrefutable Doctor, upheld the Scholastic system. His written works were very few and were probably entirely contained in his "Summa Theologiae." He believed that when Plato spoke of a separate world in which the universal as such has a separate existence he was really referring to the mind of God, in which everything must be preconceived if it is to exist. Hence Alexander spoke of the universal in this state as "universale ante rem." He teaches further that the active intellect forms a universal concept by abstracting a common factor from single objects as represented by the imagination. Thus he may be numbered among the moderate realists, and his solution of Plato's ultra-realism is plausible.

St. Anselm, born in Lombardy in 1033, and author of the famous ontological argument to prove the existence of God, endeavoured to steer a middle course with regard to the universal. His doctrine was not sufficiently developed, but

it tended toward moderate realism. He upheld the "ante rem" existence of universals in the mind of God, and he spoke of the universal existing in diverse inferiors. What makes us consider his doctrine as moderately realistic is the fact that he pointed out the distinction between the senses, which perceive the singular object, and the intellect, which enables us to know the universal. Thus he prepared the way for moderate realism, although his own doctrine had not been evolved to such an extent as to allow it to be actually placed among the teachings of the moderate realists.

Duns Scotus, commonly believed to have been born in England, is found among the exponents of moderate realism, i.e., judging by his "Quaestiones Acutissimae super Universalia Porphyrii."# He believed that natures, in themselves, are indifferent to numeral unity and plurality and to universality and singularity. Nature in itself possesses none of these things. It is numerically one because to it is added what the Scotists called "thisness," or in Latin "haecceitas." Universality, according to Scotus, exists formally in the mind, being not a metaphysical but a logical concept. Furthermore, he taught that, while nature itself is not numerically one, i.e. does not possess individuality, it nevertheless possesses a kind of unity to which these other determinations such as universality, singularity, etc. are added. This unity is inferior to that acquired through these additions. Thus, although Scotus himself was a moderate realist, his followers, laying stress on the unity which he taught was possessed by nature in itself, built up a system of exaggerated realism.

Albert the Great was the teacher of St. Thomas Aquinas, and the doctrines of his pupil are with few exceptions the same as his own. Hence with regard to the universal we shall consider only what St. Thomas taught. He showed the connection between science and the universal, pointing out that

#History of Philosophy--William Turner, p. 390.

there is no science of the singular as such, but that all science deals with its object in the light of universality. He taught that before the actual creation of a thing, it exists "ante rem" in the mind of God as an example or model of what is to come into being. This is known as the "universale ante rem." When the thing is created and thus brought into actual existence the nature which it possesses is known as the "universale in re." This, however, is not formally the universal, because it is singular; it is rather fundamentally universal. Finally the human intellect perceives the similarity between the individual natures existing in single objects and it abstracts this nature from its inferiors, by leaving them aside, and thus it forms the "universale post rem," or what is formally and strictly speaking the universal concept, which we are discussing in this thesis. Needless to say, St. Thomas was a moderate realist, since he taught that the universal exists formally in the human intellect, with, however, a real basis in its inferiors.

Thus we terminate a brief historical outline of the development of the problem of the universal, of the principal doctrines by which men tried to solve it, and of the opinions of some of the more important minds engaged in philosophical speculation. We now turn our attention to an exposition of the universal and to the proof of the Scholastic doctrine concerning it. We shall begin by a consideration of terms and other things necessary for a clear understanding of the question.

PART II---THE SCHOLASTIC DOCTRINE

CHAPTER I---FUNDAMENTAL NOTIONS

The word "universal," considered from an etymological point of view, has been very fitly chosen. We find, on analysing it, that it is formed from three Latin words, namely, "unus," meaning "one," "versus," which signifies "looking towards," and "alia," meaning "others." When we apply these words and their signification to the universal we find that they summarize the meaning of the word in a very concise manner, because the universal is one thing which looks towards other things and which permeates those other things. Hence we may justly say that the word has been well selected.

There are several different kinds of universal, some of which directly concern this thesis. A thing may be universal in signifying, in representing, in causing, or in being. When something is universal in signifying, it is a word, which is an external, conventional sign capable of being perceived by the senses---primarily by the sense of hearing and secondarily by the faculty of sight, which enables a man to read a printed or written word. Such a word indicates not simply one individual thing, but it may be applied to any one of a vast number of individuals of a particular species. Thus the word "dog" is not used merely to point out a certain dog, but it indicates a whole species of animal. Hence the word is said to be universal in its signification.

Some philosophers such as Suárez teach that whenever a word is formed it corresponds to some concept of the intellect. We may conclude from this that if the word in question is universal in signifying, as the word "dog" has already been shown to be, the concept to which this word corresponds must also be universal. However, it is not universal in

signifying, as the word is. It is what is signified or represented by the word, since the word is an outward, sensible manifestation of what exists in the mind. The concept primarily represents to the mind what exists outside it, and this object is presented to the intellect under the aspect of universality; i.e. all marks of individuality are left aside. Thus the universal concepts formed by the intellect are said to be universal in representing.

When a metaphysician examines the beings that he finds in existence throughout the world and those that exist solely in the immaterial world he wonders where they all have come from. "What has brought them into existence?" he asks. If he considers the coal that has been dug up from the depths of the earth he finds, if he has studied sciences other than metaphysics, that the coal was produced thousands of years ago by the application of chemical and physical laws to buried vegetation. But whence came the chemical and physical laws? They must have been made by some intellect, since it is only an intellect that can ordain and arrange things in a particular order and so make laws. Thus he finds that every effect has a cause and the cause itself is the effect of another, more remote cause. However, his metaphysical knowledge tells him that the number of causes cannot be infinite and he is finally led by his reasoning to realize that there is one uncaused Cause from which everything has come, and which can be none other than God, Who has created everything that exists, either directly or indirectly, i.e. by means of agents into which He has immediately infused existence. Hence God, and He alone, is universal in causing.

Finally we come to a consideration of the universal in being. Gredt defines it as "unum (una natura) respiciens plura ut existens in illis, ex quo oritur, ut etiam praedicetur de illis."# In English we may say that the universal in being

Gredt--Elementa Philosophiae, Vol. I, p. 96

is one nature tending toward many individuals as existing in them, and consequently as being predicable of them. It is abstracted from similar individuals and yet in so far as it actually possesses objective existence it is found in them. Thus it is that it is predicated of them. The individuals to which the universal is attributed are known as its inferiors, since the universal, as such, may be said to overshadow or comprehend them all. Unity and communicability are essential to universality, which requires that that which is abstracted possess unity. At the same time it must be communicated to its inferiors in such a way as to identify itself with them and be multiplied in them. We may consider this multiplication as a result of the identification of the given nature with each inferior considered individually.

Universality is a relation of reason, whereby a form abstracted from individuals, by leaving aside numerical and sometimes even specific differences, is compared with its inferiors as existing in them and predicable of them. However, in this relation, as in all others, whether real or only imaginary, four elements must be distinguished, namely: (1) a subject to which universality is applied; i.e. the nature under consideration; (2) the terminus, i.e. that to which the subject is referred---its inferiors; (3) the relation which exists between the abstracted nature and its inferiors, i.e. the intention of universality, and (4) the basis (fundamentum) upon which the universality of the nature in question is founded. Thus in the universal in being we distinguish: (1) the material universal--nature, (2) the fundamental universal, and (3) the formal universal, by which abstract nature is related to its inferiors.

The subject of universality is sometimes called the material universal because it provides the matter upon which the universal comes into formal existence through the operation of the intellect. When we consider this nature in itself without regard to its singularity or universality, we find that it possesses only negative unity; that is to say that there is no division in it occasioned by formal principles. The reason for this is that in a given nature there is only one formal principle, and hence, in so far as this is so, there is no division. This unity of form is an absolute requisite for the formation of the universal, since the latter is defined "unum (una natura) respiciens plura ut existens in illis, ex quo oritur, ut etiam praedicetur de illis."# The form as it exists in the singular and as it exists as a universal possesses a positive unity, which is not the same as that which it has in itself when singularity and universality are left aside. This question of the unity of the nature implied in the universal will be proven farther on in the thesis.

There can be no universality without a "terminus ad quem" to which the universal nature is referred. This is implied in the words "respiciens plura ut existens in illis (ex quo oritur, ut etiam praedicetur de illis)." In order to be universal, a nature must be found existing in single, individual objects, which philosophers call the inferiors of the universal nature, when they consider them with regard to that nature. Inferiors may be either species contained under a particular genus or individuals included in a certain species. Thus, the genus "animal" is universal to such species of animal as men (animalia rationalia) and brutes (animalia irrationalia); likewise the species "man" applies universally to Peter, Paul, James, and every other human individual. Needless to say, the inferiors possess an objective existence outside of and independent of the intellect. In themselves they do not constitute the universal; they are merely fundamentally universal, i.e. each

Gredt--Elementia Philosophoae. Vol. 1, p. 96.

of them has a nature which is like the nature of the others and which can be abstracted by the intellect and thus given universality. They are proximately "in potentia" with regard to the metaphysical universal and remotely "in potentia" with regard to the logical universal. The metaphysical universal is the given nature considered apart from all the individuals possessing it. It is what is studied by metaphysicians and thus it gets its name. The logical universal, or that which is considered by those who study the methods of thought, is the abstracted nature considered not in itself, but in comparison with the individuals from which it has been abstracted. Hence, when we say that the inferiors are proximately "in potentia" with respect to the metaphysical universal and remotely so with regard to the logical universal, we mean that the abstraction must be made before a comparison can be instituted. Since the metaphysical universal consists in the abstracted nature and the logical in the abstracted nature compared with its inferiors, it is evident that the metaphysical universal is prior to the logical. Hence the former is more proximate to the inferiors than the latter.

