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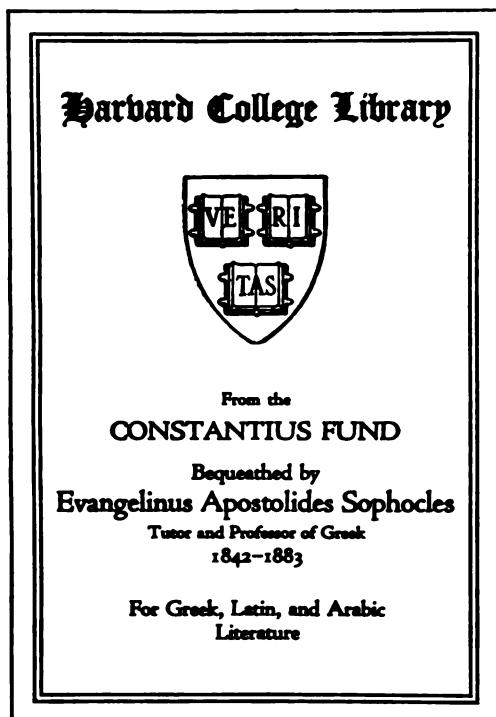
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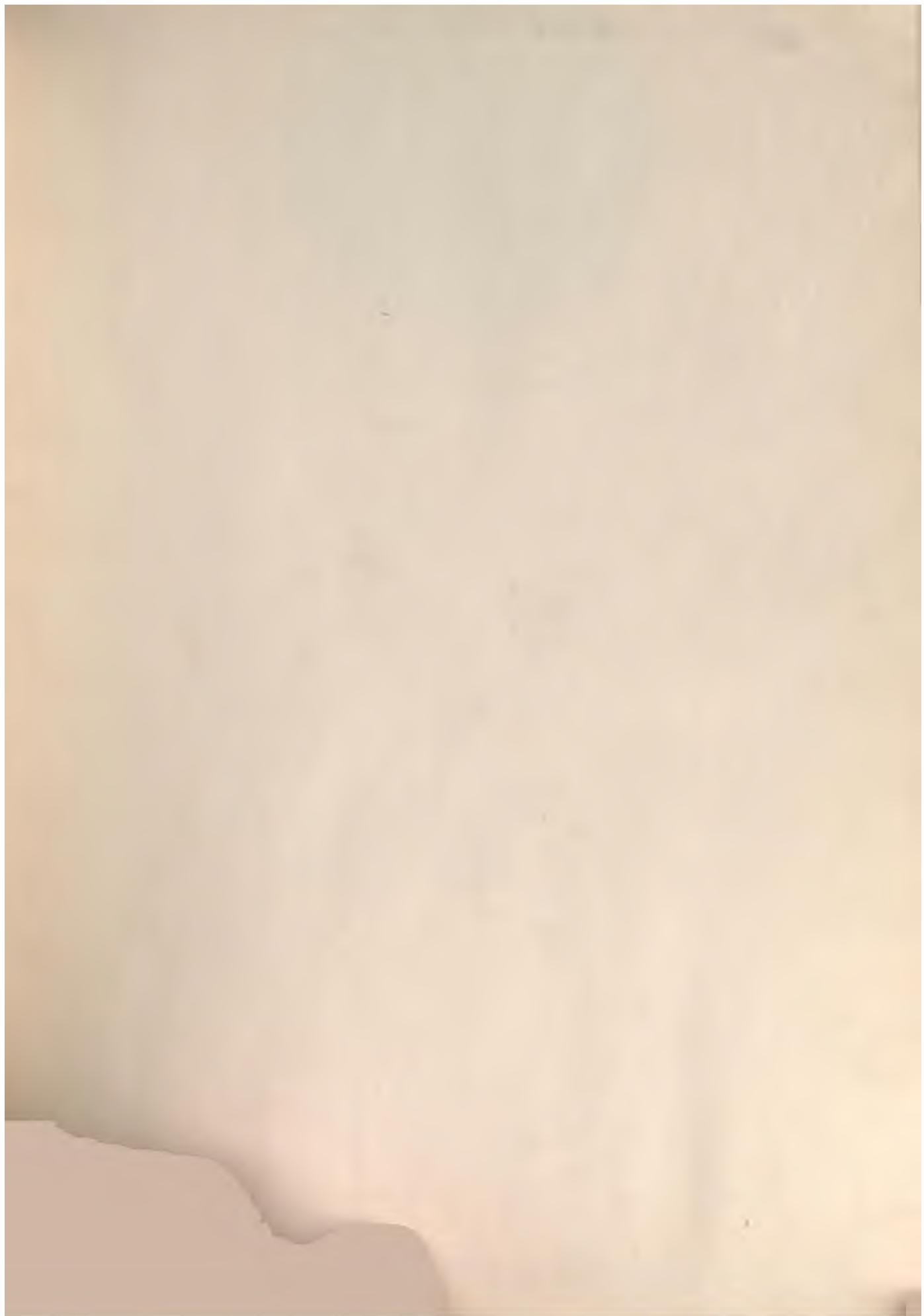
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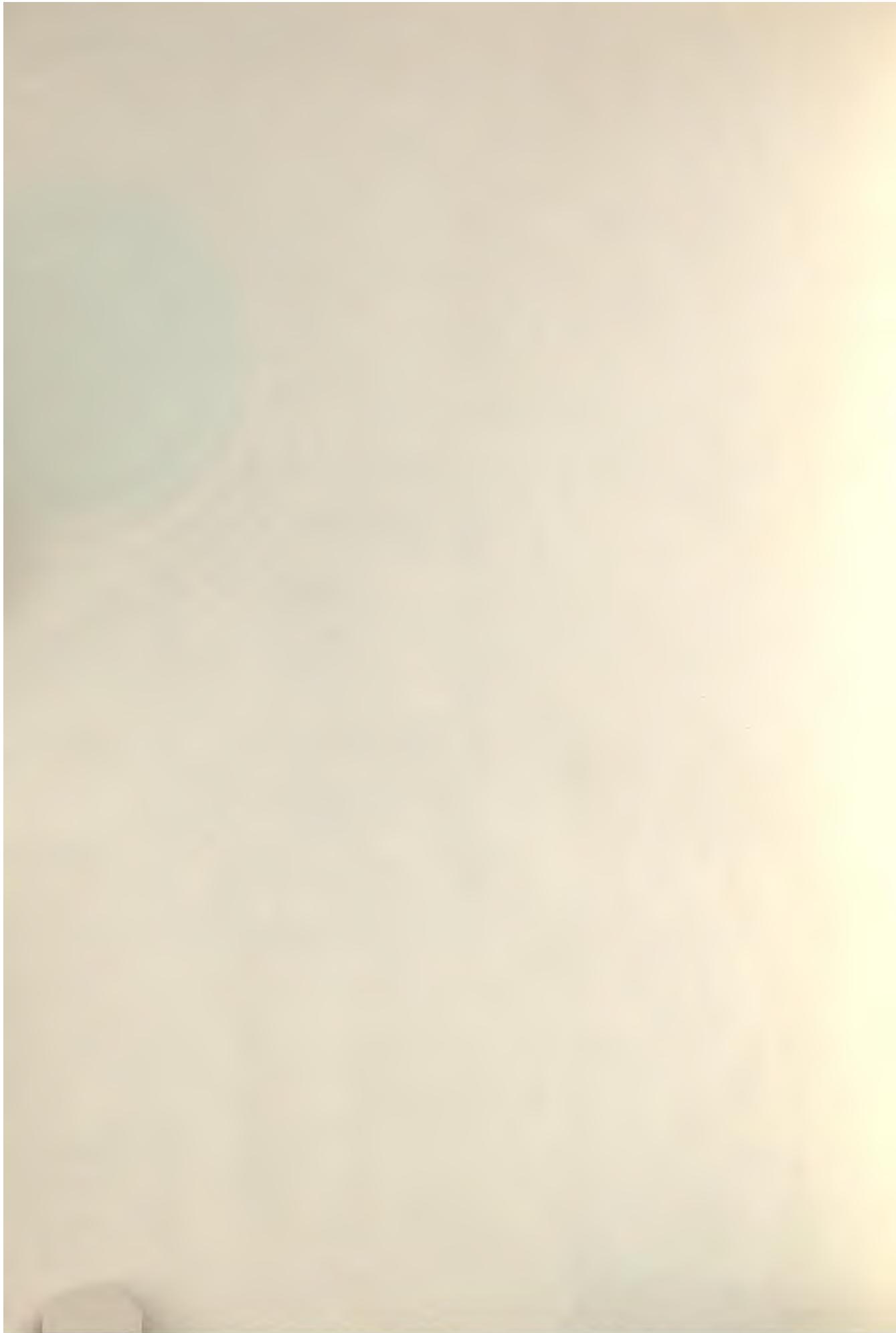
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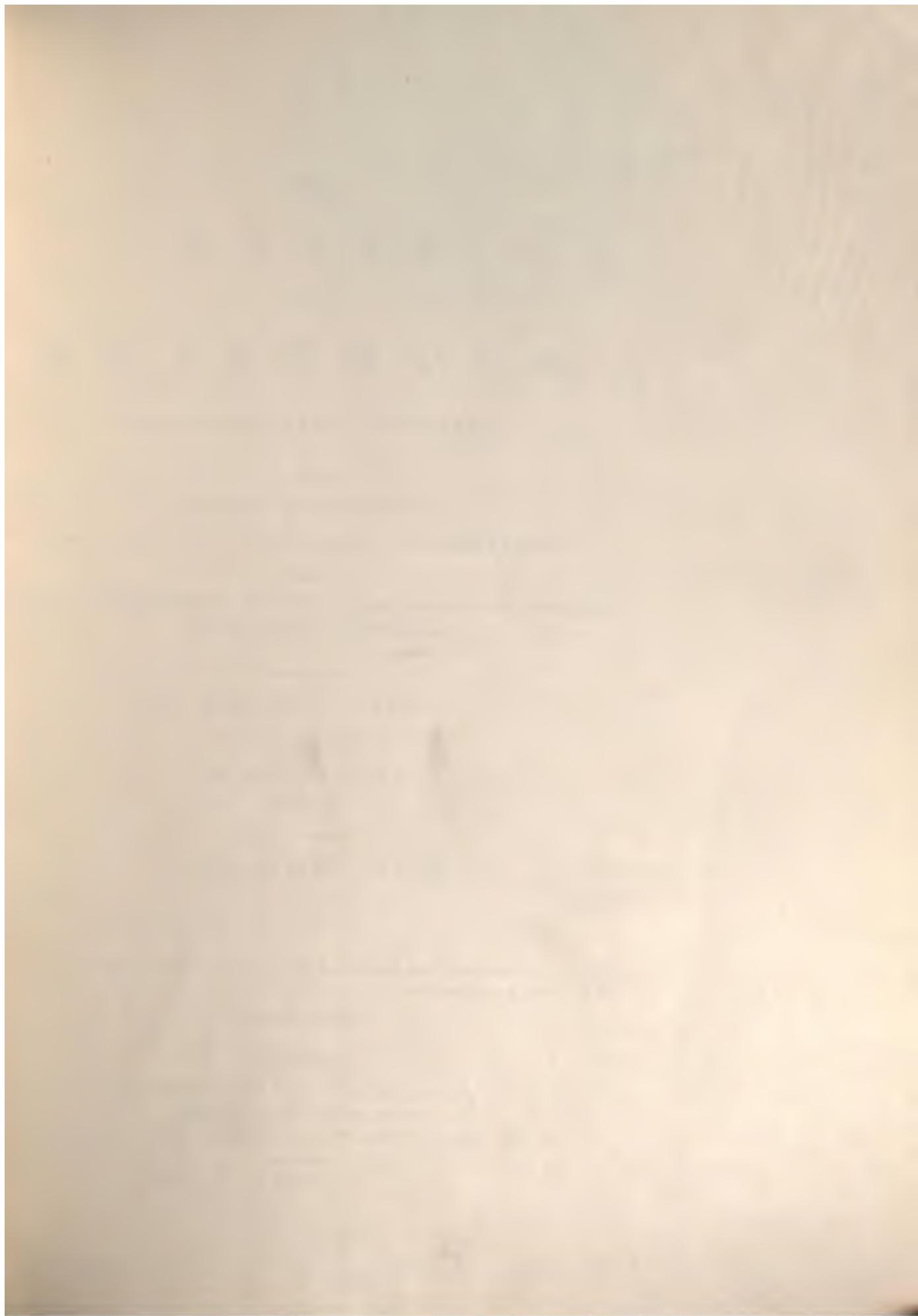


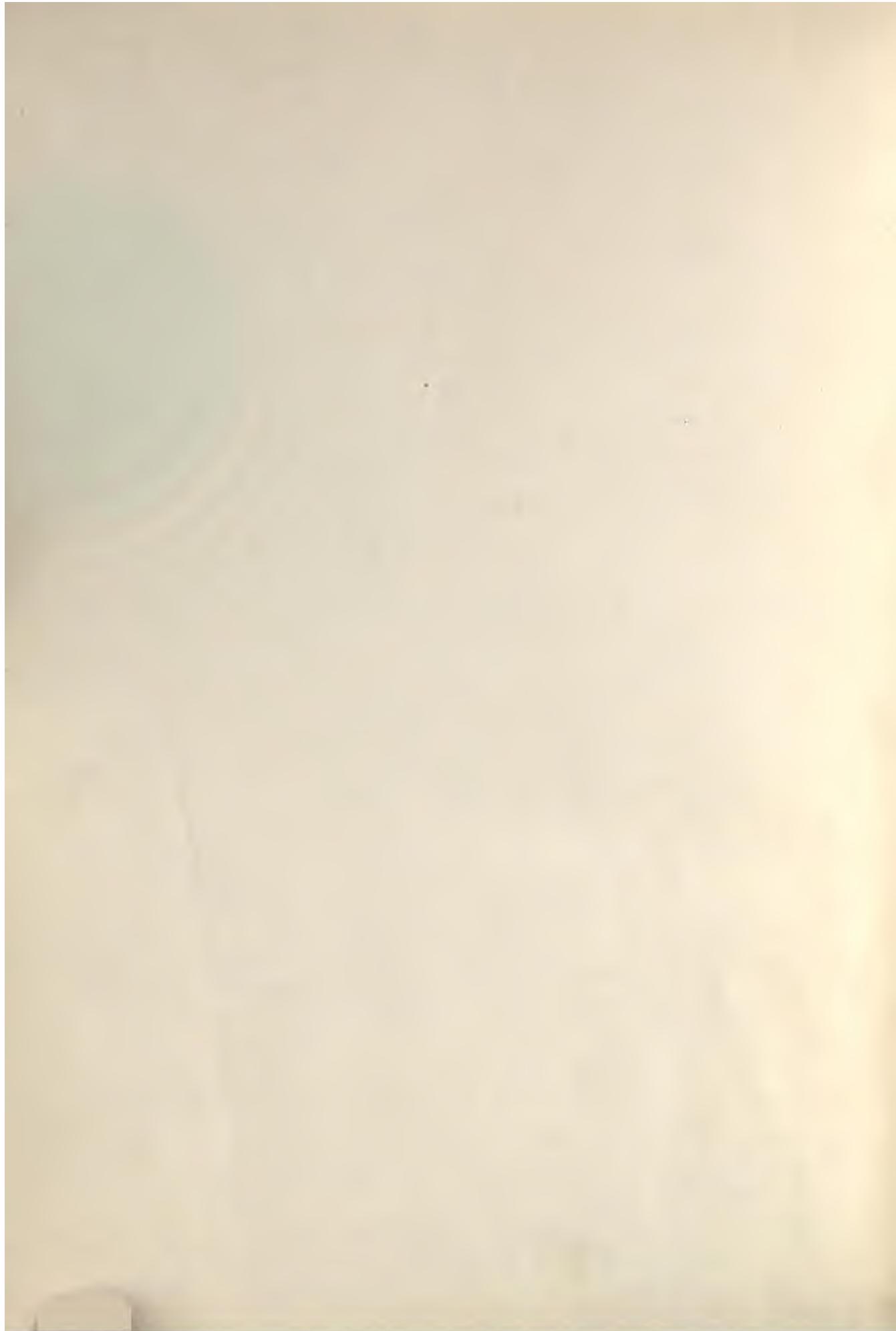
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THE  
W. O. R. K. S.  
OF  
A R I S T O T L E,

TRANSLATED FROM THE GREEK.

WITH  
COPIOUS ELUCIDATIONS  
FROM THE BEST OF HIS GREEK COMMENTATORS,

VIZ.

ALEXANDER APHRODISIENSIS, SYRIANUS, AMMONIUS SIMEONIS, ERICIANUS,  
CLYTIODORUS, SIMEONIUS, &c.

BY THOMAS BAYLOR.

IN NINE VOLUMES.

VOL. I.

CONTAINING

THE ORGANON.

JOVE HONOURS ME, AND FAVOURS MY DESIGNS.

POPE'S Homer's Iliad, Vol. I. v. 717.

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## ЛІТОРАЛІЯ

СІРІЙ МАЛІКІНІЙ - *Malicus cinereus*

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protection of the public; and the Legislature has now passed a law which will give the State a more effective means of protection against such crimes. The Legislature has also passed a law which will give the State a more effective means of protection against such crimes. The Legislature has also passed a law which will give the State a more effective means of protection against such crimes.

## INTRODUCTION OF POLYPYRENE.

so that it may be variated for Aristotle's Commentaries, and merit not  
so much that completeness, as a series of genuine & moral & political  
experiments, which will be of service to people who will want to know  
the principles of such, and to understand them better. From all in one  
A.S. it is my intention in the notes to this new translation of Aristotle's  
works, to extract from the Commentaries of the best of his Greek inter-  
preters, what appears to me to be most important, and best calcu-  
lated to restore his philosophy; it is necessary to give the reader the fol-  
lowing information concerning the Commentaries which are extract under  
the name of Ammonius. On this Introduction, of Porphyry, and  
On the Categories of Aristotle. Though Fabricius, in the seconnt  
which he has given us of Philoponus in the 8th volume of his Biblioteca  
Graeca, derives from Gennadius, and also from the authority of cer-  
tain manuscripts, that the above-mentioned Commentaries were partly  
collected by Philoponus from Ammonius, and partly consist of Scholia  
by Philoponus himself,—yet independent of this information, there is  
sufficient internal evidence in the Commentaries themselves to convince  
any one who is conversant with the philosophy of Plato and Aristotle,  
that they are not throughout the progeny of an adept in that philosophy,  
and especially of one so eminent as Ammonius. Of the truth of this  
remark, some instances will be adduced in the course of these notes.  
In my extracts therefore, I shall be careful to preserve what I conceive  
to be the genuine conclusions of Ammonius, unmingled with the ex-  
planations of others.

**N**euous and futile conceptions of Philoponus; and shall also endeavour to supply what the ignorance of Philoponus has rendered deficient.