Let us now turn our attention to a consideration of the relation which exists between the universal and its inferiors. This relation is absolutely necessary for universality, as our much quoted definition of the universal shows, even when we give it only a cursory perusal. The words "une natura respiciens plura" remove from our minds all doubt as to the necessity of this relation. Hence the abstracted nature considered in its relation to its inferiors is called the formal universal, since under this aspect it is actually referred to its inferiors, thus performing the primary and most necessary function of the universal considered as such. The formal universal is also

called the logical universal. The latter has already been explained as the abstracted nature considered not alone by itself, but as compared with and related to the individuals from which it has been taken. When as abstracted nature is considered apart from its inferiors, as is the case in sciences which do not deal with the individual as such, it is called the metaphysical universal. This has already been explained in the thesis. The relatio of abstracted nature and inferiors also gives rise to the application of the name "reflex universal." The reason for this appellation is found in the fact that when the intellect has formed its first intention (prima intentio), namely the concept which presents to it the abstracted nature alone without any consideration of the inferiors from which it has been taken, it reflects on this first intention and becomes aware that the nature it is dealing with has reference to its inferiors, since it concretely exists in them. What this reflection discloses is known as the second intention (secunda intentio). The concept of the relation pertaining to the universal is a mediate formal concept, i.e. it is derived from a previous concept by means of a new act of the power of cognition. From the conception of the abstracted nature, the intellect by means of a new act of knowing forms an idea of the relation existing between the nature and its inferiors.

This relation is founded proximately in the state of abstraction by which one nature that the intellect perceives as one is lifted out of the individuals with which it is identified as with their essence. However, it is not based entirely on this, because it also draws its origin, in a more remote manner, from the individual objects themselves as they

exist concretely outside the human intellect and independently of it. It is by the fact that the nature existing in each of these is the same, not numerically but formally, that the mind performs the act of abstraction. Hence we may say that the relation of a universal nature to its inferiors is based proximately on the state of abstraction and remotely on the concrete objects themselves.

The definition of the universal, which has already been stated several times, says that the universal is "unum respiciens multa." Thus, it is not difficult to perceive that the abstracted nature has a natural tendency towards or connotes its inferiors. Thus it is that in the very concept of universality the existence of inferiors is implied or connoted. The metaphysical universal connotes the imdividuals from which it has originated, but it does so by having them considered as the "terminus a quo" which remains after the nature has been removed by the mental process of abstraction. The logical universal, however, connotes its inferiors as the "terminus ad quem," i.e. as that to which it is compared. The metaphysical universal, since it possesses a natural aptitude towards existing in its inferiors, is transcendentally related to them.

The universal always has a foundation upon which it is built and without which it could not exist. Several factors contribute toward this foundation. The state of abstraction is one of them. The universal, as it formally exists, necessarily requires the abstract existence of a given nature in the intellect. Such a nature is said to be in the state of abstraction. It cannot become actually universal until it has been abstracted by the mind. In

addition, the unity of that which possesses universality is required, since it is "una respiciens multa." Nature considered in itself has only negative unity; that is to say that in that by which it is formally constituted there is nothing that causes division. The formality of a nature in itself is one. This negative unity is a starting-point which makes it possible for the acquisition of the positive unity of universality which is attained in the state of abstraction from inferiors. We must also take into consideration the fact that nature in the state of abstraction and possessing its own inherent negative unity, as well as the positive unity of universality, is referred to many inferiors because there exists no repugnance with regard to its being predicable of them or to its being in them. This non-repugnance may be explained from the fact that the universal, according to the doctrine of moderate realism, has been taken from concrete singular objects. It has an aptitude toward, and a capacity for being in, those things from which it has been drawn. Thus, to sum up what has been stated in this paragraph, the proximate foundation upon which rests the relation of universality is a (1) single nature, (2) abstracted from inferiors, (3) with an aptitude or lack of repugnance toward being in them. This is known as the fundamental universal.

The study of the fundamental universal suggests a consideration of the nature to which universality is attributed, namely nature in the state of abstraction. As has already been mentioned, it is known as the material universal because it is, as it were, the "materia prima" which stands ready to receive the form by which it is stamped as a universal. Universality is attributed to a particular nature when the

mind compares it with its inferiors, but prior to that it is simply an abstracted form and as such is called an "intentio prima" and a metaphysical universal because it is such a nature as this that metaphysicians study when they deal with "being" in the abstract and overlook the marks of individuality, sensibility, quantity, and materiality. The metaphysical universal is proximately founded in single objects existing outside the mind, and it is formed by an absolute act of knowledge, i.e. by being considered absolutely as it is in itself without any relation to anything else. It is produced by negative abstraction---everything toward which it could be ordained being simply omitted, or by a positive abstraction---when the intellect has a knowledge both of that which is abstracted and of that from which the abstraction has been made. The metaphysical universal is divided into ten predicaments; i.e. into ten supreme genera which may be applied to all finite beings. The logical universal is formed only when this metaphysical universal is compared with its inferiors by the intellect which perceives that it can be predicated of them and that the nature thus abstracted is identical with each of them.

We have now arrived at a point where we can proceed to prove the doctrine of the Scholastic School with regard to the universal, and especially that of moderate realism.

CHAPTER II---DOCTRINE

Section I.---We have hitherto spent much time showing how the problem of the universal gradually formulated itself as the distinction between sense perception and the workings and objects of the intellectual faculty became evident. It has also been our task to present a brief exposition of the general trend to be found in the solutions or attempted solutions of the question, as well as a more detailed account of the efforts made by some of the more important thinkers to arrive at the truth. Lastly we have devoted some time to a presentation of the preliminary and fundamental ideas to be taken into consideration by one whose purpose it is to study the question. We are now in a position to proceed to prove the Thomistic doctrine of moderate realism and to refute the solutions embodied in nominalism, conceptualism, and exaggerated realism.

It is common among the Scholastics to teach that the universal is something real. It is no mere word or "flatus vocis," nor does it consist entirely in a concept formed by the intellect. Hence they are reckoned among the realists. However, there are two branches of realism, as we have already pointed out. The type in which the ancient Greek philosopher, Plato, has made himself so prominent is realism carried to the extreme. The followers of St. Thomas believe in and teach a more moderate doctrine, which is more satisfactory both with regard to the common sense of the ordinary "man in the street" amd with regard to its ability to explain the facts and phenomena of common, every day life. Thus we say that the formal reality of the universal exists in the intellect alone. But we do not stop there, as we should do if we were exponents of the conceptualistic teaching. We go further than they do by showing that the formality found in the mind has come into being as the result of the perception of concrete, singular objects existing objectively

outside the human soul and without any dependence on it whatsoever. Hence we teach that the nature which exists as a universal in the intellect exists also as a single object or a number of single objects apart from the soul. Since the universal is abstracted from concrete singulars, we contend that the nature which exists in them corresponds to the nature, considered as a universal, in the immaterial cognoscitive faculty of the spirit. The doctrine of the Scholastic School may be summed up in three parts: (1) There are really universal concepts in the human mind; (2) the nature expressed by the universal concept corresponds to nature which has an objective, independent existence outside the mind; (3) nevertheless, nature, as it exists apart from the intellectual concept, is not universal, but singular.

In proving the existence of the universal as we have just expounded it, we shall consider it according to these three headings. Thus we begin by removing all doubt as to the fact that in the human mind there really exist universal concepts. In other words, we want to prove the existence of the universal in representing, i.e. of the concept by which the mind perceives the "universal in being." A universal concept ne by which universal nature is made evident to the intellect. The particular nature contained in a given concept is, as has already been pointed out in preceding parts of the thesis, the essence which belongs to a number of concrete, singular, individual objects. This universal nature conceived in the abstracted state is seen by the intellect to pertain to its imdividual inferiors as identified with each of them and multiplied in them. Every human being is aware that he possesses such universal concepts. He has no doubts whatsoever

in the matter unless he becomes a member of a fancy school of philosophy and begins to imagine that he has. The very fact that we express our thoughts by language proves that the universal in representing actually exists. Any noun, such as man, or gold, corresponds to something that exists in the mind, and that something represents not one particular individual, but rather that by which many individuals are what they are. In other words, it refers to the essence which is found multiplied in and predicable of a great number of single objects. It does not represent the essence as it exists in a certain individual. Thus it is that the word "man," for instance, is applied to any rational animal. If it did not express rational "animality" in the abstract (and therefore as a universal) it would be used to designate a particular person and not the whole human race. Hence, since we are conscious of possessing universal concepts in our intellect, we conclude that such concepts really exist in the soul's spiritual faculty of knowledge.

The universal concept is a form of knowledge of which the mind is conscious. There are four distinct degrees of knowledge. The type that is common to all living, material beings that possess more than mere vegetative life is sensitive knowledge. It comes into existence when single, concrete, material forms are received by the soul by means of the senses. This kind of cognition is the lowest, because it is confined and limited to an individual, corporal being and it does not penetrate beyond the external, accidental qualities inherent in the object. It requires no intellectual faculty for its acquisition and is a property of brute and man alike.

However, the difference between a human being and a brute animal lies in man's ability to make an abstraction from single objects. When an animal, such as a dog or a horse,

receives knowledge through the external senses, all it can do is retain that knowledge in a sensible manner; that is, by means of the imagination, which is a sensible faculty, it can picture to itself what it has seen, or heard, or perceived in any other way. What it possesses in its imagination is singular, for the imaginative faculty can represent only the accidental qualities perceived by the senses, such as colour, taste, extent, size, etc. Man likewise has this faculty, but he has something more than that, and his own consciousness gives him certain evidence of its existence. To deny what he is conscious of would be the act of a fool, and the denial of the veracity of his consciousness would be to make philosophical speculation and indeed all knowledge impossible. The result would be scepticism and a state of indifference with regard to truth. Thus man knows that his intellect begins to work once an image is presented by the imagination, and the work that his intellectual faculty performs is to seize what lies hidden beneath the singular, sensible, and material qualities contained in the image. That which is thus grasped is the essence of the object. However, this essence is not taken up as being something exclusively peculiar to the particular object represented by the imagination, but when once the intellect has taken hold of it, it begins to perceive that this essence may be predicated not only of the individual which has fallen under the sensible faculties of the soul, but that it pertains to all other individuals of the same kind. Thus the intellect sees the universality of the essence which it has abstracted, and, as we have already pointed out, a human being is conscious of the existence in his mind of the universal concept thus formed.

By way of a digression we shall complete the picture of the various degrees of knowledge by saying that the third

degree is that which is found in angels and in human souls that have become separated from their body. Such spirits perceive first their own soul, which they see subsisting separately without the concurrence of a material body. Through this knowledge all their other knowledge comes to them. God alone possesses the power of cognition in the fourth and most perfect degree. That in which He sees everything else is His own essence, which is being itself and self-subsistent: God is pure act. Any knowledge considered in itself is an absolutely simple perfection. Any imperfections found in it come not from the fact that it is knowledge, but from the fact that it is of such a type, limited in some way or other.

Now, to resume our discourse, the formal object of the intellect is abstracted universal nature, since it is the purpose and function of the intellect to perform this abstraction. Also, since the intellect contemplates the essence removed from its inferiors, it sees it as something universal and necessary which can be applied to any number of inferiors. However, in its present state of union with the body, the soul receives all its knowledge through the bodily channels of cognition, namely, the senses. The impressions thus received take the form of images in the imagination, and the intellect makes an abstraction from the image, thus forming a universal concept of the essence which exists in the particular object which has fallen under the senses. There are many things that we may consider as a proof of this, such as the knowledge, acquired by experience, that if a man's imagination is affected by drunkenness or by some injury, his intellect cannot perform its functions. Everyone knows from his own personal experience that single, concrete,

material examples greatly facilitate his understanding of a subject. The obvious conclusion to all this is that during its union with the body on earth all the material that the intellect receives and from which it makes its abstractions belongs to the corporal and sensible order. Even when the mind conceives purely immaterial beings, such as God, it must have recourse to the material, as, for example, when an artist wishes to represent the Holy Ghost, he pictures Him as a dove. Thus it is that while the soul is joined to the body, that which the intellect first perceives is the universal and necessary essence of material, sensible objects. This is the intellect's formal object proper to it in its condition while on earth.

While it is true that the formal object of the intellect belongs to material beings, it itself is immaterial, for it is perceived by the intellect in an immaterial manner; that is to say, everything material is case aside and only the abstracted, universal essence is considered. If the formal object, as such, were material, there would be no universal concept. The intellect would be, like the senses, confined to the single and concrete. Now a faculty is specified by its formal object, because it is made to correspond with that object. It corresponds with it to such an extent that the formal object actually determines its essence. The intellectual faculty is no exception to this rule. Its formal object is immaterial, and so, as a necessary result, the intellect must be immaterial; otherwise there would exist a discrepancy between it and its formal object. Hence the obvious conclusion is that the intellect is immaterial, i.e., unlike the senses it can exist without being in matter. Consequently it possesses no organ in the body as do the various senses such as sight and hearing. Furthermore, it continues to exist after the

body has ceased to be, and so it is said to be immortal.

The doctrine professed by the Thomistic school of philosophy teaches that in the formation of a universal concept the sensitive faculties and the intellect play important parts. This is already apparent from what has already been shown in this thesis. However, not all other philosophers agree with us on that point. Some teach that only the intellect has anything to do with the formation of a concept, while others believe that the formal object of the intellect is the same as the object of the senses. The former doctrine is known as exaggerated intellectualism, and the latter is called sensualism. Exaggerated intellectualism is subdivided into several doctrines. Idealism is the first. It teaches that by its very nature the intellect possesses its concepts. Hence concepts pertain to the essence of the intellect just as animality and rationality belong to it according to the teachings of St. Thomas and other philosophers. The second subdivision of exaggerated intellectualism is ontologism, which proposes an immediate union between God and the human mind, the result of which is that the intellect possesses concepts without the mediation of the senses, the imagination, or any other creature. Thirdly, we have the doctrine of innate ideas, by which we are to believe that from its inception the soul is endowed with ideas. Plato is especially conspicuous in this regard. He taught that at one time the soul existed separately and enjoyed the possession of ideas. After a time, however, it was punished by being placed in a body, and in this state it forgot its former knowledge, but was imperfectly reminded of it by the operation of its sensitive faculties. Thus, according to Plato, learning is not the acquisition of new concepts; it is simply the remembrance or revival of the old knowledge

possessed by the soul in its previous state. Plato believed that all ideas are innate. Some, like Descartes, believed that only some of our ideas are innate, while other philosophers, like Rosinini, taught that only one idea, that of being, is infused into the soul at the beginning of its existence. The final subdivision of this doctrine is that of exaggerated spiritualism. That form of this doctrine which is known as traditionalism teaches that our concepts originate with our speech. Those who have lived before us received their knowledge from God when He gave them the gift of speech, and they transmitted that knowledge to us when we learned our language from them. Those who profess a mitigated form of this doctrine believe that with speech we receive only a clear and distinct knowledge of God, of the soul, and of our moral obligations.

The sensualists do not believe in anything beyond the sensitive faculties. According to these philosophers our universal concepts come into being merely by means of the association and confusion of sensations, which of course are single and concrete. Hence their system leads us to a negation of an abstractive power of the soul by which the single and concrete is cast aside and the universal essence abstracted.

Both these doctrines are wrong, because they try to explain universal concepts by only one of the factors which enter into the question, to the exclusion of the other. Consequently they are at best only half true. Idealism is false because in order to form a concept the intellect must possess an impressed species or vicarious form of the object, which has an immaterial existence in the intellect, apart from its material existence outside it. Thus, something else, distinct from the intellect, is required. In itself, i.e. considering its nature alone, the intellect is not determined in its knowledge. Determinations are added to it as its knowledge increases. There are only three possible ways in which the mind can acquire concepts. First,

it may be identical with the object known. However, if this were the case, the intellect would be essentially the same as every object that it knew. It would even have to be two contradictory things at the same time. For example, if it possessed concepts of men and brute animals and were consequently identical with them, it would be rational and irrational at the same time, since men are distinguished from brute animals by their rationality, which brutes do not possess. This is evidently absurd. The human faculty of knowing is finite and limited and determined to its own identity. Hence the intellect does not acquire concepts through identity with what is known. Secondly, knowledge may be attained through immediate information. But this is not the case, at least where finite objects are concerned, because since they are finite objects they are limited to their own being and hence they do not immediately inform and determine the cognoscitive faculty of the intellect. Furthermore, in order to be united with the mind an object must possess immateriality such as pertains to the intellectual faculty, and it is evident that the object has not this immateriality, since it is corporal, while the intellect is incorporal. The only way left is that of mediate information, i.e. the reception of knowledge by an impressed species, and it is in this manner that the intellectual faculty receives its determinations. The object comes into contact with one of the external senses. The sense information thus received flashes before the imagination. Here it is acted upon by the intellect, which abstracts from it that which is essential, universal, and necessary, and which transcends space and time. Thus is formed an intellectual concept.

Ontologism, which teaches that our knowledge is derived from a union of God and the human intellect, is contrary to what we all know through our consciousness, and hence it is false, since our consciousness is a certain criterion of truth. Some try to escape refutation by saying that the mind is united

to God's ideas. But His ideas, like everything else that pertains to Him, belong to His Essence and consequently they are He, Himself. Furthermore, God did not create the human body with all its sensitive faculties for nothing. If our knowledge is not acquired through the sensitive faculties, of what use is the body to the soul? It is ordained to the soul, and so while soul and body are together the latter must serve the former by being the channel through which it perceives the world around it. Consequently the doctrine of innate ideas is also false, since it removes the need of the senses as a means of acquiring knowledge.

Those who would have us believe that we receive our ideas as soon as we become possessed of the gift of speech are simply inverting the order of ideas and speech. Speech is merely a conventional sign invented by man to convey to his fellow humans the ideas which already exist in his mind. Hence ideas are not born with speech. Rather it is the other way around, since speech comes into being as a result of the existence of ideas. Man, by means of his sensitive and intellectual faculties, comes to know of a certain object in the abstract and he decides to signify that object by a combination of sensible sounds, which he determines by himself. In addition, from the first ideas acquired man is quite capable of arriving at a clear and distinct knowledge of God, of the soul, and of moral obligations, because he can reason these things out from the concepts already formed. Reasoning does not consist essentially in words, although they are of great assistance in facilitating thought. Thus it is that speech is necessary for human beings if they are to acquire a knowledge of the natural truths concerning God with ease and rapidity, and without an influx of error. Also, in the case of most men, speech is morally necessary for the advanced development of the human mind, since the majority, if left to themselves, would not rise to any great heights of

intellectual knowledge.