Philosophy then is the knowledge of beings so far as they are beings. Philosophers therefore investigate after what manner they may possess a scientific knowledge of beings; and in consequence of perceiving that particulars are generable and corruptible, and besides this that they are infinite, but science is the knowledge of things perpetual and finite, they betake themselves from things partial to things universal, which are perpetual and finite. For as Plato says, *περι τον ουδενα*, it receives its appellation from leading us to a certain state and boundary of things; and we obtain this through recurring to universals. Philosophers therefore recur from particular men, or the individuals of the human species to universal man. For their object is not to know how many men there are in the world, but what is the nature of man, that he is a rational mortal animal; since he who knows this will also know all the men that the world contains, all that have been, and all that will be. Thus then from particular men, they betake themselves to a certain common nature of man. Again from particular horses, they ascend to a certain common nature of horse, which comprehends all individual or particular horses, and define a horse to be a quadruped capable of neighing. For the philosopher does not wish to know particular horses, such for instance as what Xanthus and Bellerus are (the horses of Achilles mentioned by Homer) but what universal horse is. For universal perceps a perpetual and invariable sameness of substance, and doth not differ at different times like particulars. Thus the particular nature of the horse Bellerus is different from that of Xanthus, and the particular nature of Plato is different from that of Alcibiades. But universal man and universal horse subsist always after the same manner; and this is also the case with every other species of animal. For philosophers therefore perceiving that the number of these is more though it is infinite, yet cannot be ascertained by the human intellect; for it is by no means wonderful that there should be many animals unknown to us; they betake themselves to a certain common nature of animal, which comprehends all

all particular animals. For man, horse, and dog, so far as they are animals have no difference, each of them being an animated, sensitive essence. He therefore who knows what animal is, will know all animals. Again, from the fig, the plane-tree, and the vine, they betook themselves to the universal fig, plane-tree, and vine; and in a similar manner in other plants. Again they referred these and other plants to the common genus plant, which comprehends in itself all particular or partial plants. Having therefore two common natures, that of animal and that of plant, they again referred animal and plant to that which is animated. For a plant also is animated; since it is increased and nourished, and generates that which is similar to itself. Since however the inanimate is opposed to the animated, but the inanimate is that which does not participate of soul, such as a stone, a piece of wood, and the like, and these are many and infinite in particulars, on this account from particular stones, they again betook themselves to universal stone; from particular pieces of wood to wood universal; and in a similar manner from the rest of things of this kind. From universal stone, from universal wood, and the like, they also ascended to the common genus inanimate, which contains in itself all these. Hence they obtained two common natures, the animated, and the inanimate. But these again they referred to the common genus body, which possesses three dimensions; for stones, wood, man, and in short, all such things as are bodies, have three dimensions. Again, ascending from these to natures truly incorporeal, such as the rational soul, intellect, and deity, and the forms which they essentially contain, they surveyed that which is common in all incorporeal natures, and which has a subsistence contrary to that of bodies. For body is triply extended, and every way divisible; but that which is incorporeal is unextended and indivisible. They investigated therefore what that is which is common in both these, and they found that each is an essence. They elevated themselves therefore to the common genus essence, the name essence<sup>10</sup>

<sup>10</sup> In Greek φύσις, which signifies a thing belonging to its own substance. And I translate it essence rather than nature, because it is more vivid, which merely signifies something that is the cause of commonness of all qualities.

manifesting a self-subsisting thing. But we may learn the truth of what is said from the contrary. There are certain things which cannot subsist from themselves, but have their being in others, which also are called accidents; such as whiteness, blackness, sweetness, and the like. For these are not able to subsist by themselves; but whiteness is either in ceruse, or in milk, which are bodies; and the rest in a similar manner. Such things therefore as are capable of subsisting by themselves, and which do not require any thing else to their subsistence, are called essences; such as men, souls, stones, and the like. And hence, as we have said, they ascended to a certain common nature essence.

As Philoponus however in his extracts from Ammonius takes no notice of the universal which has an *essential* subsistence in the soul (nor is this wonderful considering as Simplicius justly says of him, that the eyes of his soul were injured) it will be necessary to give the reader the following information on this most important subject. The whole of it is extracted from the Manuscript Commentary of Proclus on the Parmenides of Plato; and though perfectly Platonical, will nevertheless be found to accord with the doctrine of Aristotle, as will appear from our notes on his Posterior Analytics.

Forms then, must not be admitted to be the progeny and blossoms of matter, as they were said to be by the Stoics; nor must it be granted that they consist from a commixture of simple elements; nor that they have the same essence with spermatic reasons. For all these things evince their subsistence to be corporeal, imperfect, and divisible. Whence then on such an hypothesis is perfection derived to things imperfect? Whence union to things every way dissipated? Whence is a never-failing essence present with things perpetually generated, unless the incorporeal and all-perfect order of forms has a subsistence prior to these? Others again of the ancients, assigned that which is common in particulars as the cause of the permanency in forms: for man generates man, and the similar is produced from the similer. They ought however to have directed their attention to that which gives subsistence to what is common in particulars; for true causes are except from their effects. That which is common therefore in particulars, may be assimilated

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tention to those *concepts* or *conceptions* which are incorporated in the soul by an abstraction from sensible particulars. They also contended that no forms of an higher order than these had any subsistence. A form of this kind however which is of posterior origin (*τούπορον μετόπου*) and is the subject of logical predication is entirely different from that reason or form which abides essentially in souls, and does not derive its subsistence from an abstraction from sensibles. Looking to this essential reason we say, that the soul is all forms, and is the place of forms, not in capacity only, but in that kind of energy, through which we call one skilled in geometry a geometrician in energy, even when he does not geometrize, and which Aristotle accurately calls the prior form of existing in energy. The conception therefore of posterior origin, i.e. the universal produced by an abstraction from sensibles, is very properly said to be different from the essential reason of the soul : for it is more obscure than the many in sensibles, as being posterior, and not prior to them. But the essential reason or form of the soul is more perfect, because the conception of posterior origin, or in modern language *abstract idea*, has a less essence than the many, but the essential form more.

That it is not however proper to stop at conceptions of posterior origin, i. e. notions gained by an abstraction from sensible particulars, but that we should proceed to those essential reasons which are called a perpetual subsistence in the soul, is evident to those who are willing to survey the nature of things. For whence is man able to collect into one by reasoning the perceptions of many sensibles, and to consider one and the same unapparent form prior to things apparent, and separated from each other; but no other animal, that we are acquainted with, surveys this something common, for neither does it possess a rational existence, but always employs sense, and appetite, and imagination? Whence then do rational souls generate these universals, and recur from the senses to that which is the object of opinion? It is because they essentially possess the gnastically producing principles of things. These nature possesses a power productive of sensibles, by containing in itself,

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for by certain additions and accidents it is surpassed by every individual. But that which is of posterior origin, or universal abstracted from particulars, comprehends each of the many. Hence it is predicated of each of these; and that which is particular is contained in the whole of this universal. For this something common, or abstract idea, is not only predicated of that something common in an individual, but likewise of the whole subject. How then can it thence derive its subsistence, and be completed from that which is common in the many? For, if from the many themselves, where do we see infinite men, of all which we predicate the same thing? And if it derives its subsistence from that which is common in the many, whence is it that this abstract idea is more comprehensive than its cause? Hence it has a different origin, and receives from another form this power which is comprehensive of every individual; and of this form the abstract idea which subsists in opinion is the image, the inward cause being excited from things apparent. To which we may add, that all demonstration, as Aristotle has shewn in his Posterior Analytics, is from things prior, more honourable, and more universal. How, therefore, is universal more honourable, if it is of posterior origin? For, in things of posterior origin, that which is more universal is more unessential; whence species is more essence than genus. The rules therefore concerning the most true demonstration must be subverted, if we alone place in the soul universals of posterior origin; for these are not more excellent than, nor are the causes of, nor are naturally prior to, particulars. Hence, if these things are absurd, it is necessary that essential reasons should subsist in the soul prior to the universals which are produced by an abstraction from sensibles. And these reasons, or productive powers, are indeed always exerted, and are always efficacious in divine souls, and in the more excellent orders of beings; but in us they are sometimes dormant, and sometimes in energy.

But to return from this digression, the importance of which must be the apology for its length: Does therefore *essence* comprehend all things?

things? By no means. For we say there are two things, ten things, and twenty things, which philosophers refer to a certain common genus number. Again, they found that some things were great, and others small, which they call continuous. Since therefore number and the continued communicate with each other so far as they are quantities, for each is quantity, they referred these to universal quantity. They had therefore, two common natures comprehensive of many things, viz. *essence* and *quantity*. Farther still, there is something white, and many particular whitenesses; for whiteness is either in ceruse, or in snow, or in a swan. All these therefore, they referred to that which is simply white. In a similar manner, they referred the black, the dark brown, and things of this kind, to colour. Again, there are the sweet, the bitter, the hot, the cold. All therefore that we have now enumerated they referred to the common genus *quality*. Farther still, there is something on the right hand, and something on the left; something which is double, and something which is half. All these therefore, they referred to the common genus *relation*, which is the habitude of one thing to another. Again, something is in the lyceum, or the forum, and things of this kind, which they referred to *where*, and which is significant of place. Something also was yesterday, is to-day, will be to-morrow, was in the last year, and the like, all which they referred to *when*, which is significant of time. Again, there is something which lies, something which stands, and something which sits, which they referred to *situation*, and which signifies a certain *position* of the body. Farther still, to be clothed is something, to be armed, to wear a ring, and things of this kind, which they referred to *habit*, and which signifies the investiture of essence about essence. Again, to strike, to heat, to refrigerate, and things of this kind, they referred to *action*. And lastly, perceiving certain things which are whitened, heated, refrigerated, &c. they referred all these to *passion*, which is to be changed in quality by something else; but *action* is to operate about something. Hence they obtained these common natures, viz. *essence*, *quantity*, *quality*, *relation*,

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able however to understand them, he wrote to Porphyry, and informed him of this circumstance, entreating him if he had finished his history of the fire to return; but if he had not finished it, to write an Introduction through which he might be able to understand that treatise of Aristotle. As Porphyry, therefore, could not at that time return, he composed this Introduction for him, the whole of which nearly is collected from the writings of Plato, and the composition of it is almost in the very words of that philosopher.

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# INTRODUCTION

## *PORPHYRY.*

### CHAPTER I.

SINCE it is necessary, Chrysaorius, both to the doctrine of the Categories of Aristotle, and to the formation of definitions, and in short, to those things which pertain to division and demonstration<sup>1</sup>, to know what genus and difference, species, peculiarity, and accident are; and since

\* Dialectic according to Plato consists of four parts, viz. division, definition, demonstration, and analysis. A treatise therefore, which is useful to the formation of definitions, and to those things which pertain to division and demonstration, will evidently be useful to the dialectic of Plato. It is necessary to observe however (for Philoponus in his extracts from Ammonius gives us no information on this subject) that the dialectic of Plato is very different from what Aristotle calls dialectic, and which is the subject of his Topics. For the latter looks to opinion, but the former despises the opinion of the multitude. Hence to the many it appears to be nothing but words, and is on this account denominated by them garrulity. The dialectic indeed of Aristotle, delivers many arguments about one problem; but the dialectic of Plato delivers the same method about many and different problems; so that the one is very different from the other.

But the dialectic method of Plato, says Proclus in his manuscript commentary On the Parmenides, is irreprehensible and most expeditious; for it is connate with things themselves, and employs

since also the theory of these is useful, in a summary way, I will briefly endeavour to discuss for you, in the form, as it were, of an Introduction, what has been delivered on this subject by the ancients, abstaining from more profound investigations, but appropriately directing my

ploys a multitude of powers in order to the attainment of truth. It likewise imitates intellect, from which it receives its principles, and ascends through well ordered gradations to being itself. It also terminates the wandering of the soul about sensibles; and explores every thing by methods which cannot be confuted, till it arrives at the ineffable principle of things. There are also three energies of this most scientific method. The first of these is adapted to youth, and is useful for the purpose of rousing their intellect, which is as it were, in a dormant state; for it is a true exercise of the eye of the soul in the speculation of things, leading forth, through opposite positions, the essential impression of ideas which it contains, and considering not only the divine path as it were, which conducts to truth, but exploring whether the deviations from it contain any thing worthy of belief; and lastly stimulating the all-various conceptions of the soul. But the second energy takes place, when intellect rests from its former investigations, as becoming most familiar with the speculation of beings, and beholds truth itself firmly established upon a pure and holy foundation. And this energy, according to Socrates, by a progression through ideas evolves the whole of an intelligible nature, till it arrives at that which is first; and this by analyzing, defining, demonstrating, and dividing, proceeding upward and downward, till having entirely investigated the nature of intelligibles, it raises itself to a nature superior to beings. But the soul being perfectly established in this nature, as in her paternal part, no longer tends to a more excellent object of desire, as she has now arrived at the end of her search. And the third energy, which is exhibitive according to truth, purifies from two-fold ignorance, which is the disease of the multitude, and takes place when a man is ignorant that he is ignorant. And from this ignorance it purifies, when its reasons are employed upon men full of opinion. It is also necessary to observe, that demonstrations are from the causes of the things demonstrated, which are prior to them according to nature, and not with relation to us, and which are more honourable than the conclusions unfolded from them. And the things from which demonstrations are formed, are universals, and not particulars. But definition proceeds through the essential reason of the soul, of which mention has been already made in the Preface. For we first define that which is common in particulars, possessing within, that form, of which the something common in these is the image. Definition therefore is the principle of demonstration. But the whole employment of division is to separate the many from the one, and to distribute things pre-subsisting unitedly in the whole, into their proper differences, not adding the differences externally, but contemplating them as inherent in the genera themselves, and as dividing the species from each other. And the analytic is opposed to the demonstrative method, as resolving from things caused to causes, but to the definitive as proceeding from composites to things more simple, and to the divisive, as ascending from things more partial, to such as are more universal.

attention

attention to such as are more simple. My meaning is, that I shall omit to speak about genera and species, whether they have a subsistence in the nature of things or have an existence alone in the mere conceptions of the soul ; and if they have a subsistence in the nature of things whether they are bodies or incorporeal, and whether they are separate from sensibles, or in sensibles, and about these have their subsistence \*.

\* Genera and species, and in short, all forms have a triple subsistence ; for they are either prior to the many, or in the many, or posterior to the many. This is illustrated by Ammonius, or rather by Philoponus in his extracts from Ammonius as follows : let there be conceived to be a seal-ring, which has the image of some one, for instance, of Achilles, engraved in it. Let there be also many pieces of wax, all which are impressed by the seal. Afterwards, let some one, approaching, and perceiving the pieces of wax, and that all of them have the impression of one seal, retain the impression in his mind. The seal therefore in the ring, is said to be *prior to the many* ; but the impression in the wax, is said to be *in the many* ; and the image which remains in the conception of the spectator, is said to be *after the many*, and of *posterior origin*. Let this therefore be conceived to take place in genera and species. For the Demiurgus, or fabricator of the universe, producing all things, contains in himself the paradigms of all things. Thus, in producing men, he contains in himself the form of man, looking to which he produces all men. If however some one in opposition to this should say that there are not forms in the Demiurgus, let him consider, that the Demiurgus fabricates, either knowing, or not knowing the things which are fabricated by him. But if he does not know, he will not fabricate them. For who that intends to do any thing, can be ignorant of that which he intends to do ? Since he does not like nature produce by irrational power ; whence also nature fabricates, without gnostically perceiving her productions. But if he produces any thing according to a rational habit, he will perfectly know that which is generated by him. Hence if divinity does not produce in a manner inferior to man, he will know that which is produced by him. But if he knows that which he makes, it is immediately evident that forms subsist in the Demiurgus. Form however, in the Demiurgus, is as the impression in the seal ; and this is said to be the form *prior to the many*, and separate from matter. But the form of man is, in particular men, or the individuals of the human species, as the impressions in the pieces of wax ; and things of this kind are said to be *in the many*, and inseparable from matter. And when we perceive the individuals of the human species, and that all of them have the same form of man, we fashion this form in our mind ; (just as in the instance of him who beheld the same impression in many pieces of wax,) and this form is said to be *after the many*, and of *posterior origin*.

In this extract Philoponus takes no notice of that form which essentially resides in our soul, and is not produced by an abstraction from sensible particulars, of which so much has been said in the Preface. This form however, with reference to that which is contained in sensible particulars, is also *prior to the many*.

For a discussion of this kind is most profound, and requires another, and a greater investigation \*. In what manner, however, the ancients, and especially the Peripatetics discussed these, and the other proposed objects of enquiry, in a more logical manner, I will now endeavour to show you.

## CHAPTER II.

IT seems indeed, that neither **GENUS**, nor **SPECIES** is simply denominated. For a collection of certain things, subsisting in a certain respect with reference to one thing, and to each other, is called genus ; according to which signification the genus of the Heraclidæ is denominated from the habitude from one thing, I mean from Hercules, and the multitude of those who derive in a certain respect alliance from him ; being thus denominated, according to abscission from other genera. After another manner also the principle of the generation of every one is again denominated genus, whether from the generator, or from the place in which some one is born. Thus we say that Orestes derived his genus from Tantalus, but Hyllus from Hercules. And again we say, that Pindar was by genus a Theban ; but Plato an Athenian : for country is a certain principle of the generation of every one, in the same manner as a father. This signification however appears to be one that may be easily adopted <sup>3</sup>. For those are called Heraclidæ who derive

\* Viz. This discussion properly belongs to Metaphysics.

<sup>3</sup> It is worth while, says Ammonius, to doubt why Porphyry says that the first signification of genus appears to be one that may be easily adopted, and not the second signification which is the habitude of one thing to one ; since this nature first knows. For she first produces one thing from one, and thus many from many. In answer to this it must be said, that the second signification of genus, which is second as with reference to us, is first to nature. For from Hercules one man is first produced, and thus afterwards the multitude of the Heraclidæ. But the signification

derive their origin from the genus of Hercules ; and Cecropidæ who derive it from Cecrops ; and also those who have an affinity to these. And the first genus is denominated that whence the principle of the generation of any one is derived ; but afterwards, the multitude of those who originate from one principle, as for instance, from Hercules ; which genus defining and separating from others, we call the whole collected multitude, the genus of the Heraclidæ.

Again, after another manner, genus is denominated that, to which species is subjected, being thus called perhaps according to the similitude of these. For a genus of this kind is a certain principle of the things which are under it, and appears also to comprehend all the multitude which is under it. Since therefore genus is denominated in a threefold manner, the third is that which is considered by philosophers ; which also describing they explain, when they say that genus is that which is predicated of many things, differing in species, in answer to the question what a thing is ; as for instance, animal. For of things which are predicated, some are predicated of one thing only, as individuals, as for instance Socrates, and this man, and that thing ; but others are predicated of many things, as genera and species, differences, peculiarities and accidents, which are predicated in common, and are not peculiar to any one thing. But genus is indeed, such as animal ; and

fication, which is first to nature, is second to us ; and that which is second to nature is first to us. And universally, whatever is first to nature, is second to us, and whatever is second to nature, is first to us. Thus for instance, matter and form are first to nature ; afterwards, the four elements ; then flesh and bone, and the rest of things consisting of similar parts ; and last of all man. And nature indeed thus tends from the superior to the subordinate ; but we as verging downward, beholding things in a supine position, and desirous to arrive at things more remote from such as are more proximate, and at such as are more simple from such as are more material, first indeed, we know man ; afterwards we know that he is composed from bones and flesh ; in the next place, that these are composed from the four elements ; and in the last place, that these are composed from matter and form. Hence things prior to nature are posterior to our knowledge ; and things posterior to nature, have with respect to our knowledge a prior subsistence. The first signification therefore is more clear, but the second more obscure. And it is necessary that doctrine should be delivered from things which are of a more perspicuous nature.

species, such as man ; difference is such as rational ; peculiarity, such as risible ; and accident, such as the white, the black, and to sit. Genera therefore differ from things which are predicated of one thing only in this, that they are predicated of many things ; but they differ from those which are predicated of many things, and in the first place from species, because though species are predicated of many things, yet not of things differing in species, but in number. Thus man, being a species, is predicated of Socrates and Plato, who do not differ from each other in species, but in number. But animal being a genus, is predicated of man and ox, and horse, which differ also in species from each other, and not in number only. Again, genus differs from peculiarity in this, that peculiarity is predicated of one species alone, of which it is the peculiarity, and of the individuals under that species. Thus risibility is predicated of man alone, and of the individuals of the human species ; but genus is not predicated of one species, but of many things, and which differ in species. Farther still, genus differs from difference, and from accidents which are common, because though differences and accidents which are common, are predicated of many things, and which differ in species, yet they are not predicated in answer to the question, *what a thing is*, but in answer to the question, *what kind of a thing it is*. For certain persons enquiring *what that is*, of which these things are predicated, we answer, that it is genus ; but we do not answer that it is differences and accidents ; since these are not predicated of a subject in answer to the question *what a thing is*, but rather in answer to the question *what kind of a thing it is*. For when any one asks *what kind of a thing man is*, we say that he is a *rational* being ; and in answer to the question *what kind of a thing a crow is*, we say that it is black. *Rational* however is *difference* ; but *black* is *accident*. But when we ask what man is, we answer an animal ; and animal is the genus of man. Hence, because genus is predicated of many things, it is separated from individuals which are predicated of one thing only. But because it is predicated of things differing in species, it is distinguished from things which are predicated as species, or  
as

as peculiarities. And because it is predicated in answer to the question, what a thing is, it is separated from differences, and from common accidents, each of which is predicated of those things of which it is predicated, not in answer to the question what a thing is, but in answer to the question, what kind of a thing it is, or in what manner it subsists. The above-mentioned description therefore of the conception of genus, contains nothing superfluous, nothing deficient.

Species, however, is predicated indeed of every form, according to which signification it is said,

Form is first worthy of imperial sway\*.

That also is called species, which is placed under the genus already explained, according to which signification we are accustomed to say that man is a species of animal, animal being a genus; that the white is a species of colour; and that triangle is a species of figure. If however in explaining genus we make mention of species, and say that genus is that which is predicated of many things differing in species, in answer to the question what a thing is, and that species is that which is under the aforesaid genus;—it is requisite to know that since genus is the genus of something, and species the species of something, each of each, it is necessary to use both in the definitions of both. They unfold therefore the meaning of species as follows: Species is that which is arranged under genus, and of which genus is predicated in answer to the question what a thing is. They also explain it thus: Species is that which is predicated of many things differing in number, in answer to the question what a thing is. This explanation however pertains to the most special species, and which is species only, but no longer genus also; but the other explanations will pertain to species which are not most special. What we have said however will be evident after this manner: In each category, there are certain things which are most general, and again others which are most special; and between things the most general and the most special there are others, which are called

\* This verse is from Euripides, according to Athenaeus in lib. 13, cap. 7.

both genera and species. But the genus which is most general, is that above which there will no longer be another superior genus; and the most special species is that after which there will not be another inferior species. Between the most general genus, and the most special species also, there are other things which are both genera and species, when referred however to different things<sup>4</sup>. But what has been said will become evident in one category. Essence or substance, is indeed itself a genus. Under this is body. And under body is animated body; under which is animal. Under animal is rational animal; under which is man. And under man are Socrates and Plato, and the individuals of the human species. Of these however essence is the most

\* That description of species, says Porphyry, which asserts it to be that which is predicated of many things, differing in number in answer to the question what a thing is, is not adapted to every species, but to the most special species alone. In order however that we may learn what are the most special species, he uses the following division: Of essence one kind is body, but another incorporeal. And of body one kind is animated, but another inanimate. Of animated body also, one kind is animal, but another a zoophyte, and another a plant. For a plant has these three powers alone, viz. the nutritive, the augmentative, and the generative. But an animal in addition to these, has also a sensitive power, and a power of passing from one place to another. A zoophyte therefore is the middle of both; for it has besides the three powers of a plant the sense of touching, but cannot pass from one place to another; and such are oysters and sponges. For they adhere to rocks, but contract themselves on the approach of any resisting substance. Again, of animal one kind is rational, but another irrational. And of rational animal, one kind is angel, but another man. Again, of men one is Socrates another Plato, and particular men. Philosophers however do not speak of individuals. In this division therefore, essence is first, and afterwards man. But those things which are said to be under each other are media, which are both genera and species, with reference to different things. Hence essence is said to be the most general genus; but man the most special species; and the rest are both genera and species with reference to different things. For body is indeed a species of essence, but the genus of animated. The animated is a species of body, but is the genus of animal. And animal is a species indeed of the animated, but is the genus of man. But man is a species indeed of animal, yet is not a genus also; for it is predicated, not of things differing in species, but in number, such as of Socrates, Alcibiades, and the like. It is not therefore a genus, nor is it an individual, since it comprehends individuals in itself. It remains therefore, that man is a more special species. Hence Porphyry says, that the last description of species, is not adapted to every species; for it is not adapted to animal and animated, but only to the most special species, such as man, horse, and dog, which are species alone.

general,

general, and that which is alone genus ; and man is most special, and that which is alone species. But body is a species of essence, and the genus of animated body. Animated body also is a species of body, but the genus of animal. Again, animal is a species indeed of animated body, but the genus of rational animal. And rational animal, is a species indeed of animal, but the genus of man. And man is a species indeed of rational animal, but is no longer the genus also of particular men, but is species alone. Every thing also prior to individuals which is proximately predicated of them, will be species only, and no longer genus also. Hence as essence which is in the highest place is most general, because there is no genus prior to it ; thus also man being a species, after which there is no other species, nor any thing which is capable of being divided into species, but individuals, (for Socrates, Plato, and Alcibiades, and this particular white thing, are individuals) will be species alone, and the last species, and as we have said, the most special species. But the media will be the species of the things prior to them ; and the genera of things posterior to them. Hence these have two habitudes, one to things prior to them, according to which they are said to be the species of them, but the other, to things posterior to them, according to which they are said to be the genera of them. But the extremes have one habitude. For that which is most general, has indeed a habitude as to the things which are under it, since it is the highest genus of all things ; but has no longer a habitude as to things prior to it, being supreme, and the first principle, and, as we have said, that above which there will not be another superior genus. The most special species also has one habitude, as towards things prior to it, of which it is the species ; yet it has not a different habitude, as towards things posterior to it; but it is said to be the species of individuals, as comprehending them, and again, the species of things prior to it, as being comprehended by them. The most general genus therefore is defined to be that which being genus is not species. And again, it is that above which there will not be another superior genus. But the most special species, is defined to be that, which being species is not genus ;  
and

and that which being species we cannot divide into species. Farther still, it is that also which is predicated of many things differing in number, in answer to the question what a thing is. But the media of the extremes, are called subaltern species and genera; and each of them is admitted to be genus and species, with reference however to different things. For the things prior to the most special species, in an ascent as far as to the most general genus, are called subaltern genera and species. Thus Agamemnon is Atrides, Pelopides, Tantalides, and in the last place, of Jupiter. In genealogies however, they refer, for the most part, to one principle, for instance to Jupiter; but in genera and species this is not the case; for being is not the common genus of all things, nor, as Aristotle says, are all things homogenous, according to one supreme genus. But the first ten genera are arranged, as in the Categories, as the first ten principles. And though some one should call all things beings, yet, says he, he will call them so homonymously, and not synonymously. For if being were the common genus of all things, all things would be synonymously denominated beings. But the first principles being ten, the communion is in the name only, and not also in the definition pertaining to the name. The most general genera therefore are ten; but the most special species are indeed contained in a certain number, yet not in an infinite number. Individuals however, which are after the most special species are infinite. Hence, when we have descended as far as to the most special species from the most general genera, Plato orders us to rest\*; but advises us to descend through those things which are in the middle, dividing by specific differences. But infinites, says he, are to be dismissed; for of these there cannot be any science. In descending therefore to the most special species, it is necessary by dividing to proceed through multitude; but in ascending to the most general genera, it is necessary to collect multitude into one. For species is collective of the many into one nature,

\* See the Philebus of Plato; who justly observes, that a philosopher ought not to descend below wholes, and common natures.

and

and genus possesses this power in a still greater degree. On the contrary, things which subsist according to a part, and particulars, always divide the one into multitude. For by the participation of species, the multitude of men is one man; but in things which subsist according to a part, and in particulars, that which is one and common to many is contained. For that which is particular has always a divisive power; but that which is common has the power of collecting and uniting.

With respect to genus and species therefore, having explained what each of them is, and since genus is one thing, but species many things, (for the division of genus is always into many species) genus indeed is always predicated of species, and all the superiors of all the inferiors; but species is neither predicated of the genus proximate to it, nor of the superior genera; for neither does it reciprocate. For it is necessary, either that things equal should be predicated of things equal, as the ability of neighing is predicated of a horse; or that greater things should be predicated of lesser, as animal of man; but lesser can no longer be predicated of greater things. For you can no longer say that animal is man, as you can say that man is an animal. But of those things of which species is predicated, of those, the genus of species are also necessarily predicated, and likewise the genus of genus, as far as to the most general genus. For, if it is true to say that Socrates is a man, but man is an animal, and an animal is essence or substance: it is also true to say that Socrates is an animal and an essence. For since superiors are always predicated of inferiors, species indeed is predicated of an individual; but genus is predicated both of species and an individual; and the most general genus is predicated of genus, or genera, if the media and subalterns are many, and also of species, and an individual. For the most general genus is predicated of all the genera, species, and individuals contained under it; but the genus which is prior to the most special species is predicated of all the most special species and individuals. And that which is species alone is predicated of all the individuals [of that species ;] but an individual is predicated of one particular thing alone. An individual, however, is such as Socrates,

crates, this white substance, and this man who approaches, viz. the son of Sophroniscus, if Socrates is the son of Sophroniscus. But things of this kind are called individuals, because each of them consists of peculiarities, of which the collection can never belong to any other thing. For the same peculiarities as those of Socrates, cannot subsist in any other person. The same peculiarities however of man, I mean of man considered as common, can be inherent in many, or rather in all particular men, so far as they are men. Hence the individual is contained by species, but species by genus. For genus is a certain whole; but the individual is a part; and species is both whole and part. It is a part indeed of something else, but not a whole of any thing else, but subsists in other things; for the whole is in its parts. Concerning genus and species therefore, we have shown what they are, and also what that which is most general, and that which is most special are, what things are both genera and species, what are individuals, and in how many ways genus and species are assumed.

### CHAPTER III.

DIFFERENCE however is predicated in common, peculiarly, and most peculiarly. For one thing is said to differ from another in common, in consequence of differing in some respect or other, either from itself, or from something else. For Socrates differs from Plato, in being another person, and he differs from himself when a boy, and when he becomes a man, and when he does any thing, or ceases to do it. And difference is always perceived in the various ways in which a thing is after a certain manner affected. But one thing is said to differ peculiarly from another, when one thing differs from another by an inseparable accident. And an inseparable accident is such as an azure colour of the eye, crookedness of the nose, or a scar from a wound when it becomes scirrhoue.

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One thing also is said to differ most peculiarly from another, when it varies from it by a specific difference. Thus man differs from horse by a specific difference, viz. by the quality of rational. Universally, therefore, every difference, when connected with any thing, causes that thing to be altered. But differences which subsist in common and peculiarly, cause a thing to be different in quality; and differences which are most peculiar, cause it to be another thing. Hence those differences which cause it to be another thing, are called specific; but those which cause it to be changed in quality, are simply differences. For the difference of rational acceding to animal, causes it to be another thing, and makes it to be a species of animal; but the difference of being moved makes it to differ in quality alone from that which is at rest. Hence the one makes it to be another thing, but the other only makes it to be different in quality.

According to those differences therefore, which cause a thing to be another thing, the divisions of genera into species are produced, and the definitions are assigned, which consist from genus and differences of this kind. But according to those differences which alone cause a thing to be different in quality, alterations alone are constituted, and the mutations of that which subsists after a certain manner. Beginning therefore again, we must say, that of differences some are separable, but others inseparable. For to be moved, and to be at rest, to be ill, and to be well, and such things as are similar to these, are separable differences; but to have a crooked, or a flat nose, to be rational or irrational, are inseparable differences. Of inseparable differences too, some subsist essentially, but others from accident. Thus rational, mortal, and to be capable of receiving science, are essentially inherent in man; but to have a crooked or a flat nose, are inherent from accident, and not essentially. The differences therefore, which are essentially present, are assumed in the definition of essence, and make a thing to be another thing; but those which are from accident, are neither assumed in the definition of essence, nor make a thing to be another thing, but cause it to be different in quality. And those differences indeed, which are

essential, do not admit of the more and the less; but those which are from accident, though they should be inseparable, admit of intension and remission. For neither is genus more and less predicated of that of which it is the genus, nor the differences of genus according to which it is divided. For these are the things which give completion to the definition of every thing. But the essence of every thing is one and the same, and neither admits of intension nor remission. To have a crooked or a flat nose however, or to be after a certain manner coloured, admit of intension and remission. Since therefore, three species of difference are beheld; and some indeed are separable, but others inseparable; and, of the inseparable some are essential, but others from accident; again, of essential differences, some are those according to which we divide genera into species; but others are those according to which the things divided become specific. Thus with respect to such differences of animal as the following; viz. animated and sensitive, rational and irrational, mortal and immortal; the difference of animated and sensitive is constitutive of the essence of animal; but the difference of mortal and immortal, and also of rational and irrational, are the divisive differences of animal; for through these we divide genera into species. These divisive differences however of genera, give completion to, and constitute species. For animal is divided by the difference of rational and irrational, and again, by the difference of mortal and immortal; but the differences of rational and mortal, become constitutive of man; those of rational and immortal, of a God; and those of mortal and irrational, of irrational animals. Thus also, since the differences, animated and inanimate, sensitive and deprived of sense, divide essence or substance, which is arranged in the highest place; animated and sensitive added to essence, form animal; but animated and deprived of sense, form plant. Since, therefore, the same differences assumed in a certain respect, become constitutive; and in a certain respect become divisive; all of them are called specific. And these are especially useful in the divisions of genera, and in definitions; but this is not the case with differences which are inseparable from accident, and much less with

with those that are separable. These also defining, they say difference is that by which species is more abundant than genus. Thus man has more than animal in consequence of being rational and mortal. For animal is neither any one of these; (since if it were, whence would species have differences?) nor has it all opposite differences; (because if it had, the same thing would at the same time have opposites) but as they conceive, it contains in capacity all the differences which are under it, but possesses no one of them in energy. And thus, neither is any thing generated from non-entities, nor will opposites subsist at once about the same thing.

They also define difference as follows: Difference is that which is predicated of many things differing in species, in answer to the question what kind of a thing is it. Thus rational and mortal, when predicated of man, are predicated in answer to the question, *what kind of a thing* is man, and not in answer to the question, *what* is he. For being asked what is man, we appropriately answer, an animal; but when we are asked, what kind of an animal is he, we properly reply, that he is a rational and mortal animal. For since things consist from matter and form, or from things which are analogous to matter and form, as a statue is composed from brass, as matter, but from figure, as form; thus also man, both the common and specific consists from genus which is analogous to matter, and from difference which is analogous to form. This whole however, viz. animal rational mortal, is man, in the same manner as the statue there. They also describe it as follows: Difference is that which is naturally adapted to separate things which are arranged under the same genus. Thus rational and irrational, separate man and horse, which are under the same genus, viz. animal. They likewise explain it thus: Difference is that by which every thing differs. For man and horse, do not indeed differ according to genus; for both we and horses are animals; but the addition of *rational* separates *us* from *them*. We also and angels are rational, but the addition of *mortal* separates *us* from *them*. Those however who more elegantly discuss what pertains to difference, do not say that difference is any thing casual which

which separates things under the same genus, but they assert it to be that which contributes to the essence and the very nature of a thing, and which is a part of a thing. Thus to be naturally adapted to sail is not the difference of man, though it is the peculiarity of man. For we may say, that of animals some are naturally adapted to sail, and others are not; separating man from other animals. But a natural ability of sailing, does not give completion to the essence of man, nor is a part of his essence, but is alone an aptitude of it; because it is not such a difference, as those are which are called specific differences. Hence specific differences will be those, which produce another species, and which are assumed in explaining in what *the very nature* of a thing consists. And thus much may suffice concerning difference.

#### CHAPTER IV.

WITH respect to PECULIARITY, they give it a foursold division. For peculiarity is that which is an accident to a certain species alone, though not to every individual of that species. Thus it happens to a man to heal, or to geometrize. It is also that which is an accident to the whole of a species, though not to that species alone. Thus it happens to man to be a biped. It is likewise that which is an accident to a certain species alone, and to every individual of that species, and at a certain time. Thus it happens to every man to have grey hairs in old age. And in the fourth place, it is that in which what is accidental to one species alone, to every individual of that species, and always, concur; as risibility to man. For though he does not always laugh, yet he is said to be risible, not from laughing always, but from being naturally adapted to laugh. And this peculiarity is always connascent with him, in the same manner as an aptitude to neighing is connascent with a horse. They say also, that these are properly peculiarities, because they reciprocate.

procate. For if any thing is a horse, it has an aptitude to neighing; and if any thing has an aptitude to neighing, it is a horse.

## CHAPTER V.

ACCIDENT is that which may be present and absent, without the corruption of its subject. But it receives a twofold division; for one kind of it is separable, but another inseparable. Thus to sleep is a separable accident; but to be black happens inseparably to a crow and an Æthiop. It is possible however to conceive a white crow, and an Æthiopian casting off his colour, without the corruption of the subject.

They also define it as follows: accident is that which may be present and not present to the same thing. Likewise that which is neither genus nor difference, which is neither species, nor peculiarity, but is always inexistent in a subject.

## CHAPTER VI.

HAVING separately discussed all that was proposed, I mean *genus*, *species*, *difference*, *peculiarity*, and *accident*, we must show what things are common to them, and what are peculiar. It is common therefore to all of them to be predicated, as we have said, of many things. But genus is predicated of the species and individuals which are under it; and in a similar manner difference. Species is predicated of the individuals which are under it; but peculiarity is predicated of the species of which it is the peculiarity, and of the individuals which are under that

that species. And accident is predicated both of species and individuals. For animal is predicated of horse and ox which are species ; and also of this particular horse, and that particular ox, which are individuals. But the irrational is predicated of horse and ox, and of particular horses and oxen. Species however, such as man, is alone predicated of particulars. But peculiarity, is predicated of the species of which it is the peculiarity, and of the individuals under that species. Thus risibility is predicated of man, and of particular men. But blackness is predicated of the species of crows, and of particular crows, since it is an inseparable accident. To be moved likewise, which is a separable accident, is predicated of man and horse. Precedaneously however, it is predicated of individuals ; but secondarily, of those things which comprehend individuals.