The sensualists, as we have already shown, do not believe in anything higher than the sensitive faculties. We know that in the universal concept the quiddity or essence of objects is represented. If we examine the work of the senses we find that in no case do they represent essence. They always present to us the outward appearances of the single and concrete. When similar things repeatedly enter into our senses, the features in which they agree become more and more strongly impressed on the imagination, while the dissimilar features tend to become submerged and obliterated. Thus we come to possess an image formed by a confusion of impressions, and by reason of this confusion the image is applicable to any one of the existing individuals of that species. However, whenever this confused picture is conjured up it always represents sensible qualities such as colour, size, etc. Hence it is single and concrete and is not concerned with the internal essence. Thus we see that the formation of the universal is the work of a faculty other than the sensitive. It is the intellect, a purely spiritual power of the soul, which perceives the universal essence. Hence universality as it is found in the mind is not satisfactorily explained by merely referring to the senses. Hence sensualism is false.

We have now, at some length, showed that there really are universal concepts in the human intellect. But not all philosophers agree with us. Our doctrine on this point is a contradiction of the teachings of the nominalists, who say that the universal is nothing more nor less than a word which is applied to a number of objects. Thus, in attempting to solve the problem they merely skim the surface and fail to see what lies beneath the word. According to a distinction

which we presented when dealing with fundamental notions concerning the universal, we must distinguish between the universal in representing and the universal in signifying. When the nominalists say that the universality of a nature consists merely in a word they are considering only the universal in signifying and are overlooking that which is signified. Words always signify something that the speaker or writer has in mind. They are merely external, sensible signs, and their existence is justified only in so far as they signify some concept. Hence words correspond to what is in the mind, and if they are universal in their application, that which they indicate must also be universal. Now since that which a word stands for is a concept of the intellect, and since the word is universal in its application, the concept must also be universal. Thus we see that the nominalists are wrong in saying that universality consists merely in a word which indicates many individuals. That is only one phase to be considered. There exists also the concept of universal in representing, which has its abode in the intellect.

It now devolves on us to prove the second part of our proposition with respect to the universal, namely that the nature expressed by the universal concept corresponds to nature which has an independent, objective existence outside the mind. In other words, the intellectual concept is not one of Kant's "a priori" forms of knowledge springing from the subject and having no foundation in the world of objectivity. In order to prove our contention we must have recourse to the veracity of the intellect. It is a cognoscitive faculty and is ordained by its very nature to apprehend the truth. Thus it naturally perceives things as they really are. Whenever our intellect or any of our senses err, it is

something accidental and is not the proper function of any of those faculties. If our intellect and senses are not by nature capable of apprehending the truth, we may as well cease all philosophical inquiry and scientific endeavour.

Having thus established the intrinsic truthfulness of the intellect, we proceed to discover what it tells us with regard to the universal concept. When it considers the abstract nature contained in that concept it sees it as something pertaining to single, concrete individuals of which it may be predicated and in which it is multiplied. That is to say, each one of a certain group of individuals outside the mind possesses that nature in the singular, and consequently if it is really possessed independently of the intellect it must have an existence that does not depend on the soul or any of its faculties. Hence the universal concept corresponds to nature in the singular and concrete, existing in individual objects, and this nature would continue to exist if the knowing subject were suddenly plunged into nothingness.

We cannot pass over this phase of the universal without giving some thought to the doctrine of conceptualism, which denies what we have just proven. The exponents of this solution of the problem come nearer to the truth than do the nominalists, because they admit that the universal concept does not consist solely in a word. However, they fall short of the truth when they deny the connection between the concept of the intellect and the concrete, individual nature outside the intellect. According to this doctrine the universal is not abstracted from inferiors. It is purely a product of the mind and is formed not "a posteriori," but "a priori." Consequently it is an "ens rationis" or something absolutely subjective, existing in the mind only, without any correspondence to the sensible reality. The conceptualists teach, for

example, that the universal idea of man, namely rational animality, which we know exists in our mind, is not actually realized in any manner in that sensible reality which we call the human being. Thus it is that those who uphold this system admit the existence of the universal in signifying and in representing, but deny that there is such a thing as the universal in being.

In refuting conceptualism we must consider what results from it. In the first place, if we are to believe what it tries to teach us, our intellect, which is a faculty that exists for the purpose of apprehending the truth, and which by its very nature, as we have already shown, is ordained to know things as they really are, is always deceived and leads us to accept falsehood as truth. Thus the intellect, which exists that we may perceive truths that transcend sense knowledge, does not serve its purpose. Its "raison d'être" is not fulfilled or realized. It is not only useless in so far as a knowledge of reality is concerned, but it is actually worse than useless, since it is deceptive. It is absurd to think that the Creator, Who is Truth itself, would endow His creatures with a faculty which at all times and invariably would, of its very nature, lead them to consider as reality what was no more than a subjective fabrication. If such were the case we should of necessity have to resign ourselves to scepticism in all matters not pertaining to sense, since all abstract knowledge would become an impossibility. Admittedly, the intellect does sometimes err, but this is the exception rather than the rule. It is merely accidental and is due to some other source which in that particular case interferes with the proper function of the intellectual faculty. Hence, if we wish to avoid scepticism, we must concede that what the intellect invariably sees to have been

abstracted from inferiors has actually and really been abstracted from inferiors and consequently really exists in them and corresponds to the universal concept.

The final division of our proposition is that nature, as it exists apart from the intellectual concept, is not universal, but singular. This assertion is directed against those who go too far in their attempt to solve the problem, namely the exponents of exaggerated realism. In proving it we must again have recourse to what the intellect tells us. We have already devoted sufficient time and space to the proof of the veracity of the intellect. When we consider our universal concepts and compare them with the inferiors from which they have been abstracted our intellect tells us that the universal nature which we are contemplating is capable of being predicated of each of the individual inferiors from which it has been taken. It perceives, for example, that there is absolute predicability between gold taken abstractly and universally and a particular metal which is perceived here and now by the external senses, or which has been perceived by them at some time in the past. This predication means that the general term "gold" can be applied to some individual specimen of that substance, because the nature of gold and the nature of this metal are the same and therefore identical. If they are not identical, then they are two different things, and one cannot be predicated of the other any more than a man can be said to be a tree. Hence affirmative predicability implies strict identity between subject and predicate. Consequently, if a nature which is formally universal in the mind is really identified with a singular object outside the mind, its existence outside the knowing subject must be singular and not universal, because it is evident that what is identical with something singular must be itself singular. Identity implies sameness in every detail.

Directing our attention to exaggerated realism, we find that it contains several different opinions, according to the manner in which it is regarded by various philosophers. We may say that the two most important opinions on this subject are those of Plato and Scotus. It was Plato's belief that universals exist not only outside the intellect, but also outside the very sensible realities from which we contend that they are abstracted. The universal, considered formally, is according to Plato neither a word nor a concept, but a reality existing separately and without being dependent on inferiors in any way. These separate realities are called by Plato "Ideas" and have their being in a world of their own. They transcend the world of sensation, and indeed sensible objects are merely shadowy participations in these realities, which are spiritual and are like the angelic beings. When our intellect forms a universal concept it is only participating in an abstract manner in the independent Ideas. When an object falls under our senses we do not abstract a universal nature from it. It is simply the occasion of the soul's remembrance of ideas which it previously possessed, but which it forgot when it was united to a material body. Thus, according to Plato, there is no abstraction from inferiors. Furthermore, he taught that the Ideas were eternal.

This doctrine offers several difficulties. First of all, it tends to develop in us a tendency towards scepticism. Everything with which we come into direct contact in this world is an object perceived by the senses. But Plato teaches that such objects are only faint reflections or shadows of Ideas. It is the Ideas that are real. The world of sense phenomena owes any reality which it may possess to them. Hence what comes under the senses is not real in

itself. Consequently, a believer in Plato's doctrine may well ask himself if what he sees and hears is real. If he answers his question consistently he will be forced to look on sensitive knowledge as something uncertain: hence scepticism.

Plato would also have us believe that his Ideas are eternal. If we suppose that they do exist and are everlasting, we must admit that they cannot have preceded God's existence, since He is also eternal. In addition, the Idea of the essence of an object cannot come into being until some creative intellect has perceived it. God is the Source of all things, and hence all the Ideas of the things that He has created must be in His Mind if they are to exist at all. Ideas, by their very nature and definition, must exist in some mind. Plato gives them independent existence. This is certainly an absurdity.

Scotus' doctrines contain exaggerated realism in a somewhat different form. He taught that man's essence is one. That is, there is no multiplication of essence of the same kind so as to have one for every individual. Rather, all men, for example, possess the same, identical essence. What constitute the differences between various individuals are accidents. They form what Scotus calls "haecceitas" or the principle of individuation. Hence we experience no difficulty in perceiving that essence is no longer really universal or predicated of many in such a way as to be multiplied in many. It is not multiplied, because it is one and numerically the same in all individuals. Consequently, according to this doctrine, natures are not universal, but common, just as a room in which many persons are sitting is common to them all, but not universal, since there is no question of identification with each person and at the same time multiplication in each. This opinion leans

strongly toward monism, seeing that it teaches that the individuals of a given species participate in an essence which is numerically the same in them all. Scotus' doctrine tends to remove the real distinction between different beings. We may refute his contention by simply falling back on the veracity of the intellect, which, as we are aware, represents universal natures to us as not only capable of being predicated of their inferiors, but also as being multiplied in each. Multiplication of an essence does away with all possibility of its numerical unity in a species.

Section 2.---In the remarks that we made as a preface to the proof of the first proposition concerning the universal we devoted a short space to a consideration of the subject of universality and said that it was nature and that in itself it possesses only negative unity. We further stated that when it is singular or universal, a nature has something added to it which gives it positive unity. In this our second proposition it is our purpose to show that nature, in itself, has only formal, negative unity, i.e. a negation of division by formal principles; hence in itself it is only negatively common. On the other hand, nature, considered in its single inferiors and considered as it is in the intellec has a positive unity; in single objects the unity of singularity, and in the intellect the unity of universality.