## CHAPTER VII.

BUT to be comprehensive of species is common to genus and difference ; for difference also comprehends species, though not all such as genus comprehends. For rational though it does not comprehend irrational natures, as animal does, yet it comprehends angel and man which are species. Such things too, as are predicated of genus as genus, are also predicated of the species under it. And such things as are predicated of difference as difference, are also predicated of the species formed from it. For animal being a genus, essence is predicated of it as of a genus, and also animated and sensible. But these are predicated of all the species under animal, as far as to individuals. Since also rational is difference, the use of reason is predicated of it as of difference. The use of reason however, is not only predicated of rational, but also of the species under rational. This likewise is common, that genus or difference being subverted, the things which are under them are also subverted.

For

For as if animal is not, horse is not, nor man ; thus also rational not existing, there will be no animal which uses reason. But it is the property of genus to be predicated of more things than difference, species, peculiarity, and accident are predicated. For animal is predicated of man and horse, of bird and snake ; but quadruped is alone predicated of animals which have four feet. Man is alone predicated of individuals ; and an ability of neighing, is predicated of horse alone, and of particular horses. In a similar manner accident is predicated of still fewer things. It is necessary however to assume the differences by which genus is divided, and not those which give completion to, but those which divide the essence of genus.

Farther still, genus comprehends difference in capacity. For of animal one kind is rational, and another irrational ; but differences do not comprehend genera. Again, genera are prior to the differences which are under them. Hence they subvert differences, but are not co-subverted with them. For animal being subverted, rational and irrational are at the same time subverted. But differences do not any longer co-subvert with themselves genus ; for though all of them should be subverted yet we may form a conception of animated sensible essence, which is animal. Farther still, genus is predicated in answer to the question what a thing is ; but difference is predicated in answer to the question what kind of a thing is it, as we have before observed. Again, there is one genus according to every species, as for instance, animal is the genus of man ; but there are many differences, as, rational, mortal, capable of intellect and science, by which man differs from other animals. And genus indeed is similar to matter, but difference to form. Since however, there are other things, which are common and peculiar to genus and difference, those which we have enumerated are sufficient.

## CHAPTER VIII.

GENUS and species possess in common, as we have said, the being predicated of many things. Species however must be assumed as species only, and not also as genus, if the same thing should be both genus and species. It is likewise common to them to be prior to the things of which they are predicated; and also that each of them is a certain whole. They differ however, because genus indeed comprehends species; but species are comprehended, and do not comprehend genera. For genus is predicated to a greater extent than species. Again, it is necessary that genera should be pre-supposed, and when invested with form by specific differences, that they should give consummation to species. Whence also genera are prior by nature. They also subvert other things together with themselves, but are not co-subverted with other things. Thus species existing, genus also entirely exists; but genus existing, it does not entirely follow that species exists. And genera indeed, are synonymously predicated of the species which are under them; but species are not thus predicated of genera. Farther still, genera are more copious than species, in consequence of comprehending the species which are under them; but species are more copious than genera by their proper differences. Again, neither species can become most general, nor genus most specific.

## CHAPTER IX.

It is common to genus and peculiarity to follow species. For if any thing is man it is animal; and if any thing is man it is risible. It is likewise

likewise common to genus to be equally predicated of species, and to peculiarity to be equally predicated of the individuals which participate it. Thus man and ox are equally animals; and Anytus and Melitus are equally risible. It is also common to genus to be synonymously predicated of its proper species, and to peculiarity to be synonymously predicated of the things of which it is the peculiarity. They differ however, because genus indeed is prior, but peculiarity posterior. For it is first necessary that animal should exist, and afterwards that it should be divided by differences and peculiarities. And genus indeed is predicated of many species; but peculiarity is predicated of one certain species, of which it is the peculiarity. Farther still, peculiarity is reciprocally predicated of that of which it is the peculiarity; but genus is not reciprocally predicated of any thing. For neither does it follow if any thing is an animal, that it is a man; nor if any thing is an animal that it is risible. But if any thing is a man, it follows that it is risible; and if any thing is risible, it follows that it is a man. Again, peculiarity is inherent in the whole species of which it is the peculiarity, and is alone and always inherent; but genus is inherent in the whole species of which it is the genus, and is always inherent yet not alone. Farther still, peculiarities being subverted, genera are not subverted together with them; but genera being subverted the species also are subverted together with them, to which the peculiarities belong. Hence those things of which there are peculiarities being subverted, the peculiarities themselves are at the same time subverted.

## CHAPTER X.

IT is common to genus and accident to be predicated, as we have said, of many things; whether the accidents be separable or inseparable. For to be moved is predicated of many things; and blackness is predicated of crows, of Æthiopians, and of certain inanimate things. But genus differs from accident in this; that genus is prior to species, but accidents are posterior to species. For though inseparable accident should be assumed, yet that of which it is the accident is prior to the accident. And those things indeed which participate of genus equally participate it; but the participants of accident do not equally participate it. For the participation of accidents receives intension and remission; but this is not the case with the participation of genera. And accidents indeed precedaneously subsist in individuals; but genera and species are by nature prior to individual essences. Genera also are predicated of the things under them, in answer to the question what a thing is; but accidents in answer to the question, what kind of a thing it is, or how it subsists. For on being asked what kind of a thing an Æthiopian is, you reply that he is black; or how Socrates is, you reply that he is sick or well.

## CHAPTER XI.

AND thus we have shown in what genus differs from the other four. It happens also that each of the other four differs from the rest; so that since there are five, and each of the four differs from the others, [it would

would seem that] all the differences which are produced will be twenty.. This however is not the case, but always those which are successive are con-numerated. And the second is deficient by one difference, because it has been already assumed ; the third is deficient by two differences ; the fourth by three ; and the fifth by four. Hence all the differences will be ten ; viz. four, three, two, and one. For we have shown in what respect genus differs from difference, species, peculiarity, and accident. There are therefore four differences. We also showed in what respect difference differs from genus, when we explained in what respect genus differs from it. It remained therefore to say in what respect it differs from species, peculiarity, and accident ; and three differences are produced. Again, it was said by us in what respect species differs from difference, when we explained in what respect difference differs from species. And it was shown by us in what respect species differs from genus, when we explained in what genus differ from species. It remained therefore to say, in what respect species differs from peculiarity and accident. These therefore are two differences. At length, it remained to be explained, in what respect peculiarity differs from accident ; for in what respect it differs from species, difference and genus, was before explained by us, in the difference of those from these. Hence as four differences of genus with respect to the rest are assumed, but three of difference, two of species, and one of peculiarity with respect to accident, all the differences will be ten ; four of which, viz. the differences of genus with respect to the rest, we have already shown.

## CHAPTER XII.

It is common therefore to difference and species, to be participated equally ; for the individuals of mankind participate equally of man, and the difference of rational. It is likewise common to them to be  
always

always present to their participants ; for Socrates is always rational, and Socrates is always a man. But it is the peculiarity of difference indeed, to be predicated in answer to the question what kind of a thing a thing is ; and of species to be predicated in answer to the question, what a thing is. For though man should be assumed as a certain kind of a thing, yet he will not be simply so, but so far as differences acceding to genus give subsistence to him. Again, difference is frequently seen in many species, as quadruped in many animals which differ in species ; but species is in the individuals alone which are under species. Farther still, difference is prior to the species which subsists according to it. For rational being subverted co-subverts man with itself ; but man being subverted, does not subvert rational, since angel will still exist. Again, difference is conjoined with another difference ; for rational and mortal are conjoined in order to the subsistence of man ; but species is not conjoined with species, so as that a certain other species is generated. For a certain horse is conjoined with a certain ass, in order to the generation of a mule ; but horse simply conjoined with ass, will not produce a mule.

## CHAPTER XIII.

DIFFERENCE also and peculiarity have this in common, that they are equally participated by their participants ; for rational are equally rational animals, and risible are equally risible animals. It is likewise common to both, to be always present, and to every one. For though a biped should be mutilated, yet the term always is predicated with reference to that which is naturally adapted ; since that which is risible has the always from natural adaptation, and not from always laughing. But it is the peculiarity of difference, that it is frequently predicated of many species ; as rational, is predicated of angel and man ; but peculiarity

cularity is predicated of one species, of which it is the peculiarity. And difference indeed, follows those things of which it is the difference, yet it does not also reciprocate ; but peculiarities are reciprocally predicated of those things of which they are the peculiarities, in consequence of reciprocating.

## CHAPTER XIV.

IT is likewise common to difference and accident to be predicated of many things. But it is common to difference, with inseparable accidents, to be always present, and to every one ; for biped is always present to man ; and in a similar manner blackness is present to all crows. They differ however ; because difference indeed comprehends species, but is not comprehended by them ; for rational comprehends angel and man ; but accidents after a certain manner comprehend, because they are in many things ; and after a certain manner are comprehended, because the subjects are not the recipients of one accident, but of many. And difference indeed, does not admit of intension and remission ; but accidents receive the more and the less. Contrary differences likewise cannot be mingled, but contrary accidents sometimes can be mingled. And so many are the things which difference, and the other four possess in common, and peculiarly.

## CHAPTER XV.

WITH reference to species however, we have before shown in what respect it differs from genus and difference, when we explained in what respect

respect genus, and also in what respect difference, differs from the rest. It now remains that we should show in what respect species differs from peculiarity and accident. It is common therefore to species and peculiarity to be reciprocally predicated of each other. For if any thing is a man it is risible; and if any thing is risible, it is a man. It has however been frequently asserted by us that risibility must be assumed according to a natural aptitude to laughter. It is also common to species and peculiarity to be equally present. For species are equally present to their participants; and peculiarities to the things of which they are peculiarities. But species differs from peculiarity in this, that species indeed may be the genus of other things; but peculiarity can never be the peculiarity of other things. And species indeed subsists prior to peculiarity; but peculiarity accedes to species. For the existence of man is necessary to the existence of risibility. Again, species indeed, is always present in energy with its subject; but peculiarity is sometimes present in capacity. For Socrates is always Socrates in energy, but he does not always laugh, though he is always naturally adapted to be risible. Farther still, those things of which the definitions are different, are also themselves different; but the definition of species is, to be under genus; to be predicated of many things, and which differ in number, in answer to the question what a thing is, and things of this kind. The definition however of peculiarity is to be present to a thing alone, to every individual of a species, and always.

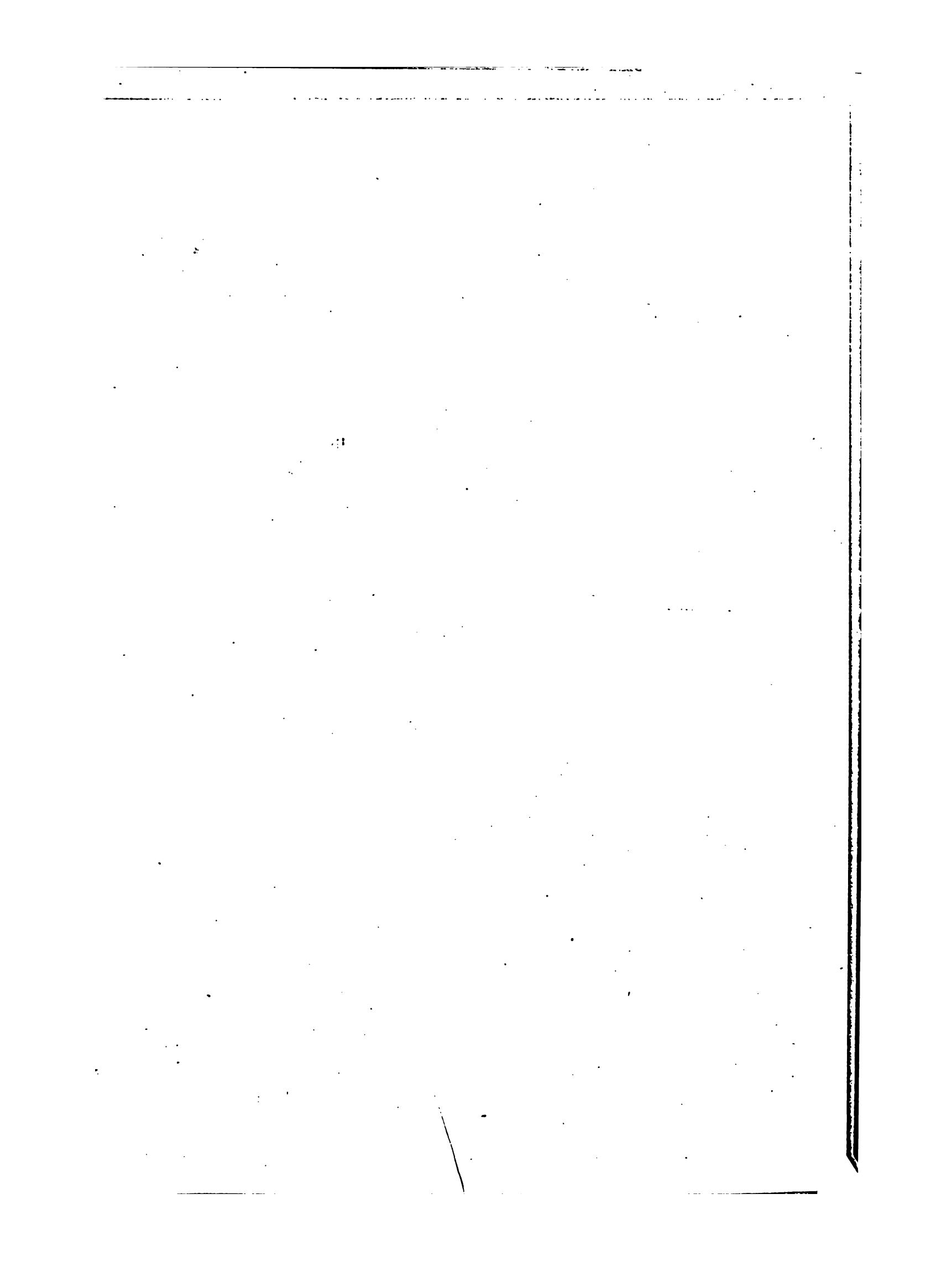
## CHAPTER XVI.

To species and accident also it is common, to be predicated of many things. But other common properties are rare, because accident, and that to which it happens, very much differ from each other. The peculiarities however of each are these: of species indeed, to be predicated

cated of the things of which it is the species, in answer to the question what a thing is; but of accident to be predicated, in answer to the question what kind of a thing it is, or how it subsists. Likewise that every essence or substance participates of one species, but of many accidents, both separable and inseparable. And species indeed are conceived prior to accidents, though they should be inseparable accidents; (for it is necessary that there should be a subject, in order that something may happen to it) but accidents are naturally adapted to be of posterior origin, and have a nature which consists in being an adjunct to essence. And of species indeed the participation is equal; but of accident, though it should be inseparable it is not equal. For an *Aethiopian* may have a colour which has intension or remission according to blackness with reference to another *Aethiopian*.

## CHAPTER XVII.

It now remains to speak concerning peculiarity and accident; for we have already said in what respect peculiarity differs from species, difference and genus. It is common therefore to peculiarity and inseparable accident, not to subsist without those things in which they are beheld. For as man does not subsist without visibility, so neither can an *Aethiopian* subsist without blackness. And as peculiarity is present to every individual of a species and always, thus also inseparable accident. They differ however, because peculiarity is present to one species only, as visibility to man; but inseparable accident, as blackness, is not only present to an *Aethiopian*, but also to a crow, to a coal, to ebony, and to certain other things. Again, peculiarity is reciprocally predicated of that of which it is the peculiarity, and is equally present; but inseparable accident is not reciprocally predicated. The participation also of peculiarities is equal, one indeed more but another less. There are indeed other things which are common and peculiar to the above-mentioned five terms, but these are sufficient for the purpose of showing their distinction and agreement.



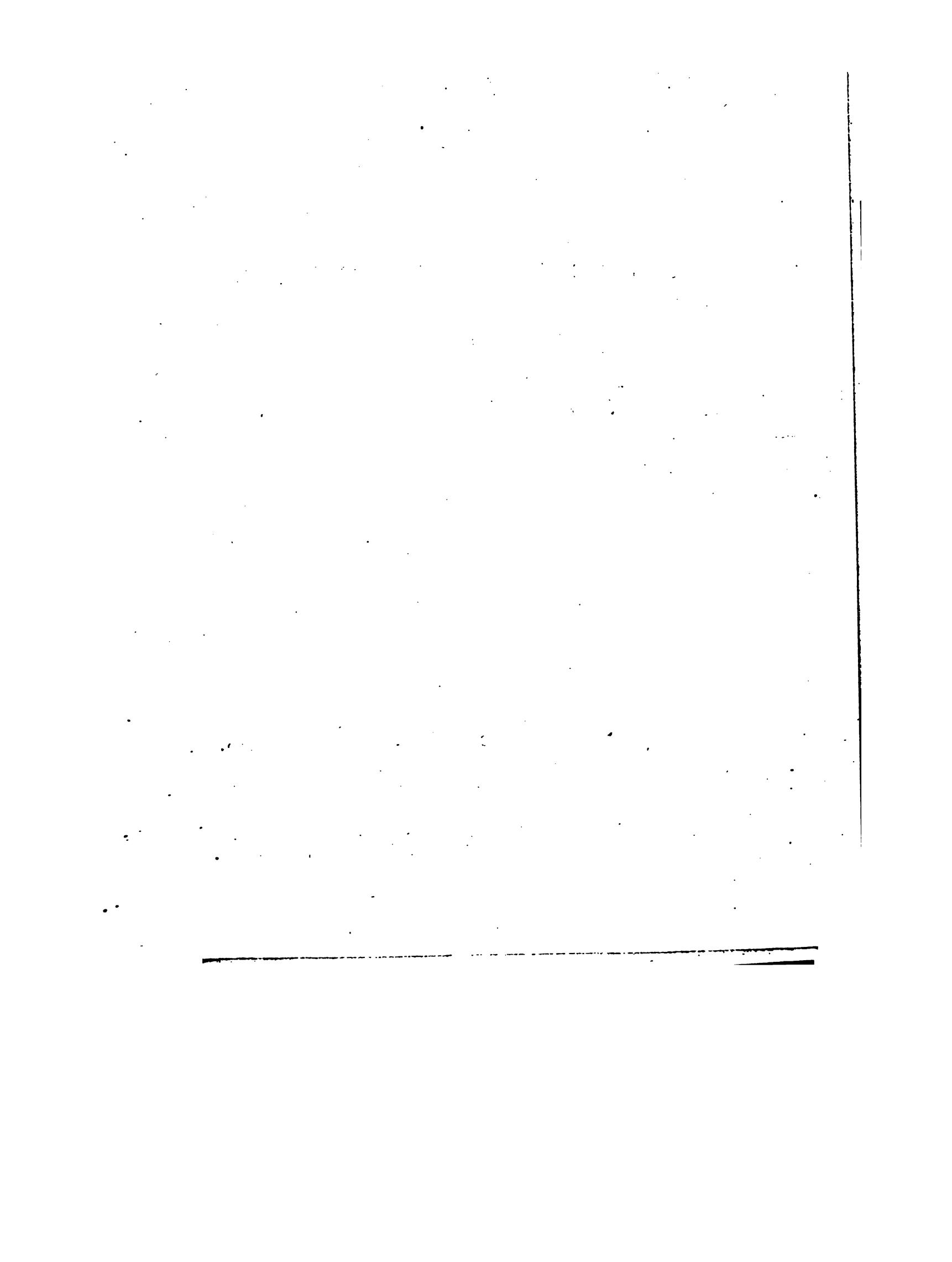
T H E C A T E G O R I E S

OF

A R I S T O T L E.

G 2

INTRO.



## I N T R O D U C T I O N.

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THE design of Aristotle's Categories, says Simplicius, appears to have been a subject of doubt to many of his interpreters. For that he speaks about ten certain simple things, which they call the most universal genera is evident. Some however say that these are words ; that the intention of Aristotle is to speak of simple terms ; and that this treatise is the first part of logic. Hence, say they, as the treatise immediately subsequent to this, On Propositions, is concerning composite words, and not concerning things, thus also the present treatise, since it is concerning the parts of a proposition, will consist in the discussion of words. Others however refute this opinion. For say they, it is not the business of a philosopher to make words the subject of his contemplation, but rather of a grammarian who considers the passive qualities, formations, properties, and formulæ of words. Hence they assert that the intention of Aristotle in this treatise is to discuss things which are signified by words. In opposition to this opinion however, it must be observed, that this treatise is a part of logic, and that to consider beings so far as they are beings belongs to metaphysics, and is entirely the province of the first philosophy. Again, others assert that Aristotle's design, is neither to discuss significant words, nor things signified, but simple conceptions, because he here speaks of ten genera ; and since these are of posterior origin, and are the conceptions of the mind, he may be very properly said to make conceptions the subject of discussion. In opposition to this opinion however, it is necessary to consider, that to speak of conceptions, so far as conceptions are the progeny of

of the mind, does not pertain to logic, but to a treatise on the soul. Each of these opinions therefore, imperfectly presents us with the intention of Aristotle.

Since all these opinions therefore are erroneous, let us in the next place direct our attention to those who have more accurately and perfectly developed the design of Aristotle. Among these, in the first place, we may rank Alexander Aphrodisiensis, who says that this book is the beginning of the logical treatise, because the first parts of speech are significant, and there are certain things which are signified by the first and simple parts of speech. He adds, because Aristotle therefore was willing to indicate and unfold conceptions, he divides being, not into particulars, because these cannot be comprehended or known on account of their multitude, and various mutation, but into these ten supreme genera, which he calls indeed Categories, as being most general, and subject to nothing, but predicated of other things. Hence, says he, the intention of Aristotle, is to speak of the simple, and most general parts of speech, which signify simple things, and simple conceptions of simple things. Of the same opinion also was Alexander Ægeus. But Porphyry in the Commentary to his disciple Gedalius, and in his brief explanation of the Categories by way of question and answer, says, that Aristotle's intention is concerning things which are predicated, and these are simple words significant of things, so far as they are significant, but not so far as they are simple terms. For a word so far as it is significant is determined and defined by the genera of things. And a word indeed is called a predicament, because it is predicated of a thing, and a thing is promulgated, or that is asserted of which the predication is made. Since therefore, a predicament is either of a thing together with the word signifying the thing, or is significative, predication indeed, so far as it is significant, contains both words and things; and since particulars are infinite and incomprehensible, Aristotle has reduced their infinity to ten genera, collecting all essences into one supreme essence, of which the term essence is significant; for it signifies either the essence which is in things, or that subsistence which has its being in intellect.

For

For as to predication there is no difference between these, since things are not signified by predication or predicament, so far as they subsist, but so far as they are conceived by the mind, whether they really exist, or are considered as existing. After the same manner also particular quantities when they are reduced to one most general quantity, form another category, that of quantity, which is predicated of a supreme thing quantity. And in a similar manner with respect to quality, and the other categories. Afterwards Porphyry adds the words of Boethus\* which are replete with much sagacity, and have the same tendency with what Porphyry himself asserts. For Boethus also says, that the division of speech into its elements is made according to noun and verb, but the division of it according to predicaments is made, so far as words have a certain habitude and relation to the things of which they are significant. Hence, he adds, conjunctions cannot become the subject of predication, because they do not signify any thing which exists; since they neither denote substance, nor quality, nor any thing else of this kind.

From what has been said therefore, it appears that according to these philosophers, the intention of Aristotle in the categories, is neither to speak of mere words, nor of things so far as they are things, nor of conceptions alone, but of *simple terms, so far as they are significant of primary and simple things*. It is evident, however, that since Aristotle here treats of words so far as they are significant, it is also necessary to connect the things signified, and the conceptions which are formed through the significations. Hence he teaches us the signification of each of the terms, and definitely considers things themselves according to each predicament. But he does not here treat of significative words which are entirely separated from the nature of things, nor of things which are separated and foreign from these appellations which are adapted to signify them, nor of conceptions which are beyond the nature of things. In intellect indeed things themselves, which are the ob-

\* The reader must be careful not to confound this Boethus, who was a celebrated Grecian Peripatetic, with Boethius the Roman, author of the Consolation of Philosophy, and other works.

jects of intelligence and knowledge, are the same with the conceptions of them, on account of the indivisible union between intelligibles and intellect. And the soul indeed when she is converted to intellect possesses this union of conceptions and the things conceived in a secondary degree, since she contains in herself not only gnostic reasons, but also those reasons by which she is able to generate and produce. But when she departs from this union with intellect, and separates the reasons of things in herself, and on this account fashions resemblances of primary forms, then she separates intelligence from things, and this in proportion as she departs from a similitude to intellect. Afterwards she endeavours to frame and accommodate conceptions conformable to things themselves. Besides this, when she falls into generation, or the sublunary region, and becomes filled with oblivion, she requires the sight and hearing, that she may recall those things to her memory which she knew before. For she now stands in need of voice, or articulate sound, by which she may be able to perceive the truth; since voice proceeds from the conceptions of the soul, and moves the intellect already replete with these conceptions. Hence, by the assistance of voice, the soul now recalls them to memory. For voice strives to be proximately and immediately adapted to conceptions, and through conceptions to things themselves, with which it has a certain natural conjunction; since its intention is not rashly to utter unmeaning words, and fictitious names, but rather to move and excite intelligence in the hearer, through those motive conceptions which he contains. For conceptions and intentions proceed from things conceived and intentions, and proximately move and conjoin the intentions of the disciple with those of the preceptor. Again, articulate sound is the boundary of the energy of the soul, and it is the province of boundaries to convert things to their principles. Hence articulate sound leads souls that are remote and foreign from intellect and things, and separated from each other, into concord and consent; causes intellect and its conceptions to accord with things themselves; recalls and reduces all things to intellect; and shows that human souls are not only unwilling to be without voice, but that

that they also do not wish to have any other conceptions of things than those which articulate sounds excite. After this manner therefore soul divides those things which are united in intellect, preserving at the same time in the division, their mutual habitude. From what has been said, therefore, it is evident, that the proper intention of this logical treatise is *to discuss simple, primary, and general words, so far as they are significant of things; and that at the same time, it instructs us in things and conceptions, so far as they are signified by words.* With this opinion Alexander Aphrodisiensis, Herminus, Boethus, Porphyry, and the divine Iamblichus accord, and the great Syrianus unfolds and indicates it; to which also not only Simplicius but his preceptors assent.

Simplicius farther observes; that since the intention of Aristotle in this treatise is to discuss words, and of words some are simple, but others are composite, the intention is to consider simple and primary terms, which signify the first and most general things, through the media of simple and primary conceptions. But the Pythagoreans reduced simple conceptions into ten genera, as is evident from the treatise of Architas (with whom also Plato accords) **ON UNIVERSAL TERMS**, the doctrine contained in which is adopted by Aristotle, and even in the same words; the difference between the two according to some consisting only in this, that Aristotle does not first consider and con-enumerate *the one* which Plato says contains the ten genera, nor admits it according to the nature of names \*.

Again, the doctrine of these categories is useful as an introduction to the whole of philosophy, and the whole of logic. For it is evident that simple things are necessary and adapted to the constitution of such as are composite. Hence the geometrician begins from things of a more simple nature, then proceeds to triangles and squares, and afterwards considers pentagons, and multangular figures. Those also who

\* As Aristotle considers the categories as subsisting in sensibles, he appears very properly to have omitted to co-arrange *the one* with them; because the ineffable principle of things which the Pythagoreans and Plato indicated by *the one*, is super-essential.

accurately discuss numbers, endeavour to know in the first place, what the even and the odd number are, and afterwards what are the numbers which partake both of the even and the odd. That to begin however from simple terms is useful to logic will appear as follows : Contemplation and action proceed in a contrary course. For contemplation receiving its beginning from the end, proceeds to the principle; but action on the contrary proceeds from the principle to the end. Thus in building a house, contemplation immediately understands the purpose for which a house is built; that it is in order to protect us from wind and rain, and extreme heat. Beginning therefore from the end, it considers how this is to be accomplished, and discovers that a house cannot protect us, unless a covering and roof are placed upon the walls; that walls cannot be raised unless a foundation is laid; and that a foundation cannot be laid unless the earth is previously dug. Here therefore contemplation ends, and here action begins. For it first digs the earth, afterwards lays the foundation, then raises the walls, and lastly, places on them the roof. In a similar manner, as we stand in need of a house, in order to prevent the destruction which often arises from wind, from rain, and from immoderate heat, thus also we require demonstration, in order to prevent the corruption arising from *the false* in contemplation, and from *evil* in action, which are properly called corruptions. For as in contemplation the false is opposed to the true, thus also in practical philosophy evil is opposed to good. Hence we require some instrument by which we may be able to distinguish these, lest we should mistake falsehood for truth, and evil for good. This instrument is demonstration which distinguishes every thing, and does not suffer us to be deceived by any involved and slender vestige of truth or good, but unfolds, denudes, examines, and rightly explores all things. As therefore, in considering after what manner a house should be built, we end at that conception by which we understand that the earth is to be dug, thus also we proceed in considering the origin of demonstration. For demonstration says that something is inherent, or is not inherent, in a certain thing, though not simply, but adding the cause on account of which

which it is or is not inherent. It is evident also that a sentence is not simple, but is a collection of many things, viz. of that which is inherent, and of that in which it is inherent; and it appears that the cause is at least contained in two propositions. For he who shows that the soul is immortal, and concludes that it is through this medium that it moves itself, reasons as follows: The soul moves itself: That which moves itself, is immortal: The soul therefore is immortal. Hence demonstration is a demonstrative syllogism. But how can we know what a demonstrative syllogism is, unless we have first learnt what syllogism is simply, and from what it is composed? It is composed however from propositions, which also are composed from nouns and verbs; and of these some are subjects, but others predicates. The knowledge of these therefore is necessary. But the analysis does not stop here; since the contemplation of simple words precedes these, according to which all names subsist, because the first position of words is that of names. For as it became necessary to men to signify things to each other, in consequence of deviating from a common intellection, and often entertaining discordant opinions, they gave different names to different things. The contemplation therefore of simple words, very properly precedes, and he who wishes to frame a demonstration must begin from these. Hence we begin from the categories, because through these we are introduced to a sentence, and to things signified, as from things more simple to such as are more composite. For after simple terms, we should learn what a noun and verb are; in the next place what affirmation and negation are, and in what the differences of these consist, which we are taught in the treatise ON INTERPRETATION; afterwards, what a term, a proposition, and a syllogism are, what are the species of syllogisms, how many there are according to each figure, and how many modes each figure contains, which we are taught in the PRIOR ANALYTICS, and thus we shall arrive at the art of demonstrating, and at the treatise ON DEMONSTRATION, which Aristotle inscribes POSTERIOR ANALYTICS. Very properly therefore do we begin from the treatise On the Categories, as the principle of logic and all philosophy.

In the next place, it is requisite to show the cause of the inscription of this treatise, and, in the first place, in how many ways it is inscribed, and which of the inscriptions is to be preferred to the rest. Some therefore have inscribed it **ANTETOPICA**, others, **ON THE GENERA OF BEING**, others, **ON THE TEN GENERA**, others, **ON THE TEN CATEGORIES**, and others **ON THE CATEGORIES**, the title which it at present bears. Those however who entitled it *Antetopica* acted absurdly. For it not only precedes the Topics, but all the other logical treatises of Aristotle. And in a similar manner, in the speculation pertaining to things, the tradition of such as are simple precedes all philosophy, since it instructs us in whatever is especially of an elementary nature. Since however he who arranged the Topics of Aristotle immediately after the Categories was no common man, but one of the most famous among the Peripatetics, being no other than the celebrated Adrastus, it will be requisite to adduce the reasoning by which he was led to make this arrangement. He says then, that because it is requisite the knowledge of simple terms should precede, but prior to the method of demonstrating, and the discipline of syllogisms and propositions, it is necessary to deliver that method which reasons about probabilities, and the objects of opinion, hence in the Topics, because he there treats of syllogism, Aristotle first teaches us what a common syllogism is, in the same manner as he also does in his Prior Analytics. For if it is requisite to proceed from objects of opinion, to those things which are known by the assistance of demonstration, and from probabilities to things perfectly true, the Topics which treat of the places of arguments, ought to precede the treatise On Demonstration, and those things which must necessarily be assumed prior to demonstration. Simplicius however justly observes, that plausible as this reasoning may appear, yet it is absurd to entitle this treatise **Antetopica**. For simple words or terms, immediately and proximately precede the propositions which are formed from them, and those syllogisms which consist from those propositions.

But those who inscribe this treatise **ON THE GENERA OF BEING**, or **ON THE TEN GENERA**, as Plotinus thought it should be inscribed in  
that

that part of his works, where he adduces certain contradictions against these Categories,—these alone direct their attention to things, and by no means to the scope and intention of the logical art. For the genera of being are things themselves ; but that the intention of this treatise is not to consider beings, but words signifying things, so far as those words are significant, has been already observed. And indeed Aristotle himself indicates this, when he says, “ Each of those things which are predicated, alone indeed, and by itself, is not asserted of any thing, but affirmation arises from the conjunction of these with each other.” For if affirmation is conversant with words and a sentence, the intention of the treatise will not be concerning things, because affirmation is not a combination and conjunction of things, but a conjunction of significant words. And if it should be said that each of the things which are here discussed, either signifies essence, or quantity, or quality, &c. certainly the terms which *signify* them are not *things* but *words*; for *things* are *signified*. It is evident therefore, that this treatise is not a discussion of things, but of significant words.

Since, however, it is generally inscribed CATEGORIES, it is necessary to enquire the cause of this inscription ; as the word *categories* or *predicaments* signifies accusations pertaining to judicial processes, and to which defence is opposed ; and we are not taught in this treatise how such accusations ought to be made. Porphyry says, that to treat of things publicly according to any signification, is to *predicate* them, and that, in short, to assert any word of a thing is to predicate. Hence, says he, every simple significant word, when it is treated, pronounced, and asserted of any thing, may be called predication, and a predicament. Simplicius however, justly observes, that if this be admitted, Socrates, and every simple word signifying any particular or singular thing, may be called a predicament, and thus this treatise will not be concerning the most general, but concerning simple words. But others more appropriately say, that the treatise is inscribed *Categories* or *Predicaments*, because it is concerning the most general things which are always adapted to predicate. For of an enunciative sentence in which truth.

truth and falshood consist, one thing is the subject of which the sentence is asserted, and another thing is that which is asserted of the subject, which is called the predicate, as being said of the subject: Thus in the sentence, *Socrates is a man*, the subject is Socrates, but the predicate is man. And the subject indeed ought to be that which is more particular, but the predicate that which is more universal. Hence in predicates, properly so called, a conversion cannot be made; since it cannot be said that man is Socrates, nor that animal is man. Again, there are some things which are only predicates, as are those most general genera which Porphyry speaks of in his Introduction; and some things are only subjects, as individuals. For some things participate of those most general genera, and therefore are asserted of those things by which they are participated, but the most general genera themselves do not participate of other things, and therefore are not the subject of any thing which may be predicated of them. Individuals, however, participate of those things which are placed above them, and on this account are their subjects. Hence, they are not participated by any thing, as that which is more common, and therefore are not predicated of any thing. If then the intention of this treatise is concerning the supreme genera, it is very properly inscribed *predicaments*.

Architas also, who had the same intention, inscribed his treatise, ON UNIVERSAL TERMS, i. e. *On Universal Predicates*, which are always predicated of those things that are placed under them, and never become subjects. Nor is it wonderful if the appellation *categories* or *predicaments*, should appear to be extraneous, incongruous, and contrary to custom. For since names are less numerous than things, philosophers, who not only desire to know things which are not perceived by others, but also to exhibit and unfold them to the learner, are sometimes compelled to invent words; as was the case with Aristotle when he invented the word *entelechia*\*. Sometimes however it is lawful to use

\* This word signifies form which is being in energy, so far as, according to this, it is an assumption of one end; or it is an assumption of one perfect essence, or is a continuance of the perfect, i. e. a habit according to the perfect.

words in a sense different from what they properly signify, by transferring them to our own purpose, as in the present instance of the word *categories*.

That this treatise also is the genuine production of Aristotle is evident from the obscurity and difficulty of the sentences, and its involved diction; this mode of writing being generally adopted by the Stagirite. To which may be added, that Aristotle himself frequently mentions this treatise, which he also denominates **THE TEN CATEGORIES**. Either therefore it must be said that those writings in which mention is made of this work, are not the legitimate productions of Aristotle, or it must not be denied that this was composed by him. Simplicius also adds, that the most intimate associates of Aristotle, have admitted this treatise to be genuine; and that if it were not written by Aristotle, all his philosophy, and especially his logic, would be without a beginning, and without a head.

Should it be asked why, if this treatise is about the ten categories, Aristotle does not begin from these, but from things homonymous, synonymous, and paronymous? We reply with Porphyry\*, that Aristotle discusses these first, neither superfluously, nor as forgetful of his design; but in order that he might previously explain what was necessary to the doctrine of the categories; lest he should be compelled to digress in the middle of the discussion, by unfolding these terms, and thus break its continuity. As geometers, therefore, first adduce certain definitions and axioms, postulates and divisions, which must be previously learnt, as useful to the evidence of the theorems; thus also Aristotle first speaks of things homonymous, synonymous, and paronymous, and all that follows, as most useful to the knowledge of the categories.

Lastly, if any one should desire to know under what part of the philosophy of Aristotle this treatise should be arranged, we reply, that it

\* Vid. Porphyr. in *Prædicam.* p. 5, Ed. Paris. 1543.

must

must be ranked under that part which is the instrument of the other parts. For it has been shown, that the first part of logic consists of the doctrine which treats of simple terms. But the whole of logic is the organic or instrumental part of philosophy, in the same manner as rules and perpendiculars are the instruments of carpenters and builders \*.