Before attempting to prove this assertion we shall try to elucidate its wording. When we consider the meaning of the term "unity" we see that it is the opposite of multiplicity; i.e., it indicates that there is no plurality---that what we are contemplating is one undivided being. In all cases of unity there are two things that we must consider, namely that which possesses unity, and that by which it is said to be one. The first of these is always an entity, since all unity must possess a subject. That by which the entity

is called one is an absence of division, which is, as it were, a formal aspect added to entity and giving it its unity. Thus in unity there are two things to be considered, one positive, which is some entity, and the other negative, which is an absence of division in the entity.

Since unity formally consists in a negation of division, we can easily perceive that if there are several ways in which division can be denied there must also be an equal number of ways in which unity can exist. These ways are called modes of unity. Thus it is that we find that there are two general ways of denying division. In the first case there is an absence of division because of the operation of some material principles. This applies only to objects that are perceived by the senses. The principle of individuality, by which material beings are single individuals, or possess unity, is matter to which is attached quantity, since if there is no quantity there can be no matter. When once a specific form is received in primary matter so as to constitute one being, with one principle of operation, we are able to deny that there is any division in the individual object, because by its possession of matter it receives numerical unity, by which it is separate from all other material individuals not only of its own species, but of all other species as well.

If we give some consideration to this self-same sensible object from the metaphysical point of view we find that we are also able to deny division in it because of the absence of division in its substantial form. Thus in a single human being there is one principle which explains the existence of the intellectual, sensitive, and vegetative functions of the individual, and this principle, which

unites the various elements in the body and makes them all act for the benefit of the whole, lacks division. That is to say, it is not several principles, but one. Hence, considering man from the point of view of that which gives him his essence and manner of functioning, we say that he is one. Furthermore, when we consider man from the point of view of his principle of operation, we see that generically he is an animal, while specifically he is rational. That by which he is an animal lacks division in itself, as does also that by which he is rational. Consequently, with respect to the formal principle, we may deny disunity in a being from two points of view, i.e., by considering the genus to which it belongs or by descending to greater determination and looking to its species.

When we deny unity from a consideration of material principles or formal principles, whether generic or specific, we are dealing with the oneness of nature in a negative manner. These various points of view can serve us in contemplating and studying one and the same being. Hence to one entity may be applied these different forms of negative unity, while beneath them all there is actually only one positive unity, which we may call absolute. More than one mode of negative unity does not multiply the entity; a numerical increase in positive entities is required to augment the number of absolute unities. When one thing possessing unity is applied to more than one individual it is said to be common to all those objects that are placed under it. Thus positive oneness may have positive community, while negative oneness, i.e. a negation of division, is said to have negative community if it is applied to more than one individual. In order to exemplify positive community we might consider a piece of property---land,for instance, which is owned by a

group of shareholders. The property is a positive unity. That is to say, it is one individual entity, the oneness of which does not consist entirely in a negation of division on the part of its constituent principles. At the same time it is owned by and hence attributed to all its owners; i.e., it is common to them. An example of negative community is found in the specific form considered in itself. It is that by which an individual is bound to a particular species. Thus all individuals of the same species have a certain negative unity in common, because in every one of them we may deny the existence of division by considering that which gives them their form of species. It is true that each individual possesses its own form, which is rendered through its reception in matter incapable of being communicated to other objects of the same species. Nevertheless, since there is a sameness in all the substantial forms possessed by the members of a species, we say that this form is common to them all, not absolutely, but in a certain sense, because in each of them division may be denied in the same way--- from the point of view of the formal principle. This negative or "secundum quid" formal community of the specific form is the basis of the real relation of similarity which exists between all the individuals of a given species.

In this section of our thesis we are considering the subject of universality, or in other words nature. It can be regarded as being in three states. In the first state we contemplate it as it is in itself and simply omit any consideration of what does not pertain strictly to essence. Thus we look on pure nature removed from all universality and singleness. In this condition it is seen to be indifferent with regard to everything that is accidental.

In the second state we see nature after the principle of individuality has come into operation. That is to say, we contemplate nature as it is in an individual, as the real principle of operation of a real substance. Finally, we look upon nature considered in the state of universality, where it is perceived by the intellect as abstracted from inferiors, as being capable of being predicated of them, and as being identical with each one of them.

In this part of our thesis we consider nature "secundum se," i.e. as it is in the first of the above-mentioned states, and prove that in that state it possesses only formal negative unity, and that, as a result, it is only negatively common. That is the same as saying that nature, without reference to singleness and universality, has no disunity in its formality. We prove, in addition, that nature existing in an individual or found in the state of universality is not merely negatively one according to formal principles, but that by its reception into either of the two states other than that in which it is regarded "secundum se," it possesses positive unity---that of singleness or of universality.

In order to remove all doubt as to the negative formal unity of nature, taken without any consideration of whatever may pertain to it, we must focus our attention on the difference between positive and negative unity. We can easily see that nature "secundum se" has formal unity, since when we deal with nature we are dealing with essence and hence with form. Nature "secundum se" is essence "secundum se," the two of them being somewhat different points of view of the same thing. But we contend that nature in this state can be called one only in a negative manner, since, in order to be positively one, unity must be absolute. That is to say, it must be

absolutely free from the scattering influences of division or multiplication. When we examine the formal unity of nature "secundum se" we perceive that it does not fulfil this condition, because it is capable of being divided by material principles. We find that nature in itself has not reached its ultimate determination and that it hangs suspended, as it were, over a number of material individuals into any one or all of which it may easily fall, to become the substantial form and governing principle of a material being. The object which is formed of a given nature or substantial form and a minimum quantity of matter is incapable of further division, but the form considered in itself may be found in any number of similar beings and is consequently not positively united. Hence we say that it possesses, in addition to its negative formal unity, a certain negative community, since it is, in a sense, common to all individuals which receive it. However, nature in one individual is divided and separated from nature in another individual, even though both be of the same species. Nature considered in itself possesses no more than this negative community, for in order to be positively common it must be absolutely common. But it is not absolutely common, since it is not absolutely one. When a thing is said to be common it is meant that it possesses unity and at the same time pertains to more than one individual, as in the previously mentioned example of one piece of property owned by a group of men. If its unity is positive, i.e. absolutely immune to all further division, it is positively common. If it possesses negative unity, it has only negative or "secundum quid" community, since in this case that which is said to be common is not, in the strictest sense, one. In other words, nature considered "secundum se"

is divided and multiplied by its reception in matter, while a material individual requires a minimum quantity of matter, and when this minimum is subjected to further division the whole is destroyed. Matter, although it can be physically divided, is not, like nature, capable of being received in something else, while nature or "form is divided and multiplied, not however formally, but materially,"# i.e. by reception in matter. Hence, since nature is not absolutely one, it is not absolutely common, but since it possesses community in a certain sense (being one nature capable of division in individuals by material principles), it is said to be negatively common.

Although nature in itself possesses only negative formal unity and is only negatively common, we find, on examining it in concrete individuals and in the state of universality, that the case is different. In both these states it is positively one. The proof of this is quite similar to the preceding portion of our proposition. As we have already shown, positive unity means absolute unity, and when a thing is absolutely one it is incapable of further division. Such we discover to be the case in connection with the unity of material singleness and that of universality. First let us give some thought to nature as it is in a material individual. In this state it has reached its ultimate division. It has been divided by matter and there is no "materia materiae" by which a further division could be made. In this ultimate condition nature is the governing and unifying principle of a real entity and is rendered incapable of further communication. In the second place, when we turn our attention to

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Gredt--Elementa Philosophiae, Vol. I, page 307, Coroll.3.

nature in the state of universality we find that it also possesses absolute unity because, as it is in the mind, abstracted from inferiors, it is something immaterial, removed from material principles and consequently from all divisions and disunity.

Before leaving this subject it would be well for us to consider the opinion held by Scotus on the question. It was his belief that any given nature is one, i.e. numerically one, in all individuals. The human nature possessed by a man named John is ~~xxx~~ numerically the same as that possessed by his friend William. The individual difference between the two men is constituted by something inherent in them, which Scotus calls "thisness" (haecceitas). Thus nature in itself, according to this opinion, has positive unity. It is also positively common. When we begin to criticize it, the first thing we notice is that it destroys the universal in being, which we may define as one nature that is in many inferiors as identified with them and multiplied in them. Thus nature, in Scotus' scheme, is common to its inferiors, as a room may be said to be common to all those who use it. Scotus does not believe that nature is multiplied in the individuals to which it pertains. However, his doctrine on this point is contrary to what every man with common sense knows from his own intellectual perception. We have already dealt with Scotus' doctrine on the numerical unity of natures in section 1, and so we need no further explanation or refutation of it here.

Section 3.---If we pause for a while in our study of the universal and look closely at various individuals of which universal concepts are held, it becomes evident to us that one individual is not necessarily confined to a class covered by one universal concept. For instance, if we consider a man, we find that besides falling under the general idea of a human being, he may also be considered as an animal, or as a being,

or as a living entity. There are many other headings under which we may place the same individual.

With these preliminary remarks we introduce a new question, namely that of the metaphysical grades and the distinctions that we make between them. By the expression "metaphysical grades" we mean essential marks which pertain to individuals and which are not all on the same plane, but are found in various grades, some of which are higher and some of which are lower than the others. The word "grade" is used especially to designate this order of ascension and descent. There are two kinds of metaphysical grades. The first is that which is embodied in the superior and inferior genera such as "substance" or "body." The second is formed by the differences through which an ascent or descent is made between grades of the first kind. The various essential marks found in one being possess various degrees of universality. For instance, "substance" is more universal than "animal." This accounts for the order of ascension and descent of which we have just spoken.