\* As I have been anxious in all my translations, to preserve as much as possible of the *intellectual theory* of the ancients, the reader who is not an adept in the intellectual philosophy, is desired to pass over the more profound part of the notes On the Categories, till his proficiency in that philosophy enables him to understand it.

THE  
C A T E G O R I E S  
O F  
*ARISTOTLE.*

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CHAPTER I.

THINGS are said to be homonymous of which the name alone is common, but the definition of essence according to the name is different<sup>1</sup>. Thus man and the picture of a man, are each of them said to be an animal. For of these, the name alone is common, but the reason of essence according to the name is different. Thus if any one explains

<sup>1</sup> It is well observed by the great Syrianus, that the reason why things which are *polyonymous*, or called by many names, and *heteronymous*, or called by different names, are omitted by Aristotle, is because these rather pertain to the ornament of diction, than to the consideration of things; on which account these are more properly discussed by him in his Rhetoric and Poetics, where it becomes necessary to give many names to the same thing, and different names to different things. But here he treats of things synonymous and homonymous which possess a real difference.

in what the being an animal in each of these consists, he will assign the peculiar definition of each<sup>2</sup>. But those things are said to be synonymous of which the name is common, and the reason (i. e. the definition and description) of essence according to the name is the same. Thus man is said to be an animal, and also an ox. For each of these is called by the common name animal; and the reason of essence is the same. Thus if any one gives the reason of each, and explains in what the being an animal in each of these consists, he will assign the same reason. And those things are called paronymous which have their appellation according to name, from something, yet so as to differ in case. Thus

<sup>2</sup> It is necessary that definition should be of an equal ambit with the name of the thing defined, that it may not exceed the name, nor be imperfect, and contain less than the name comprehends. Indeed, it then happens that definition is superfluous and imperfect, when it is not assigned according to the name; and it then especially exceeds, when it is framed according to some one of those things which are superior. Thus if any one wishes to define animal, and should not frame his definition according to the name of animal, but according to some one of those things which are more universally inherent in animal, such as animated, he will then say that animal is an essence, which is excited by inward motion, or is nourished, or increased, and produces beings similar to itself. This however, will be a true description of animal, yet will not be a definition of it, because it is not adequate to the thing defined. For if any thing is animal, it certainly is nourished, increased, and produces beings like itself. The converse, however, is not true; for plants are not animals, and yet they exert these energies. It happens also that a definition is imperfect when it is assumed according to something more particular than the thing defined; as if when defining animal we should say, that it is a rational, mortal essence, which is the definition of man. For that indeed which is such is an animal, but not every thing which is an animal answers to this definition. Every definition therefore, should be so framed according to name and the thing defined, that it may be converted with the name.

But when Aristotle says, "the *reason* of essence according to the name, is different," Simplius farther observes, that *λόγος*, *reason*, signifies calculation and reasoning; likewise a certain inferior affection according to intelligence, which we usually call discursive; also a certain productive and seminal principle; and lastly, that which is indicative and definitive of any thing. Aristotle therefore uses the word *reason* and not *definition*, that he may also comprehend description; for this likewise pertains to the supreme genera and individuals which cannot be explained by one definition, because the genus of the supreme genera cannot be obtained, nor the essential differences of individuals. Description, however, since it delivers the peculiarity of essence, unfolds these.

a grammarian

a grammarian is denominated from grammar, and a valiant man from valour<sup>3</sup>.

## CHAPTER II.

Of things which are the subject of discourse, some are enunciated according to connection, but others without connection. Those therefore which are enunciated according to connection are such as, the man runs, the man is victorious; but those without connection are such as, man, ox, runs, conquers<sup>4</sup>. Of things likewise, some are predicated of a certain subject, but are not in any subject. Thus man is predicated of a subject, viz. of a certain man, but is not in any subject. But other things are indeed in a subject, yet are not predicated of any subject. By being in a subject, however, I mean that which subsisting in something not as a part, cannot exist without that in which it is. Thus a certain grammatical art is in a subject, viz. in the soul, but is not predicated of any subject; and this white thing is in a subject indeed, viz. in a body, (for all colour is in body) but is not predicated of any sub-

<sup>3</sup> Simplicius informs us that Architas omits this doctrine of names in his treatise *On Universal Terms*, because the Pythagoreans assert that names are from nature and not from position. Hence they reject the words polyonymous and homonymous, as if one name should signify one thing according to nature.

<sup>4</sup> By things which are the subject of discourse, Aristotle means words significant so far as they are significant; because the predicaments are neither things nor conceptions, nor words simply so far as words, but they are words significant of things, through the media of conceptions, which being disseminated in each genus, procure for, and deliver to us the predicaments. Simplicius farther observes, that Architas, in the beginning of his treatise *On Universal Terms*, in the first place discourses about speech, which he considers as subsisting in the reasoning power and in voice. He also says that the speech which is in voice is *significant*, but that which is in the reasoning power is signified. He likewise defines and unfolds simple, composite, perfect and imperfect things; among which it is requisite to admit those which subsist according to connection and without connection.

ject. But some things are both predicated of a subject, and are in a subject. Thus science is in the soul as in a subject, and is predicated of grammar as of a subject. And some things are neither in a subject, nor are predicated of a certain subject; as for instance, a certain man, and a certain horse. For nothing of this kind is either in a subject, or is predicated of a certain subject<sup>s</sup>. And, in short, individuals, and things

<sup>s</sup> That which is in something, says Simplicius, has a manifold predication, and at least comprehends eleven modes. For a thing is in something as in place, as in the Lyceum; or as in a vessel, as wine in amphora; or as in time, as the transactions and expeditions of the Greeks and their enemies in Peloponnesus, were in this Olympiad; or as a part in the whole, as the hand is in the whole body; or as the whole in its parts; or as species in genus, as man in animal, for man is contained in it; or as genus in species, for species participates of genus, as man participates of animal; or as in the end, as all things consist in the good; or as form in matter, as the form of the statue in the brass; or as in the mover; or as in the governor the affairs of the governed. What kind of signification therefore of that which is in something belongs to a subject? The divine Iamblichus says, that a subsistence as in matter, is the *peculiarity* of subsisting in a subject. But he says this, in consequence of apparently agreeing with Aristotle, who in the fourth book of his Physics indicating the significations of that which is in something, conjoins that which is in matter together with that which is in a subject. For Aristotle there says: "Also as health in things hot and cold, and, in short, as form in matter;" Aristotle asserting this at it would seem, according to one common power of giving form to that which is subjected, which Iamblichus considers as one and the same. This however is the eleventh signification of that which is in something. For there is a great difference between that which is in a subject, and that which is as in matter. For that which is in a subject, is in essence, which is a composite from matter and form; but form is in matter, as in that which is formless, and a part of essence. Farther still, that which is in a subject, receives essence and existence from the subject; but form gives to matter its being or essence. That also which is in a subject, does not give completion to the essence of the composite, as its definition evinces; but that which is in matter gives completion to matter. To this may be added, that a thing which is in a subject, is an accident, and is under some one of the nine predicaments; but we conceive form and *morphe*, to be a composite and subject. Again, since Aristotle assumes that to be in a subject which is sensible, and this particular thing, he certainly would not say that a thing which is in a subject, is that which is in matter; for he does not think that a particular sensible thing accords with matter. For though he says in his Physics that matter is essence, yet he does not say that it is properly essence. But in this treatise, he calls the first essence, a composite, and a subject. What occasion however is there to be prolix? For Iamblichus himself in the course of his Commentary observes, that there is one signification of that which is as in matter, and another

things which are one in number, are indeed predicated of no subject, yet nothing hinders but that some of them may be in a subject. For a certain grammatical art, is among the number of things which are in a subject, but is not predicated of any subject.

## CHAPTER III.

WHEN one thing is predicated of another as of a subject, as many things as are asserted of that which is predicated, so many may also be asserted of the subject. Thus man is predicated of a certain man, but

of that which is as in a subject. It is also requisite to know, that Aristotle in the fourth book of his Physics, divides a subsistence in something into eight modes, and does not make any mention of that which is, as in time. Perhaps, however, he omits this, because he had not yet said any thing about time. Likewise conjoining that which is in a subject with that which is in matter, he also conjoins that which is in a vessel, and that which is in place, because he had not yet unfolded the difference between them.

Simplicius farther observes, that Aristotle in this place considering a subject as a composite, and an individual essence, which is neither in a subject, nor predicated of any subject, very properly asserts, that every thing which is not predicated of a subject essentially, but after the manner of an accident, is in a subject; as for instance, heat in iron. And if it should be said, that those things which give completion to the essence of any thing, are parts of that thing, as the heat of fire is a part of fire, yet these also are in a subject which is void of quality, and is the first matter. Though the *peculiarity* therefore of subsisting in a subject, is not a subsistence as in matter, yet things which subsist in matter subsist as in a subject. For we are informed by Porphyry that there is a twofold subject, not only according to the followers of the Stoicks, but those of higher antiquity. For, says he, matter void of quality, which Aristotle calls being in capacity, is the first signification of a subject, and the second, is that which in common possesses a certain quality, or which properly subsists; since brass and Socrates, are the subjects of those things which accede to them, and are predicated of them.

In the last place, it deserves to be remarked, that Aristotle here considers universals as having a subsistence, as for instance, universal science, which it is evident is universally in the soul. And a little before this, he divided things which have a subsistence, into universals and particulars. Perhaps in this he follows the Pythagoreans, from whom he received the doctrine of the Categories.

animal

animal is predicated of man; and therefore animal is also predicated of a certain man. For a certain man, is both man and an animal. Of things heterogeneous, and which are not arranged under each other, the differences are also different in species; as for instance, of animal and science. For the differences of animal are, the pedestrious, the biped, the winged, and the aquatic; but no one of these is the difference of science. For science does not differ from science in the being a biped. Of the subaltern genera however, nothing hinders but there may be the same differences; for the superior are predicated of the genera which are under them. Hence, as many differences as there are of that which is predicated, so many also will there be of the subject<sup>6</sup>.

## CHAP.

<sup>6</sup> Porphyry says that difference in most things and for the most part is predicated of many species, yet not always. But Iamblichus says, that though certain differences are not predicated of many species, yet their subsistence is such, that as far as pertains to themselves they may be predicated of many. Difference however, he adds, is more peculiar and more allied to a material nature, which is predicated of one particular species. Yet though it is thus disposed, it has a power according to its own nature, of imparting itself to many species. And if a certain other event of things which are adapted to receive extension into multitude, does not permit this to take place, yet nothing hinders difference itself, so far as pertains to its own nature, from insinuating and accommodating itself into many things.

But the genera, species, and differences are different which differ by the predicaments; and hence in each predicament, there are genera, species, and differences. Those genera too, have a mutual arrangement, one of which is under the other, as *flying* under *animal*; but those are not mutually arranged, one of which is not ranked under the other, as *animal* and *science*. For of genera and species, some are genera only, as those which have not a genus above themselves, as for instance, essence; others are species only, as those which have not species under themselves, as for instance, eagle; and others subsist between these, as animal and bird, which are both genera and species. For they are species, with relation to those things which are prior to themselves, but genera with relation to those things which are posterior to themselves. Thus bird is a species of animal, but the genus of eagle. They are called however subaltern, not because each is under another third, for thus the same thing would be both species and genus of the same thing, but because the one is under the other. But when neither is under the other, then they are not subaltern; as for instance, animal and science; for each is a genus; nor is science a species of animal, nor animal a species of science. Since therefore, there are different genera, and different media, between the supreme genus, and the lowest species, and there are different supreme genera of the predicaments, when Aristotle says "of things heterogeneous,"

the

## CHAPTER IV.

Of the things which are correlated without any connection, each of them either signifies *essence*, or *a quality*, or *a thing possessing quality*; or *a relative*, or *where*, or *when*, or *to be situated*, or *to have*, or *to act*, or *to suffer*. But *essence* (that I may use as it were a rude delineation) is such as, man and horse. A *quality* is such as, a thing of two or three cubits. A *thing possessing quality* is such as, that which is white, or a grammarian. A *relative* is such as, that which is double, the half, greater. *Where*, is such as, in the Forum, in the Lyceum. *When*, is such as, yesterday, in the former year. But *to be situated*, is such as, he lies,

the supreme genera also are to be assumed, the intermediate genera existing as different genera, when they are not subaltern, as in the instance of animal and science. For animal in the preface of essence, is arranged after essence, and science in the preface of quality, is arranged after quality. Hence, since they are subaltern, and not subaltern genera, he says that divisive are different from constitutive differences. But the divisive differences of animal, are rational and irrational, or living and non-living; but the constitutive differences are the animated and sensible, which are over the differences of science, of which the one is not arranged under the other. Indeed the differences of the superior, are entirely constitutive of the inferior; for they are synonymous and predicated. But of the divisive differences of the superior, some indeed are constitutive of the inferior genus, as of animal flying constitutes a bird, yet does not constitute the *predicandum*. There are certain differences however, which are at the same time divisive and constitutive. Two of animals, some are grammarians, others seminarians (or feeding on seeds), and others are carnivorous; which differences indeed, are also the differences of the genus of animal. Besides, he does not simply say different differences, but different in species, since there are of course to be the same differences of different genera, as of animal and a vessel. Two of animals, some have feet, and others are without feet; and in a similar manner, of vessels\*, some have feet, such as a bed, a table, and a tripod, but many are without feet. But these differences are not the same in species, but according to equivocation. For the *bed* is an animal, and the *bed* of a bed, are not the same in species, the one being metaphorically terminated from the other, while they only agree in the name, and not in the things.

\* Vessel here used is signifying any thing which contains.

he sits. *To have*, is such as, to be shod, to be armed. But *to act*, is such as, to cut, to burn. And *to suffer*, is such as, to be cut, to be burnt. Each however of the above-mentioned categories, itself considered by itself, is not enunciated in any affirmation or negation ; but by the connection of these with each other, affirmation or negation is produced. For every affirmation or negation appears either to be true or false ; but of things which are enunciated without any connection, no one is either true or false ; such for instance as, man, white, runs, conquers<sup>7</sup>.

## CHAP.

<sup>7</sup> Architas, says Simplicius, after he has instructed us in the name, and given an example of each of the categories, adds also and subjoins the property of each. Thus after he has explained the name, and given an example of essence, he adds, that all things which subsist by themselves are essences. For the first knowledge of essence, thus presents itself to us, as being itself first known by itself. Again, in explaining the name, and giving an example of quality, because qualities are twofold, some about the soul, and others about the body, he does not omit their peculiarity, by informing us of such things as are at one and the same time inherent in certain things. For together with quality, as at the same time existing and giving perfection to essence we understand and conceive these. Having also explained the name, and given an example of quantity, according to all the genera, as according to quale, according to inclination or tendency, and according to the discreet, he facilitates our knowledge of it by adding whatever happens to number, or signifies according to number. To relation also, he adds those things, of which one is simply predicated with reference to the other, and one cannot be understood, nor signified without the other. To the verb *to act*, likewise, he simply adds action, by signifying that which is produced about any thing. And to the verb *to suffer*, he adds that which is naturally adapted to be changed by any thing. Again, to the verb *to have*, he adds those things which simply cannot be simultaneous, and which are not adapted to subsist together. Adducing likewise those things which have position, he says, that they simply signify the formation of the body subsisting after a certain manner. *Where* also, according to him, simply determines place ; and *when*, simply signifies time. It is evident therefore, that Architas not only unfolds the categories according to sense, but also gives a description of them according to intellect.

If any one also is desirous of a division which may comprehend the ten genera, let him attend to the following, from Simplicius : All things which are, are either essences, or powers, or energies. But powers, since they have a middle subsistence, are rather beheld together with essences. Again, we must first make a twofold division into active or passive essences, and into energics. And the predicament of action indeed contains all energies, and the predicament of passion all passions. But of things in existence or essences, some have being by themselves, all which essence comprehends ; but others have their subsistence in other things. And of these, some are beheld according

## CHAPTER V.

ESSENCE\* however, which is most properly, primarily, and especially so called, is that which is neither predicated of any subject, nor is any subject; such for instance as, a certain man, and a certain horse.

according to habitude, and some are without habitude. Again, of those things which are without habitude, some are considered according to the designation, and as it were form of corporeal existence, as are all those things which are bounded according to quality, but others are considered according to dimension, or extension and multiplication; as are those things which are according to quantity. For these two differences which are without the habitude of those things that subsist in others, are considered according to the existence of genera. But of the things according to habitude, some are beheld according to a habitude to bodies, but others according to a habitude to incorporeal natures. And of these, some are according to a habitude to place, which the predicament *where* contains; but others are according to a habitude to time, which are contained in the predicament *when*. But of those things which are according to a habitude to bodies, some are according to a habitude to those things in which we are placed, either standing, or sitting, or reclining, all which are reduced to the predicament *position*. Others again, are according to a habitude to things placed about us, which are comprehended by the predicament to have, or *habit*. For bodies to which there is such a habitude, so subsist after a certain manner, as if we were established and placed in them, or they in us. The divine Iamblichus also endeavours to give an enumeration of the ten genera, neither mutilated, nor imperfect. And first he arranges a subject in which pre-existing, those things are produced and accede, which alone subsist in a subject. Afterwards, those things are considered which exist together with a subject; and these are quality and quantity, of which the one multiplies and extends the subject, but the other forms it. But habitudes are beheld about the subject, according to which the other predicaments are considered. Archytas, however, investigating the cause of the number of the genera after the manner of the Pythagoreans, reduces them to all the principles of things. For he says that every art and science, is one arranged definite thing, that it has a limitation in number, and that the whole of number is the decad. Hence all things are very properly divided into ten, and all species or forms and specific numbers are ten. He also adds, that the extremities of the body have ten parts, and that the elements of all speech are ten, as may also be shown by induction.

\* In the Preface to Porphyry's Introduction, I have assigned the reason why I prefer the word *essence* to *substance*.

horse<sup>8</sup>. But second essences are called species, in which species those that are denominated primary essences are inherent; viz. both these, and

It is also necessary to observe, that it belongs to Aristotle to proceed analogously from sensibles to intelligibles. For considering matter and form as principles, both in intelligibles and sensibles, he again asserts, that they are analogously the same and different in these, according to the mode of subsistence. The ten genera therefore may possess an identity together with diversity, both in intelligibles and sensibles, according to analogy; viz. considered as proceeding from one cause, and with reference to one. For by the connecting power of media, there is one continued series of the first and last genera, which does not confound immaterial with material natures. For each of these is established in its proper boundaries, and subordinate are always suspended from superior essences. Hence Plato in the Parmenides distributes *the one* through all the hypotheses of that dialogue whether he discusses *deity, intellect, soul, or body*<sup>\*</sup>, according to that communion which in various ways proceeds to all things.

\* Archytas, says Simplicius, in the same manner as Aristotle, arranges essence prior to the other predicaments, and in the course of his work, instructs us in the cause of this. For all other things are, either essences, or in essences. If therefore essence subsists from itself, and is not in want of any thing else, but other things are in want of essence, which also is seen to impart being to other things, essence is deservedly honoured, and placed before the rest. For other things which are said to be accidents to essence, exist through the aid of essence, but essence is sufficient to its own subsistence, independent of the aid of other things. Hence, when it is subverted, other things are also subverted, but, on the contrary, other things being subverted, essence is not also subverted. Archytas likewise writes concerning the order of the predicaments as follows: Essence is arranged in the first place, because this alone is the subject of the other predicaments, and it can be conceived by itself separate from the rest. But the rest cannot exist without essence. For either through essence, or as subsisting in essence, they are predicated of it. Plotinus, however, and Nicostratus, doubt how essence is one genus. For if there were any thing common to an intelligible and sensible essence, that something common would be prior to both, and would be predicated of each. And it is evident indeed, that this common nature will be neither body, nor incorporeal, lest body should become incorporeal, or that which is incorporeal, body. In answer to this however it may be said, that the present treatise is of a sensible and natural essence, and of that intelligible essence, which subsists by participation in natural essences. This also is asserted by Archytas, who assuming the beginning of his doctrine from sensibles, says: "Every sensible and natural essence, either in these categories, or through these, or at least not without these, is adapted to present itself to the human intellect." It does not therefore belong to the present treatise to doubt about that essence which is common to sensibles and intelligibles, though what that essence is, deserves to be known. But Plato establishes and supposes the intelligible genus of essence. The first intelligible essence, however, causes all es-

• See this copiously unfolded in the notes to my translation of the Parmenides.

sences,

and the genera of these species. Thus, a certain man is inexistent in man as in species ; but the genus of the species is animal. These therefore are called second essences, such for instance as man and animal<sup>9</sup>.

It

sences, as well intellectual as sensible, to subsist ; of which the intellectual are proximate to it, and others are nearer, or more remote. It is evident likewise that such an essence is not the genus only, but also the principle of all the essences posterior to it, and which do not equally participate of the first intelligible essence. Hence such an essence is not properly a genus, which he who doubted previously assumed as granted. But Aristotle in his Metaphysics asserts, that there are two essences, the intelligible and the sensible, and also a third, the mathematical, or psychical (i. e. belonging to the soul). Archytas also calls every essence, natural, sensible, and motive. And he says indeed, that the natural essence is matter and form ; that the sensible is composite ; and that the motive essence is intelligible and incorporeal ; as the cause of that motion by which every life specifically subsists. Hence also it is evident, that it comprehends many essences in one order. If therefore the first essence is considered, not as simply a genus, but as the principle of all essences, it is not rightly urged, that it must either be incorporeal, or corporeal. For the principle of essences produces such as are incorporeal proximate to itself, but such as are corporeal, more remote from its nature. But it may be said, is it not necessary that every essence should be either body or incorporeal, and that every animal should be either mortal or immortal ? To this it may be replied, that the incorporeal is twofold, one subsisting as that which is defined by nature, and opposite to body, but the other as the cause of corporeal negation, and of an incorporeal essence, which is opposed to the same. After the same manner also, rational and irrational are twofold. Hence if it is necessary to say that animal is either rational or irrational, it ought rather to be said, that if it is irrational according to negation, this is not the irrational which is opposite to rational. Boethus however thinks that these questions should be excluded, and passed over in silence, because the present treatise is not concerning an intelligible essence.

\* It has been already observed, that the predicaments are concerning significant words. But significant words are first employed about individuals ; for we first meet with these in the energies of sense, and afterwards we ascend to species and genera, betaking ourselves from sense to intellect. Species therefore are in the second rank, in the order of our progressions. Again, if we do not entirely consider species and genera by themselves, and separate, but in individuals according to the custom of the Peripatetics, these, since they are parts of individual essences, will be second in the rank of essences, since because they are parts of, they are also essences. Yet, since they do not subsist from themselves, they are not entirely essences. Alexander Aphrodisiensis however is of opinion, that individual essences are prior by nature to such as are common. For he says that individuals not existing, none of the other categories can exist. Simplicius however justly observes, that though a common essence has its being together with individuals, yet existing by itself, it contributes to the essence of its subject. It is better therefore to say, that universal possessing a most principal essence by itself, imparts itself also to particulars ; and

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thus

It is however evident from what has been said, that of things which are predicated of a subject, it is necessary that both the name and the definition should be predicated of the subject. Thus man is predicated of a certain man as of a subject; and the name also is predicated of it; for you predicate man of a certain man. The definition also of man is predicated of a certain man: for a certain man is both man and animal; so that both the name and the definition are predicated of the subject. But with respect to things which are in a subject, of the greater part, neither the name, nor the definition is predicated of the subject; but of some, nothing hinders but that the name may sometimes be predicated of the subject, though it is impossible that this should be the case with the definition. Thus whiteness, which is in body as in a subject, is predicated of the subject; for the body is said to be white. But the definition of whiteness can never be predicated of body. All other things, however, are either predicated of the first essences, as subjects, or are in them, as in subjects. This however is evident from the particulars which are obvious to all men. Thus animal is predicated of man; and therefore is also predicated of a certain man. For if it were predicated of no one of particular men, neither, in short, would it be predicated of man. Again, colour is in body; and therefore it is also in a certain body. For if it is not in some one of particular bodies, neither, in short, is it in body. Hence all other things, are either predicated of the first essence, as subjects; or are in them as in subjects.

thus universal is more principal, and prior to individuals in the order of nature. But Alexander says, that which is common cannot be without individual, but individual can be without that which is common, as is evident in the sun, the moon, and the world. In answer to this however it may be said, that the nature of these is such, that if many could receive the same form, each of these would impart itself to an appropriate multitude, and would extend itself into multitude. Again, second essences are similar to the first essences. For as the latter are the subjects of all the others, thus also do second essences subsist with reference to other things. For all other things are predicated of them, either paronymously, as a grammarian is not only *a certain man*, but *man*; or homonymously, as a white thing, since not only that which is white is a body, but also a body is simply thus denominated.

The

The first essences therefore not existing, it is impossible that any one of other things should exist<sup>1</sup>.

But of second essences, species is more essence than genus; for it is nearer to the first essence. Thus if any one explains what the first essence is, he will explain it in a manner more known and appropriate, by introducing species than genus. For instance, he who explains what a certain man is, will explain it in a manner more known, by introducing man, than animal; for the former is more the peculiarity of a certain man; but the latter is more common. He also who explains what a certain tree is, will explain it in a manner more known and appropriate, by introducing tree than plant. Farther still, the first essences because they are placed under every thing else, and every thing else is predicated of these, or is in these, on this account are especially called essences. But as the first essences are to all other things, so is species to genus; since species is placed under genus. For genera are predicated of species; but species are not reciprocally predicated of genera. Hence species is more essence than genus.

With respect to species themselves however, no one of such of them as are not genera, is more essence than another. For he will not at all explain more appropriately, who introduces man in the explanation of a certain man, than he who introduces horse in the explanation of a certain horse. After the same manner also in the first essences, one of them is not more essence than another; for a certain man is not more essence than a certain ox. Reasonably therefore after the first essences, species and genera alone among the rest, are said to be second essences; since these alone of the things which are predicated, manifest the first essence. For if any one explains what a certain man is, by introducing species or genus, he will appropriately explain it; and he will make it to be more known, by introducing man or animal; but whatever else he

<sup>1</sup> When Aristotle says, that "the first essences not existing, it is impossible that any one of other things should exist," this must be understood of the things which the first essences participate, so far as those things from their union with matter are inseparable from the subjects in which they reside; for being merged in, they are co-extended with body.

may introduce among all other things, will be introduced foreign from the purpose ; such, for instance, as that he is white, or that he runs, or any thing else of this kind. Hence these things alone among others are very properly said to be essences. Again, the first essences because they are placed under all other things, and all other things are either predicated of these, or are in these, are said to be most properly essences. But as is the relation of the first essences to all other things, such also is the relation of the species and genera of the first essences to all the rest, since of these all the rest are predicated. For you say that a certain man is a grammarian ; and therefore you also say that a man and an animal are a grammarian. And the like also takes place in other things<sup>2</sup>.

It is common however to every essence, not to be in a subject. For the first essence is neither in a subject, nor is predicated of a certain subject. And with respect to second essences, that no one of them is in a subject is evident as follows : Man indeed is predicated of a certain man as of a subject, but is not in a subject ; for man is not in a certain man. In a similar manner also animal is predicated of a certain man as of a subject, but animal is not in a certain man. Farther still, of

<sup>2</sup> Archytas, the Pythagorean, says Simplicius, does not admit the division of essences now proposed, but in the place of it adopts another. For, says he, there are three differences of essence ; for one is matter, another form, and another that which is composed from both these. But this division is made according to the condition of essence, and extends itself to all things. Archytas also uses this division of essences, according to nature, and not as is the division of Aristotle, which alone adheres to usual significations, as Aristotle himself testifies in those treatises which he composed with the greatest accuracy, and in which he employs the division of Archytas, as in his Physical Auscultation, and Metaphysics. No Pythagorean however would admit this division of first and second essences, because they assert the former of these to be primarily inherent in universals, and they leave the latter in particulars ; and because they place the first and proximate essence in the most simple things, and not as it is now said, that the first and most proper essences are sensible and composite natures. And in the third place, they would not admit this division because they thought genera and species to be beings, and not certain things summarily collected in separate notions, or abstract conceptions. Aristotle therefore, though he knew this division of essence which Archytas delivers, yet did not use it, because that which he employs is more adapted to a logical discussion.

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those things which are in a subject, nothing hinders but that the name may sometimes be predicated of the subject, but it is impossible that the definition should be predicated of it. Of second essences, however, both the definition and the name are predicated of a subject; for you predicate the definition of a man of a certain man, and in a similar manner the definition of animal. Hence essence will not be among the number of things which are in a subject. This however is not the peculiarity of essence; but difference also belongs to things which are not in a subject. For pedestrian and biped, are predicated indeed of man as a subject, but are not in a subject; for neither is biped, nor pedestrian in man. The definition also of difference is predicated of that of which difference is predicated. Thus if pedestrian is predicated of man, the definition also of pedestrian will be predicated of man; for man is pedestrian<sup>3</sup>. Nor ought we to be disturbed, lest we should be at

<sup>3</sup> It is well observed by Simplicius, that Aristotle in what is now said proposes to investigate principally, those things which essence has in common with the other predicaments, that from things more common and peculiar, a more accurate description may be made of the object of enquiry. Archytas also indicates this, who not only investigates peculiarities, but also explains whatever is common to the other predicaments. Iamblichus also observes on these words of Aristotle, as follows: Certain things are at the same time common to the predicaments, and some are peculiar. Thus it is common to essences, not to receive the more and the less. For it is not possible that man should be more and less man, nor god, nor plant; and in a similar manner it is common to them to have no contrary. For man is not contrary to man, nor god to god, nor to other essences. But to subsist from itself, and not to be in another, as an azure and a yellow colour are in the eyes, is the peculiarity of essence. For every essence is by itself one certain thing; but those things which are at the same time inherent, and are accidents, are either in these essences, or are not without these. Afterwards, Iamblichus speaking of those things which quantity has in common, observes as follows: Many things indeed, happen to quantity, which also belong to essence; as not to receive the more and the less. In a similar manner he mentions what is common to essence, and the predicament of relation. But that which is peculiar, says he, to every essence is this, that remaining one and the same in number, it is capable of receiving contraries. Thus therefore Iamblichus is of opinion, that Aristotle delivers what is common to essence with the other predicaments, and what is peculiar to it. But Porphyry says, that the peculiarity of each genus is assigned by Aristotle, and not simply what is common with other predicaments, and what is peculiar. And since peculiarity is triply predicated,

at any time compelled to confess that the parts of essences are not essences, because they are in their wholes as in subjects ; for things which are in a subject were not said to be so, as parts which are nonexistent in any thing. It also belongs to essences and differences, that all things are synonymously predicated from them. For all the categories from these, are either predicated of individuals, or of species. Thus from the first essence there is no category ; for it is predicated of no subject. But of second essences, species indeed is predicated of individuals ; but genus is predicated both of species and individuals. In like manner also differences are predicated of species and of individuals. And the first essences receive the definition of species and genera ; and species receives the definition of genus. For as many things as are asserted of that which is predicated, so many may also be asserted of the subject. In a similar manner species and individuals receive the definition of dif-

cated, one which is inherent in all and not alone, as biped in man ; another which is inherent alone, but not in all, as to be a grammarian is inherent in man ; and another which is inherent alone, and in all, which is properly peculiarity, as risibility in man,—hence those things which are not inherent alone, are common to essence and the other genera, since they are inherent in all, and not alone.

Some one however may doubt how essence will not be in a subject, since intellect is in soul, and soul is in body, and ideas according to Plato are in intellect. In answer to this it may be said, that these are not as in a subject, nor are they assimilated to the participation of accidents, but these are as essence in another essence. They also are not inherent as a part in the whole, but as energy and essence in the receptacle capable of containing them. They are, in short, as the pilot is in a ship, and as that which uses is in that which is used, and is present to it ; or as an united essence which contains in itself a multiplied essence ; just as the centre embraces and comprehends in itself the circle. For thus the presence of essence in other essences may be explained, from which no absurdity will ensue. Again, since a sensible essence is a certain concourse of matter and qualities, all which, when they are at once connected, produce one sensible essence, we must not think it strange that a sensible essence should be composed from non-essences. For neither is the whole composite true essence, but is an imitation of the true, which possesses being about itself without other things, and in a similar manner other things which proceed from it, because it is true and real being. But in a sensible and composite essence, the being which is added to it, is barren and insufficient, because the things from which it is composed are insufficient. Hence it adumbrates real essence, as the picture of an animal and a shadow.

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ferences. But those things were synonymous of which the name is common and the definition the same. Hence all things which are predicated from essences and differences, are predicated synonymously<sup>4</sup>. Every essence, however, appears to signify this particular thing. In the first essences, therefore, it is indubitable and true, that they signify this particular thing; for that which is signified is an individual and one in number. But in second essences though they appear indeed by the figure of appellation similarly to signify this particular thing, when any one says man or animal, yet this is not true, but they rather signify a thing with a certain quality. For the subject is not one, as the first essence, but man and animal are predicated of many things. Nor do they simply signify a thing with a certain quality, as that which is white. For that which is white signifies nothing else than a thing with a certain quality. But species and genus determine quality about essence; for they signify what quality a certain essence possesses. The limitation, however, is more extended in genus than in species;

<sup>4</sup> Should it be enquired whether to be predicated synonymously, belongs to second essences only, or to all the other predicaments? For in these also genera and species are synonymously predicated of all their individual accidents. Thus science is synonymously predicated of grammar, and grammar of Aristarchus. In answer to this Simplicius observes, that this is common to the other genera and species of the other predicaments, but that it is the peculiarity of the genera and species of essence, to be synonymously predicated of their individuals, and that nothing is common to essence with the other predicaments of accidents. Unless, perhaps, it is the peculiarity of essence to be synonymously predicated, and thus is primarily inherent in the genus and species of essence, from which it is afterwards communicated and imparted to the other predicaments, so far as after a certain manner they also have the relation of essence. Hence in these likewise we confess that genera and species are essentially inherent in their individuals, and are predicated of them; as colour and whiteness are predicated of a certain white thing, and are in a certain white thing. For as certain things accidentally pertain to essences, so this essentially pertains from accident to the accidents of essences. But it may be said, why does not Aristotle assume the peculiarities of essence, as useful to the knowledge of essence; as, for instance, not to be in a subject? Perhaps, because it contributes to a knowledge of essence to know, that though it belongs to essence not to be in a subject, yet it does not belong to it alone, though it appears to belong to it most eminently.

for he who says animal comprehends to a greater extent than he who says man<sup>5</sup>.

It also belongs to essences, to have nothing contrary to them. For what can be contrary to the first essence, as, for instance, to a certain man, or to a certain animal? For there is nothing contrary to these; since nothing is contrary either to man or to animal. This however is not peculiar to essence, but is also found in many other things, as, for instance, in quantity. For nothing is contrary to two cubits, or three cubits, or to ten, or any thing of this kind. Unless some one should say that much is contrary to few; or the great to the small. But among definite quantities no one is contrary to another<sup>6</sup>. Essence also appears not to receive the more and the less. I do not say that one essence is

<sup>5</sup> According to what do we say that an individual essence is this particular thing? Is it according to form, or according to matter, or according to that which is composed from both? Perhaps according to all these; but according to matter so far as it is a subject, and passes into energy by receiving form; according to both, so far as it does not degenerate, nor depart from its proper nature; and according to form, so far as it is definite, and one in number. But if it should be said, that matter because it is indefinite and boundless, is by no means *this particular thing*, it must be recollect that the present treatise, is not concerning formless matter, but of that matter which is already fashioned by certain habitudes to the reception of form. But a composite, is indeed that which is an individual, and receives the appellation of *this particular thing*.

<sup>6</sup> Some, says Simplicius, doubt how there is not contrariety in essence. For is not rational animal contrary to irrational animal? In answer to this doubt however, Simplicius justly replies, that rational is not contrary to irrational. For whether irrational is a negation of rational, negation is certainly not contrary, or whether it has a power of affirming a certain species, indicating that it is different from rational, neither thus is irrational contrary to rational, from which it is deduced, and has its arrangement; nor indeed is any other species contrary to species. But since all contrarieties are seen to be about qualities and differences, hence against those who doubt how Aristotle says, that fire is contrary to water, and air to earth, we may easily say, that these are contraries according to qualities and differences. For Aristotle says, that the hot and the dry are contrary to the moist and the cold, and the hot and the moist, to the cold and the dry. But other essences have not contrariety among themselves. Again, how is that true, which Aristotle asserts in the first book of his Physics, that form is contrary to privation? For if form is essence, essence therefore receives contrariety. The answer is, that form is partly essence, and partly habit, and that form so far as it is habit is contrary to privation, but not so far as it is essence.