Various metaphysical grades are found in individuals. Hence there must be a distinction of some sort between them, since man's intellect is able to distinguish one from another. At the same time they are all in the one being, which receives unity from the form that is in it. Substantiality, corporality, etc. are all in one man and cannot be actually separated from one another. Consequently in this section of our thesis we seek to determine the kind of distinction existing between these essential marks, the absence of one of which from an individual would destroy its essence. Our question is one which deals with universals actually existing in their inferiors.

Before proceeding any further with a solution of this problem it would be well for us to enumerate the various types of distinction. The first and most evident is real; i.e., it exists in the very nature of things and can be perceived by the senses if the distinct objects are material. A distinction indicates that one thing is separate from or is not another. The separation does not have to be actual. It is not necessary that two things be capable of a real separation from each other. In spite of their lack of actual separation, they may be really distinct. Thus the top of a tree trunk is really distinct from the bottom, regardless of whether the two have been actually cleft asunder by the woodsman's axe. The distinction between spirits is real, since one is not the other. The soul likewise is really distinct from the body.

The second type of distinction is that which actually exists in the intellect only. It is called in Latin a "distinctio rationis." It exists when a thing which in itself is one is conceived by the intellect under different aspects. However, there is a further division to be made. Sometimes a distinction of this kind is really due to something contained in the object, while at other times the thing under consideration presents in its nature no real basis for the distinction made by the intellect. The first of these is known as a "distinctio cum fundamento in re seu rationis ratiocinatae," while the second is termed in Latin "distinctio sine fundamento in re seu rationis ratiocinantis." In the case of a distinction with a basis in the object that is being considered, that in which the distinction is perceived is really one, but it possesses various perfections. For example, the human soul is one and simple, but it is at the same time vegetative, sensitive, and intellectual, since it is the principle of the functions of

of vegetation, sensation and understanding. Our intellect distinguishes between the different perfections of a single object because it is imperfect and is not able to grasp the whole thing in one concept, but must form several in order to include all the attributes of an object in its understanding. Thus we see that the distinction in question is virtual so far as the object itself is concerned. It is not real, but a reason is given the human mind for making a distinction. The "distinctio rationis ratiocinantis" exists when one objective concept has attributed to itself different imaginary relations (relationes rationis), as when one and the same thing is considered as subject and predicate in a sentence such as, "Man is man." Here the same objective concept has different imaginary relations attached to it according to its position as subject or predicate in the same sentence.

It might be well for us to note, in passing, that a distinction may be taken in several different ways. Taken formally, it consists in plurality, for there can be no distinction without plurality. A distinction exists when there are at least two entities, one of which is not the other. It cannot exist in connection with unity considered as such. Hence multiplicity is the first requisite for distinction. It is, as it were, its essence just as a substantial form is the essence of a material object, since, like the substantial form, it is that by which the thing (in this case the distinction) is what it is. We may also consider it relatively. When one thing is distinct from another there arises between the two a relation by which the first object is referred to the second as separate from it, and vice versa. Needless to say, the relation invariably follows plurality, which is

presupposed by it. Consequently by considering a distinction relatively we turn our attention toward this relation which exists between the two distinct objects. Finally, a distinction may be taken effectively, and it is this manner of regarding it that is of great importance in our discourse. In this case it is called a precision (praecisio). To some extent "precision" follows the divisions we have already given with regard to distinction. Considering separation in an effective manner we see that it may, first of all, be physical; i.e., one thing is actually separated from another without being dependent on the intellect for that separation. In the second place the separation exists in the intellect only, and in that instance it is called an intentional distinction. As may be already gathered from what we have said, such a separation on the part of the intellect is the result of its perception of various perfections in an object which possesses unity when considered in itself. The intentional precision may be either formal or objective. A formal, intentional, effective separation occurs when the intellect perceives all the predicates of its object, but sees one clearly and distinctly while viewing the rest in a confused manner. An objective, intentional, effective precision exists when the intellect perceives only one predicate of a thing and overlooks, i.e., does not see, any of the others. We may exemplify this in the sensible order by considering a fruit, the colour of which is seen by the eye, but the odour of which is not noticed. What we perceive in such a case is true as far as it goes. Perception of the thing is not complete, however. The same thing may happen in the intellectual order when one perfection of a being is considered, its other perfections being simply omitted or

left out. We cannot truthfully say that in these circumstances our cognoscitive faculties are lying, because here it is a question of abstraction. The intellect can know all the essential characteristics of its object, but in this case it takes only one into consideration. It does not lead us to conclude, on that account, that the accompanying essential marks do not exist. The intellect may know all the characteristics "in actu primo," but only one "in actu secundo."

Having explained thus much in order to make our assertion and proofs intelligible, we proceed to enunciate that which we wish to uphold. It is our contention that in one and the same individual there is no real distinction between the metaphysical grades; neither are they actually distinguished in a formal manner out of the nature of the thing. Nevertheless there is an objective precision between them, and from it we may conclude that they are virtually distinct.

First, we deny the existence of any real distinction between the metaphysical grades in any individual. In endeavouring to show the truth of this we must not forget that any nature having its being in an individual is singular. This is evident from our remarks in section I of this chapter. Nature abstracted from inferiors by the intellect is formally universal in the intellect. Considered in itself, it has formal, negative unity (see section 2); but when it exists in one of the inferiors of the universal it is singular, i.e., it pertains to one being---an "unum per se," of which it is the directing principle. Considering the metaphysical grades which exist in the individual, we see that each of them is necessary to the essence of the being.

For example, if we take substantiality or corporality from a human being we no longer have a man, since a man is always a substance which has a body. Consequently each metaphysical grade is identified with the same individual, because, by the very fact that the individual exists, each one of the grades implied in its essence must exist and cannot be really separated from it. It is axiomatic to assert that two things that are identical with a third are identical with each other. For instance, if A is identified with B and if C is identified with B, A must necessarily be identical with C. There is no real distinction between things that are identical. Consequently, there is no real distinction between the metaphysical grades which exist in one individual.

We may further our argument with regard to this real distinction by showing its impossibility on the ground that the plurality of substantial forms is impossible in one individual. A substantial form is that determining element which enters into absolutely potential and undetermined primary matter in order to constitute with it one specific individual. Both form and matter are by themselves incomplete, but as soon as one substantial form has entered into the pure potentiality that we call primary matter, one complete being begins to exist. The form is that which makes a thing what it is. If we say that it is possible to add a second substantially determining element we are upholding a doctrine which says that a substantial form may become united with something already possessing a substantial form. But it is only primary (purely potential) matter that a substantial form may determine, since the latter is the first

substantial act of what has previously been without act, or in other words "in potentia." If it is not purely potential it means that it already has its specific form, for the first determination of a being is that which specifies it. Consequently, since it has already received its substantial existence, it is no longer capable of receiving it. Hence, since the substantial form only enters into pure potentiality, we conclude that a plurality of such forms is repugnant.

If the metaphysical grades are really distinct from one another we are driven to the conclusion that the substantial principles causing them are really distinct. For instance, if, in a human being, we find that substantiality is really distinct "a parte rei" from corporality, we are able to have substantiality without corporality, and that is because each comes from a different principle. Thus, if a real distinction exists between the metaphysical grades it indicates a distinction between the principles causing them, and that in turn proves that there exists more than one substantial or specifying form in the one being. Consequently, if we do not want to uphold this false doctrine we must necessarily admit that the metaphysical grades are not really distinct.

From the conclusion we have drawn we move on one step further and deny that there exists an actual formal distinction between the metaphysical grades. If such a distinction exists it necessarily implies that there is a real distinction between the metaphysical grades in one individual. This is evident from a consideration of the words "actual" and "formal." The former means real as distinguished from potential, or what can be, but is not at the present moment. The latter means that which pertains to form---in this case to the form that gives substantial specification, namely, the substantial form. A formal distinction implies a distinction between forms; hence

a plurality of forms. We deny that the metaphysical grades which we find in one being are each a form unto itself, actually distinct from the others. This denial is in accordance with what we have already proven, i.e., that the metaphysical grades are not really distinct in one individual, because an actual formal distinction means an actual difference in form. That, in turn, means an actual difference in entity, each form being the principle of an individual being. Hence, if each metaphysical grade is an individual being or entity, there is a real distinction between it and each of the others. We have already shown that this is false. We might add that in our opinion an actual formal distinction between metaphysical grades would result not in one being, but in a conglomeration of many beings which could be likened to a cluster of bees in a hive.

Notwithstanding what we have already proven, an objective precision can be made between the metaphysical grades in a single being. We may define the objective precision as an act by which the intellect perceives one of the perfections pertaining to an individual, while simply omitting any consideration of its other perfections. We can best illustrate our point by making use of examples. Man is essentially a rational amimal. Consequently every human being is both rational and animal. The intellect, when it contemplates man, perceives these two essential characteristics. However, it is not bound to regard them both. It can concentrate on man as rational and simply overlook the fact that he is also an animal. On the other hand it can consider the animal in him and overlook the fact that he is capable of doing what brute animals cannot, namely, reason. This ability of our mind to conceive one perfection without necessarily thinking of others existing in the same being is attested by our own personal, everyday experience. If it were necessary in conceiving man as an animal to conceive

also his essential characteristic of reason, all animals would be rational, since in the concept of them the power of reasoning would have to be included. The power of man's intellect to divide in this manner the perfections of what is formally one coincides with what we have already said in connection with the definition of the objective precision. Thus we see that, although the various perfections possessed by one being are not really distinct one from another, it is possible to have an objective precision between them.

However, the fact that the intellect is able to make objective precisions in the aforesaid manner shows that there must be something in the object which permits it to do this. We have put beyond all doubt the fact that there is no real distinction between the metaphysical grades of any individual. If a distinction of some kind did not exist between them, on the other hand, the intellect could not conceive one without conceiving the others. If there is absolutely no difference between "rational" and "animal," it is impossible to conceive one without conceiving the other. Consequently, since there is only one substantial form in an individual and since the intellect is capable of making an objective precision with regard to any one of the essential perfections of the individual, we must conclude that between these essential perfections or metaphysical grades there is a virtual distinction.

Before leaving this question we shall give a brief consideration to the opinions of those who oppose us. The nominalists, who hold that the universal is nothing more nor less than a name, deny that there is any such thing as an objective precision. This denial is quite in accordance with what they teach, since an objective precision tends to favour the abstractive power of the intellect, the admission

of which would weaken their doctrine if it did not entirely disprove it. What we have said in our thesis sufficiently refutes this doctrine. In the first place, in section 1 of this chapter we showed that truly universal concepts exist in the mind, and in so doing we proved that nominalism is wrong. Secondly, we showed in this section that what we call the objective precision is something that the intellect is really capable of performing. There are others who uphold a real distinction between the metaphysical grades because they believe that there is a substantial form for each one. Our thesis points out the impossibility of such forms, and consequently refutes the real distinction between the grades.

Those philosophers known as the "Confundentes" say that the universal is brought about by a formal precision. Thus, not needing the objective precision, they reject it. It is their belief that the concept of species is the result of a confusion of individuals which does not necessitate an abstraction from individuals. This teaching is very similar to that of many thinkers who say that the universal concept comes into being as the result of the association and confusion of single perceptions. These opinions contain a contradiction in terms, so to speak. If in their concept single individuals are found, they have no right to call that concept universal. If it is universal, individuals do not figure in it, for in the universal individuality is left aside and that which is essentially found in each single object is considered apart from its inferiors, but, of course with reference to them, since it is seen to be capable of being predicated of them and of being multiplied in them.

Besides rejecting objective precisions, Duns Scotus does not believe in our virtual distinctions. Neither does he admit that which is made possible by them, namely, the

distinction "rationis ratiocinatae." He proposes a division of his own in which he enumerates the real distinction, which he says requires a real or physical separation; the formal distinction, which is not an actual separation, but which is nevertheless actual in that it necessitates a plurality of forms, each one of which is formally different from the others; and the distinction "rationis ratiocinantis," which offers no difficulty. Thus Scotus denies that an individual which is actually one presents merely a foundation upon which the intellect may distinguish. He says that what is presented is an actual distinction in the thing itself--one which would exist even if God had never created a human intellect.

Scotus is wrong in confining the real distinction to signify only what is actually separated. Real distinction does not necessarily imply separation. Such a distinction exists, for instance, between the quantitative parts of a material being, even if those parts have not actually been divided. Furthermore, in the formal distinction which Scotus says exists between the metaphysical grades in an individual each grade is formally distinct from every other. This applies to the being's specific nature and to its numerical difference. The former is one and the same in all entities of the same species, and is actually (not merely virtually) different from their numerical difference. By upholding the numerical unity of the essential nature found in a given species Scotus leans toward monism, a false doctrine which is disproved by the testimony of experience and of that of which every man in his right senses is conscious.

Section 4.---The universal in being is defined as "una natura respiciens plura ut existens in illis, ex quo oritur, ut etiam praedicetur de illis."# Hence there is an aptitude on the part of a given nature to be in many individuals. Considered formally and positively, the aptitude actually fulfils its function and is the relation of universality by which it is connected with its inferiors. In this section of our thesis, however, we consider the aptitude fundamentally. That is, we dwell upon the capacity or non-repugnance of a nature for the above-mentioned relation with its inferiors. It is evident that such a relation implies that the universal nature is able to be so connected with singular individuals.

The proximate basis of the intention of universality is unity referable to many inferiors, since what is abstracted by the intellect and referred by it to concrete individuals is one. There is no universality of two natures taken together. Each one, considered separately, may possess a relation of universality with its inferiors.

Thus, the aptitude which we say the universal has for being in many inferiors is a capabity for being multiplied in them and identified with them. It is not in them in the manner in which Scotus would have us believe. The universal is really multiplied so that the human nature proper to James is numerically different from that proper to John. Furthermore, human nature or any other nature is not merely something superadded to an individual; it is the individual, because it is really identical with it. Nevertheless, in the state of universality nature does possess unity, not however that of the individual, but rather that of the universal (the unity

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Gredt, Vol. 1, p. 96.

of universality). Both the universal and its inferiors signify the same nature, but the latter do so as the concrete determinations of an undetermined abstraction (the universal).

We now seek to discover where we may find the aptitude or non-repugnance for being in many inferiors which forms the proximate basis of the intention of universality. We know that this proximate basis consists in a nature's communicability or unity referable to many individuals. Our solution may be summed up as follows: The aptitude or non-repugnance for being in many inferiors, which is the proximate basis of the intention of universality, is not found in nature considered in itself. Neither do we encounter it in nature contracted in individuals. Its place is only in nature abstracted and separated by the intellect.

Thus we see that there are three "places," so to speak, in one of which we shall find any universal nature's non-repugnance with regard to its inferiors. This aptitude or non-repugnance, as we know, is unity which is capable of being referred and communicated to a number of inferiors. The unity which pertains to any universal nature is positive, as we have shown in section 2. It is more than a simple negation of division on the part of formal principles; it must fulfil a positive function, namely, that which it fulfils in connection with the individuals that fall under it. In seeking the whereabouts of a universal nature's non-repugnance we must keep in mind its positive unity as a universal and its communicability with its inferiors. Both these conditions must figure in our solution.

We have already shown in a preceding portion of this treatise that a nature considered in itself lacks positive unity. It is merely a negation of division by formal principles. It requires a further addition to become positive. Hence it is eliminated.

Nature existing in individuals lacks the other condition. That is to say, it is not capable of further communication. It is not only formally but also numerically one. ~~Its nature~~ It has received its ultimate determination. That by which it exists in this condition is matter (which implies quantity). There being no "materia materiae" to provide for further communication, there is no room for doubt in our minds that the non-repugnance of nature with regard to its inferiors is not found in nature as it exists in the individual.

However, when we examine abstracted nature we find that it complies with the two requirements that we have set forth. First of all it possesses positive unity, for when it is abstracted from individuals by the intellect the division produced by the primary matter of individuals is left aside and thus nature assumes unity. The fact that this unity is positive is affirmed by its absolute quality. It is absolutely incapable of division by material principles, because it is universal. Nature when associated with such principles is not universal. ~~For~~ In the state of universality something is added to its negative unity, thus giving it positive unity. (See Section 2.)

Furthermore, abstracted nature also fulfils the second condition; that is to say, it is capable of being communicated to inferiors; for it is said to be "una natura respiciens plura ut existens in illis, ex quo oritur, ut etiam praedicetur de illis." Through its abstraction it is, as it were, suspended over its inferiors with a propensity to gravitate towards them. The intellect perceives that what it sees in the abstract may be applied to any one of the individuals from which it has been taken. Thus we conclude that the non-repugnance of nature to being in many inferiors (which non-repugnance is the proximate basis of the intention of universality) is found only in nature that has been abstracted and separated by the intellect.

PART III

THE APPLICATION OF THE UNIVERSAL.

Thus far we have soared to great heights of abstraction and theory. We have given the proofs of several propositions which have laid before us the nature of the universal and many things that are connected with it. We have expounded our own doctrines and refuted those of our adversaries. We have forced our minds along a difficult path of abstract reasoning, which was perhaps made harder to follow by the abundance of technical terms and finely woven thought. Our contentions have at last been proven. But a question is raised by one of those unfortunate mortals who have not had the benefit of philosophical training. He asks us; "To what purpose is all this abstract dogma? How does it affect our everyday lives? Of what use is it in the progress of the human race?---In other words, now that we know about the universal, what it is, and how it is formed, what are we going to do about it?"

We philosophers, who are so superior to the common rabble, who live with our heads in the clouds contemplating phantom truths that are hidden to untutored minds, are perhaps impatient with the utilitarian outlook common to so many of our fellow humans. However, let us not condemn them, but rather let us condescend to share our knowledge with them, to show them that what we have proven explains the workings of those minds by which they solve the various problems presented to them in their daily lives, and that it exposes to our mind's eye the manner in which are formed the various sciences, some of which, by the knowledge they have brought to men, have been responsible for the amelioration of the lives of millions.

Man is by nature partly on a level with plants and brute

animals, because he possesses a soul that is both vegetative and sensitive. Nevertheless there is something proper to him that distinguishes him from these types of beings, and that is his intellectual faculty. Hence that which differentiates man from plants and brute animals lies in the field of knowledge and that which pertains to knowledge. As our thesis has already made apparent, man knows in two ways. First of all, he possesses, in common with brute animals, the faculty of knowing through sense perception. The senses, when they come into contact with their object, are agitated by it, and thus we have sensation. However, the senses function only when they meet a single, concrete, material object. They are not capable of attaining the spiritual and universal. There are five ways in which material objects can affect the sensitive faculties, namely, by sight, hearing, feeling, taste and smell. These come into direct contact with material things and are known as the five external senses.

However, even after the external senses have functioned, the sensitive operations of the soul have not exhausted themselves. There still remain the internal senses, which deal indirectly with the objects of the material world through the external senses. The first of these is called common sense (sensus communis). It is a sensitive faculty which perceives the sensations of individual external senses. By means of it men and brute animals perceive that their senses are functioning. Furthermore, it enables them to distinguish one sensation from another. It is evident that the sense of sight cannot distinguish itself from hearing, for example, because it is strictly confined to one form of sensation. On the other hand, the faculty of common sense, perceiving all the sensations of the five external senses, is able to

see that hearing is not sight and that sight is not feeling.

In all animals, man included, there is another internal sense, known as the imagination, by which a sensible being is able to represent to itself in an interior manner what it has already perceived through the common sense and the five external senses. It is able to do this regardless of the presence or absence of the material object toward which it is directing its attention. Nothing is in the imagination that has not already passed through the senses. It is true, of course, that a man can combine images in such a way as to represent things that are not actually perceived in that combination, as for example when we imagine an animal with a man's head, or a mountain made of gold. Such beings have never been perceived, but the things of which they are composed (e.g., mountains, gold, men's heads) have at some time or other been the objects of sensation.

All animals have been endowed with what some call instinct. It is an internal sense known as the power of estimation (vis aestimativa) and by means of it a sensible being perceives what is beneficial or harmful to its own nature or to that of its species. The work performed by this sense does not belong to the domain of the imagination, common sense, or the external senses. An example of this sense may be seen when we consider the manner in which animals provide for themselves. A bird, although it is not rational and does not know about the adaptation of means to ends in the same manner as we do, sees that straw and grass are useful in the construction of its nest. In man, however, this power exists in a soul that is also intellectual. Hence it is not so determined and fixed as the same power in a brute animal, because the intellect exerts some influence on it.

In brutes there is no intellect, and so they follow their estimative power more certainly than do men.

Finally, among the internal senses of animals (men and brutes) we find the sensitive memory. It is that by which the past is known as the past. It is not the imagination, which perceives again what has already been perceived by the senses, but rather it is that by which an animal recognizes what has affected its senses in the past. Thus a particular person, such as a friend or companion, is known whenever he is encountered. In man the sensitive memory, when it acts under the influence of the intellect, functions in a higher manner than it does in brutes. By the direction of his intellect and the command of his will, man can draw from this sensitive faculty whatever memories it contains. The brute animal, however, recognizes things spontaneously through a sudden act of memory. Nevertheless man likewise requires spontaneity and suddenness to start him on a chain of memories, which he can subsequently unravel through the application of his intellect and will.

Thus we complete a brief outline of the workings of the sensitive power of the soul. All animals, including the rational animal, possess this power, but man has something additional which does not belong to the brute, as we have already asserted. As we know, this additional power is the intellect. If man possessed only sensitive knowledge he would be no different from the wild beasts of the jungle and the cows idly browsing in the pastures. The birds and beasts and other forms of purely sensitive life have not progressed. They live now in the same manner and with the same habits and ways of acting as their ancestors did thousands of years ago.

But with man it is a different story. He has always shown an aptitude for new methods of living, for ways and means of facilitating the acquisition of his various ends, and for a penetration through and beyond what his senses reveal to him. His nature has not changed, but it is such that it allows him greater variety and greater extension in what he does. It is a far cry from the caves of our prehistoric ancestors to the pyramids of Egypt and the skyscrapers of New York. If man were no different from monkeys and other creatures he would still be living as he did when he was first created. This, however, is not the case, for history shows that human beings have progressed in intellectual knowledge and that our modern lives are vastly different from the daily routine of those who inhabited the earth at the dawn of history.

How is it that this intellectual power can make so great a gap between men and brute animals? The answer lies in a study of the function and power of this great possession. Through its use man is able to rise above the sensible phenomena of daily life and to arrive at a knowledge of truths that he could never learn if he depended entirely on his senses. Sense knowledge, as we have already pointed out, is confined to what is single and concrete. By means of the intellect, however, man is able to see the various relations between things and he can also perceive what is general or universal. In fact, the formal object of the human intellect is the universal quiddity of material things which are represented by the imagination. Through this formal object it can advance to other knowledge.

In the progress from one truth to another by the abstract process of reasoning the universal often plays an important

part. At the bottom of all reasoning lies the syllogism. We may use it consciously or unconsciously. We may give our reasoning the form of a syllogism or we may simply arrive at our conclusion without expressing every step taken in its attainment. In any case the syllogism is at least lurking in the background. Quite often the middle term used in a syllogism possesses a certain universality, since it is applicable to a certain class of beings. The intellect compares two other terms, S and P, with the middle term, and by means of judgment knows whether or not one or both of these extreme terms belong to the group overshadowed by the universality of the middle term. After perceiving this, the mind can deduce the agreement or disagreement of S with P. Thus we see the value of the universal in thinking considered in general.

However, human thought has followed definite lines on various subjects, with the result that many sciences have had their birth. Science has to do with the characteristics of being and acting universally existing in many individuals. It also considers relations between individuals. Hence there is no science of the singular considered as such. Since this is so, every science implies an abstraction of some sort, and abstraction points directly toward the universal. To exemplify this let us consider one science, that of botany. The botanist does not study and write volumes concerning one individual plant considered as such. In fact he does not deal with any one plant in particular, but by means of various observations applied to great numbers of individuals he arrives at a knowledge of different species of trees and flowers, etc. A scientist must possess universal concepts of

the essences of the objects with which he deals in his researches. If he does not possess such concepts he cannot recognize that two pieces of lead belong to the same species, and so far as he is concerned gold and brass would not necessarily differ from each other except in so far as they affect the senses in different manners. His universal concepts enable him to discover the laws that govern the phenomena of nature. On many occasions his senses have perhaps told him that what is known as hydrogen sulphide produces a disagreeable odour which always reminds him of rotten eggs. If he possessed only sensitive knowledge he would learn no more beyond what his senses made evident to him. However, since he possesses an intellect he can see that such an odour must always be produced by the same cause, and by means of his abstractive power he gets behind the sensible accidents of the gas and comes to a knowledge of its essence, which he sees to pertain to many quantities of hydrogen sulphide. Thus he possesses a universal concept of the essence of $H_2 S$. The universal concept of this essence enables him to know that whenever this gas is present the same effect will always follow. This example shows that abstract, universal knowledge enables a scientist to foresee the outcome of various actions which he performs. Thus he can make calculations and draw up plans before delving into his experiments.

There are three degrees of abstraction, and upon one of these every science is based. The first degree is that in which an abstraction is made from all marks of individuality, leaving the mind to consider the sensible qualities of material bodies without necessarily confining that consideration to any one individual. Thus are constituted the different physical

sciences. Some of the sciences coming under this class are deductive; i.e.,they present a "propter quid" reason for their conclusions. In this class we find natural philosophy or the perfect (propter quid) science of mobile beings. It includes the study of psychology, to which is attached ethics. Other sciences in the first degree of abstraction are inductive; i.e., from an examination of many individuals the scientist is able to abstract from them whatever is universal. Thus he proceeds from the particular to the general. These are known as "quia" sciences, because they simply prove that a thing is so. Thus they differ from "propter quid" sciences, which point out the proper and proximate cause of a fact, the cause thus indicated being either physical or metaphysical. Inductive sciences are further divided into experimental sciences (v.g., experimental psychology) and natural history, which includes chemistry, mineralogy, botany and zoology. These sciences determine specific types by a process of enumeration and description, whilst experimental physical sciences establish physical laws by means of observations, experiments, and induction.

In the second degree of abstraction we leave aside all the sensible qualities of matter, such as colour, sound, and taste, and consider it simply with regard to quantity. In this way we derive the science of mathematics, which considers real quantity, but which deals with it as with something measurable, leaving aside any actual consideration of its real existence in a corporal substance. Some of the more recent mathematicians have begun to talk of imaginary quantities such as the fourth dimension. They have developed what is called transcendental mathematics. It is essentially

distinct from real mathematics and can be said to pertain to it only in a reductive manner. In this degree of abstraction there is one great division with regard to quantity. It is considered either as continuous---and in that case we have geometry, or as broken up (quantitas discreta), in which case arithmetic is constituted.

In the third and highest degree of abstraction all that is material is left aside and we find ourselves in the world of immateriality, which is entirely beyond the reach of the senses. Here we find metaphysics, which deals with pure being, purged of all the imperfections that matter imposes on it. The formal object of metaphysics is immaterial being. It may be either created or uncreated being; that makes no difference. The being studied in metaphysics may include potentiality. When potentiality is excluded we are in the domain of theology, which deals with God, Who is pure act (actus purus) and from Whom, consequently, all potentiality is eliminated as being incompatible with pure act. We are referring here to the theology of faith. It must be distinguished from philosophical theology or theodicy, which proceeds by the light of reason alone and which forms a part of metaphysics. Logic likewise is classed in the third degree of abstraction, since it entirely relinquishes matter. However, the abstraction attained by logic is negative, since its formal object is imaginary being (ens rationis).

Thus we see how the universal and the abstractions accompanying it figure in that which raises man above the level of the beasts. The universal essences of material substances that are represented by the imagination constitute the formal object of the human intellect, and with that as a starting-point man is capable of rising to great heights of

knowledge in his intellectual endeavours. By his ability to conceive in a universal manner sensible qualities and quantity ---things which in their actual existence are singular---he is able to build up sciences which have been of great use to the human race. Who can deny the benefit of the advances made in the study of chemistry and physics? Who will say that the mathematical knowledge that enabled engineers to construct the San Francisco bridge and the transcontinental railroads has been useless? Finally, it is undeniable that what we have learned from metaphysics, and especially from that part which deals with God, tends to help us along the road toward our last end. Man's ability to form universal concepts has played no small part in these sciences.

We have endeavoured to come to a greater knowledge of the universal and to prove the great truths concerning it. In doing this we have had to delve deeply into the third degree of abstraction to such an extent that the man in the street may have been inclined to brand us as dreamers who are not cognizant of the material world in which they live. We hope, however, that our efforts to show how the universal fits into everyday life have not been in vain.