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not more or less essence than another; for it has been already said that it is; but I say that every essence is not said to be more or less than very thing which it is. Thus if this essence is man, he will not be more or less man, neither himself than himself, nor another man than another. For one man is not more man than another; in the same manner as one white thing is more or less white than other; and one beautiful thing is more or less beautiful than another. The same thing also is said to be more or less than itself. Thus a body which is white, is said to be more white now than formerly; and when hot is said to be more or less hot. But essence is not said to be more or less essence. For neither is man said to be more man now than formerly, nor any one of such other things as are essences. Hence essence will not receive the more and the less.<sup>7</sup>

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<sup>7</sup> Not to receive the more and the less is not the peculiarity of essence. For neither in discrete quantity is there the more and the less. Thus three things are not more three than themselves, nor than another three of the same species. For they are not changed from themselves, since they are definite in quantity; nor will they be more than four; for neither are they more than themselves. And, in short, every addition and ablation of quantity, produces a total diversity; but the intension is with the addition of the similar to itself, and not with that addition by which any thing causes a change in species. Of relatives also, some do not receive the more and the less; as the double, equal, father, and the like. In quality likewise, figures do not receive the more and the less. Some one however may doubt, whether a man who is more rational than other men is not more a man. In the first place, perhaps, that which is more rational, is not so according to essence, but according to habit, or according to energy. In the next place, there is no absurdity if qualities which concur in species, as rational in man, and heat in fire, should receive the more and the less, but by no means the species itself. Thus when a man is said to be worthy, he is not said to be so, so far as he is a man, but so far as being thus disposed, he suffers an intension. This however does not signify essence but quality. And it is by no means wonderful, that the being worthy, since it is not an affection according to essence, should have the more, and admit of intension, according to an externally acceding quality. But man is rational, and fire is hot, not according to adventitious and external quality, but according to essential quality which gives completion to species. Hence, if this quality received the more and the less, it would also be necessary, that the whole species should receive it, and therefore essence would receive the more and the less. Perhaps, therefore, if the difference which is rational is specific, it will not be considered according to the more and the less; as, for instance, in man and daemon. For less of man will not by intension possess the perfection of a daemon. But if rational is considered

It appears, however, to be especially the peculiarity of essence, that being one and the same in number it is capable of receiving contraries ; nothing of which kind can be adduced in other things which are not essences ; viz. that being one in number they can receive contraries. Thus colour, which is one and the same in number, is not white and black ; nor is an action, which is one and the same in number, both depraved and worthy : and the like also takes place in other things which are not essences. But essence being one and the same in number, is capable of receiving contraries. Thus a certain man being one and the same, at one time becomes white, and at another black ; likewise hot and cold, depraved and worthy. But in other things nothing of this kind is seen<sup>8</sup>. Unless perhaps some one should object by saying that

sidered according to habit and energy, such difference will no longer be the difference of essence. Again, however, it may be asked, how matter, since it is essence, is said to be more and less, and appears to be great and small, and entirely contraries ? To this it must be replied, that matter itself, by itself, in no respect differs. For it is all things in capacity, and receives an equal representation and participation of essence, being as it were spread under all beings ; but such a variation accedes to it from its habitude to form.

<sup>8</sup> When Aristotle says that essence is capable of contraries, it must be understood, that it is not at one and the same time capable of them. For this can only take place when one of the contraries departs, and the other accedes ; which Aristotle himself insinuates in the examples which he adduces. But here, the interpreters, says Simplicius, introduce an intellectual essence, as that essence which does not receive contraries. In answer to this, however, it must be observed, that Aristotle is not now speaking of an intellectual, but of a sensible essence, and those universals which subsist in a sensible essence. The interpreters also subjoin that the sun is not capable of any contrary, who perpetually and invariably subsists in one species. For nothing is contrary to its motion ; since it is demonstrated in the treatise On the Heavens, that nothing is contrary to the motion in a circle. Indeed, how can it be true in perpetual essences, that they receive contraries in a divided manner ? For the heavens never stand still, and rest is contrary to motion. Fire also which is corruptible, is capable of heat, but not of cold ; and snow on the contrary is capable of cold, but not of heat. In answer however to the objection concerning perpetual essences, it must be observed, that Aristotle here delivers the peculiarity of every essence which has its existence in mutation, and has the capacity of existing, and not of that essence which subsists according to imminutability. In the next place, in answer to the objections about fire and snow, it must be observed, that Aristotle says, essence is capable of contraries, but does not say that it has its essence in contraries. Fire, therefore, does not receive heat, but heat

that a sentence and opinion are capable of receiving contraries. For the same sentence appears to be both true and false. Thus if the sentence

is in its essence, and nothing receives itself. That however which is external to fire, as water, receives heat, which is adventitious to water, and an extrinsical quality; but it by no means receives humidity, for that is con-natural to it. In a similar manner the celestial bodies have their being in circulation, and do not possess a certain vicissitude of a contrary. Hence if such properties are not qualities, but essential differences, and such as give completion to essence, when any thing remains the same, it will not be deprived of these things which are essentially inherent in it. But those things in which one of them is inherent, neither naturally nor inseparably, are capable of receiving contraries. On account of this peculiarity also it is plainly shown, that essences, and especially an individual essence is every where the subject of all things; that other things subsist about, and are inherent in it; and that it does not belong to any one of the other predicaments to be capable of contraries, because accidents are not of themselves sufficient to their own subsistence. Hence they are not the subjects of any thing, but require something else as a foundation or seat; and on this account, neither do they receive contraries. Thus body remaining the same becomes black and white, and the whiteness recedes and departs, when blackness accedes. But animal and man because they remain, receive contraries, so far as they are in some individual man; but colour does not remain, and therefore it does not receive contraries. For when whiteness departs, colour also departs together with it, and is no longer; and when blackness accedes, colour also is together with it present.

Simplicius farther informs us, that Archytas also admits this to be the peculiarity of essence. For he says, "The peculiarity of essence is this, that remaining one and the same in number, it is capable of contraries. Thus vigilance is contrary to sleep, slowness to swiftness, and disease to health, of all which one and the same man is capable. For he wakes, he sleeps, he is moved swifter and slower, and he becomes ill and well. Though however being one and the same, he is capable of these, yet he is not capable of them at one and the same time." But Iamblichus, after the manner of the Pythagoreans, extends this peculiarity to every essence, according to a certain analogy. For he says, that an intellectual essence, motion, permanency, sameness, and difference, subsist together with essence, and the contrariety here in essence is not divided and successive, but simultaneous; and to be susceptible and spacious, is asserted of intellectual essences in one way, and is beheld and considered in composite natures in another way. For in composite essences, where there is dimension, one thing is a subject, and another that which accedes to the subject. But in the most simple essence, one thing is not as a subject, and that which accedes another thing, nor is there any variation in the mode of subsistence, but all things are there one. In an essence likewise which is perpetually moveable, such as that of the celestial bodies, the comprehension, and as it were conjunction and copulation of a universal nature are beheld by means of the heaven itself; not only because it contains all things, and there is nothing beyond itself, but because no other moveable nature, which is moved by any inclination,

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tence is true, that some one sits, when he rises from his seat, this very same sentence will be false. In a similar manner also in opinion. For if any one truly opines that a certain person sits, when that person rises from his seat, he will opine falsely, if he has the same opinion about him. If however some one should admit this, yet it differs in the mode. For things which are in essences, the essences being changed, become the recipients of contraries. For that which from being hot becomes cold is changed ; for it is changed in quality. This is also the case with that which from being white becomes black, and from being depraved, worthy. In a similar manner in other things, each of them receiving mutation, is capable of receiving contraries. A sentence and opinion, however, remain indeed themselves entirely immovable ; but the thing being moved, that which is contrary is produced about them. For the sentence, that some one sits, remains the same ; but the thing being moved, it becomes at one time true, and at another false. In like manner also in opinion. Hence in this way it will be the peculiarity of essence, to be capable of receiving contraries, according to the mutation of itself. But if any one should admit these things, viz. that a sentence and opinion can receive contraries, this is not true. For a sentence and opinion are not said to be capable of receiving contraries, because they receive something, but because a passive quality is produced about something else. For because a thing is or is not, a sentence is said to be true or false, and not because the sentence can receive contraries. For, in short, neither a sentence, nor opinion is moved by any thing. Hence, neither will they be capable of receiving contraries ; since no contrary passive quality is produced in them. But essence, in consequence of receiving contraries, is said to be capable of receiving contraries ; for it receives disease and health ; and whiteness

clination, election, or will, whether it be animated, or inanimate, can at one and the same time sustain two opposite motions, and be moved, for instance, before and behind, or to the right hand and to the left, upward and downward. But the heaven alone is seen to obtain this prerogative, that it can not only be moved with one motion, or with only two or three, but with all motions at one and the same time.

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and blackness ; and since it receives each of things of this kind, it is said to be capable of receiving contraries. Hence, the peculiarity of essence will be this, that being one and the same in number, it can receive contraries according to the mutation of itself. And thus much concerning essence<sup>9</sup>.

\* A prior is not one and the same in number with a posterior sentence, according to Aristotle. For he says, that which is once said, cannot be again assumed, because speech is among the number of things which are moved by succession ; and on this account, a sentence is ranked among those things which have not position. Hence a prior is the same with a posterior sentence in species, and a true with a false sentence, but is not the same in number, as it was asserted of essence. And since opinion is a discourse in the soul, it also is conversant with succession ; and consequently the same things which are said of a sentence, may also be said of opinion.

Simplicius farther observes, that this also is worthy of animadversion, how it is said that essence by the mutation of itself is capable of receiving contraries. For neither is matter, (according to their opinion who say that matter is void of passive quality) transmuted, nor does it suffer contraries, but mutations are produced about it. Likewise if form is always immovable, and always abiding receives contraries according to quality, neither will it receive contraries by the mutation of itself. If therefore any essence receives contraries, a composite alone will receive contraries by being changed, and thus this will be the peculiarity of a composite and individual essence alone. Simplicius adds, if however we may accommodate the opinions of certain Peripatetics to our own use, we must assert indeed that matter suffers. For how is it possible that matter, since it is simple, and exists in capacity alone, when changed from that which it is, and brought into energy, should not receive the mutation which is corruption? For a simple nature, which has not its being in something else, and is changed according to something else, if it wholly degenerates from itself and fails, will have the mutation which is corruption. If however some one should not admit this, but should assert that contrariety is produced about matter, not because it suffers any thing, or is changed, but because it has from accident contraries about itself, there will also be the same reasoning about form. For if intellectual qualities remain the same, and the contrary qualities of form happen about sensible differences, form indeed will be every way immovable, and that which is changed will be something else ; or in other words, every thing will be changed according to the condition of its nature. Matter also will be transmuted, when it receives another and another form, just as if such a reception of form were the mutation of matter. For matter is a certain receptacle, but form receives mutation according to quality. Perhaps too, Aristotle has previously removed such ambiguities, by saying, " remaining one and the same in number." For it is evident, that it is necessary to investigate such a mutation.

## CHAPTER VI.

OF QUANTITY, one kind is continuous, but another discrete. And the one consists from parts which have position with reference to each other, but the other from parts which are without position. And discrete quantity, indeed, is such as number, and a sentence; but continued quantity, is such as line, superficies, body; and besides these, place and time. For of the parts of number, there is no common boundary, through which the parts of it are conjoined. Thus if five is a part of ten, five and five are conjoined by no common boundary, but are separated. Three and seven also, are conjoined by no common boundary; and, in short, you cannot obtain a common boundary of the parts in number, but they are always separated; so that number belongs to things which are discrete. In a similar manner also a sentence [belongs to discrete quantity]. For that a sentence is quantity is evident, since it is measured by a short and long syllable. But I mean a sentence produced in conjunction with voice. For the parts of it are conjoined by no common boundary; because there is not a common boundary by which syllables are conjoined, but each of them is separated by itself. But a line is continuous; for a common boundary may be assumed, viz. a point through which the parts of it are conjoined. The common boundary also of a superficies, is a line; for the parts of a superficies are conjoined through a certain common boundary. In a similar manner also in a body you may assume as a common boundary, a line or a superficies, through which the parts of the body are conjoined. Time also and place are things of this kind; for the present time is conjoined to the past and future. Again, place is among the number of things continuous; for the parts of a body possess a certain place, which are conjoined through a certain common boundary. Hence also the parts  
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of the place which each of the parts of the body possesses, are conjoined through the same boundary, as the parts of the body. So that place also will be continued ; for the parts of it are conjoined through one common boundary<sup>1</sup>.

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<sup>2</sup> After *essence*, Aristotle proposes to instruct us in *quantity*. And, in the first place, says Simplicius, it is worth while to discover the cause, why after essence, quantity is arranged in the second place. Some therefore say, that the cause is, because quantity subsists together with being. For being is a certain thing, and immediately after, it is necessary that it should be one or many. Likewise because many things are common to essence and quantity, as not to have a contrary, and not to receive the more and the less. Again, dimension void of quality precedes quality, which accedes to the said dimension. Other things also being subverted, essence is not subverted, if only dimension is left in essence ; otherwise that being subverted a corporeal essence would be subverted. Quantity therefore, has a greater affinity to, and is nearer to essence. Aristotle also arranges quantity prior to the other categories, because among other motions, the motion which is according to quantity, i. e. increase and diminution, is nearer to the motion of essence, i. e. to generation and corruption, than alliation is, which is a motion according to quality.

Archytas, however, ranks quality immediately after essence. For thus he writes : " The order of the categories is as follows : Essence is arranged in the first place, because this alone is the subject of other things, and it can be conceived by itself, but other things cannot be conceived without this. For according to this, or for this reason, they are predicated of a subject. But quality will be arranged in the second place ; for without that which is *quid*, *quale quid* cannot exist \*." Here, however, it may be enquired to what Aristotle and Archytas directed their attention, when the latter arranged quality immediately after essence, and the former quantity. It should seem, therefore, that Archytas, by supposing intelligible being subsisting by itself to be prior, which truly gives completion to all the genera, is indivisibly present to all things, and is participated by them, assigned an order to the genera, according to an approximation to this. He also arranges essence prior to all things, and to the other predicaments, because since it is the subject of other things, it of itself imparts being to all things. He likewise says, that essence subsists by itself, and that it is the object of intellectual perception, but that other things are not without this. But since we no otherwise obtain a knowledge of intelligible essences than through forms, and if we ought to know sensible essences by referring them to these intelligible essences, we shall perceive them from the peculiarities which are about essence ; and since these are surveyed according to quality, after essence quality will be deservedly arranged prior to the other predicaments. Again, if quality being subverted, every peculiarity and description, both of an intellectual and sensible essence, are subverted, but quantity being taken away, that which is a composite and sensible is

\* Viz. *Quality*, or *quale quid*, cannot exist without *essence*, which is predicated in answer to the question *quid*, or *what a thing is*.

Farther still, some things consist from parts which have position with respect to each other ; but others consist from parts which have not position.

alone taken away, it is evident that quality differs not a little from quantity, as to its vicinity and approximation to an intelligible and intellectual essence. But if any one should not admit that an intelligible has any habitude to a sensible essence, he may be willing to assign an order to the other predicaments as follows : Since essence which is form is the most proper essence, and that which is proximate to form is quality, hence since that which is nearer to the most proper essence, ought to precede the other predicaments, quality will be deservedly arranged immediately after essence. Farther still, if quality is impartible, indivisible, and void of dimension, but quantity is divisible with dimension and partible, quality has very properly a prior arrangement, as being more peculiar and allied to incorporeal principles. To this also it may be added, that as essence precedes quantity, because essence imparts being to quantity, thus also quantity will be posterior to quality, because from quality, quantity possesses its character and peculiarity. In opposition to this, however, others say, that quantity subsists together with being ; for being is immediately either one, or more than one. Unless perhaps quality subsists together with being prior to quantity, as the character of being, by which it is said to be one ; since both the one and the many subsist according to the character of quality. The divine Iamblichus however says, that if many common properties are inherent in essence and quantity, it is not fit to reason about the order of them from accidents, and those things which follow in a different manner. But perhaps it must be said, that those things which are more distant, often indicate a more evident dissimilar similitude ; as indivisible unity in number, appears to be similar to the unity which is prior to number. Hence some say, that matter is dissimilarly similar to the first cause. For it is similar so far as a negation of all things pertains to both ; but it is dissimilar, because matter is worse than all things, and the first cause is better than all things. Archytas, therefore, looking to these, or to certain things of this kind, perhaps arranged quality prior to quantity. But Aristotle considering the first essence as a composite, and corporal, because this is more known in common language, very properly arranges quantity immediately after essence, as more peculiar and known, and as that which is co-existent with the interval of such an essence. Nor is it wonderful, if both Archytas and Aristotle have adopted arrangements conformable and appropriate to their fundamental positions.

Simplicius farther observes, that when Aristotle says *a sentence* (*λέξεις*) is discrete quantity, it must be understood as subsisting in voice, and not in intellect ; since the sentence which is in voice is a quantity. For every sentence consists of a noun and verb ; every element of speech consists of syllables, and every syllable is measured either by a long or a short time. Farther still, long have to short syllables the ratio of two to one ; but one and two are numbers, and number is discrete quantity. Hence also a sentence is discrete quantity.

But Plotinus in his first book On the Genera of Being says, that if the continued is quantity, the discrete is not quantity ; and that if both are quantities, it must be shown what it is which is

sition. Thus the parts of a line have position with reference to each other. For each of them is situated somewhere, and you can explain  
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is common to both. And he solves the question by saying, that it is common to them to be a boundary and a measure, so far as by these every quantity is known. The nature of the continued indeed is a certain magnitude, according to the union and conjunction of two or many things; but the nature of the discrete is called multitude itself, according to aggregation and apposition. For the world is one, is spherical, allied to itself, and connected by an intimate conjunction, according to the essence of magnitude; but according to multitude it is a co-ordination, and a digested and elegant arrangement of many things. If therefore these are thus separated in resemblances, they will be so by a much greater priority in the predicaments themselves considered as subsisting in the soul; and still prior to these discrete and continued quantity will be essentially distinct, in essentially immaterial forms, possessing, as we have observed, a common measure and bound.

Simplicius adds, that some likewise, as Archytas, and afterwards Athenodorus, and Ptolemy the mathematician, condemn the division of quantity into two kinds, because after number and magnitude, a third species ought to be arranged, which is gravity, or tendency, or momentum. In answer to this, however, it may be said, that gravity is a quality, in the same manner as density and crassitude, which are not according to quantity, but according to quality, and the contraries to these, rarity and tenuity. Where however shall we arrange a mina and a talent, which are said to be heavy! For if we reduce them to the above-mentioned qualities, we must by no means say that they are quantities. And if we say that they are quantities from accident, we shall very much deviate from the truth, since they cannot simply be called quantities separately, either according to number, or according to magnitude. May it not however be said, that as a white thing is quantity from accident, because the superficies in which it is, is perceived to be quantity, thus also tendency or momentum is a quantity, because by itself it receives the peculiarity of quantity, which is the equal and the unequal, as other things receive excess and defect. For it is necessary to attend to Archytas, who triply divides quantity, when he thus writes: "There are three differences of quantity. For one difference of it is in momentum, as a talent; another in magnitude, as a dimension which is of two cubits; and another in multitude, as ten." This division also Iamblichus admits, as being made according to the most perfect measure of quantity, and as being congruous and consonant to things. For quantity according to momentum, is neither in magnitude, nor multitude, but is rather found to be conversant with motion, and has quantity according to gravity and levity. The division therefore says he, that of quantities, some have a momentum, and others have not, is omitted; which division, as it appears, is neither the same with continued, nor with discrete quantities, nor with those things which have, nor with those which have not position. This division also, he says, is manifest in the universe, since the four elements have a momentum, or tendency; but the heavens are without a momentum inclining hither or thither. And among motions, some which proceed in a right line, are conversant with a momentum

and show where each of them is situated in a superficies, and with which of the remaining parts it is conjoined. In a similar manner also the parts of a superficies have a certain position ; for in like manner it may be explained where each of them is situated, and through what they are conjoined to each other. Thus also the parts of a solid, and the parts of a place are conjoined. In number, however, no one can show that the parts of it have a certain position with respect to each

mentum tending to places, having a beginning and an end, and their motions interrupted by intermediate rest. But the motion which is in a circle, being continued without beginning and end, as being always moveable, is without momentum and tendency. In a similar manner also, he says, that such a difference is manifest in incorporeal quantities. For if any one should consider the soul as a quantity by itself, or essentially ; so far as it tends to body, it will have a momentum downward, but so far as it rises from inferior natures, and tends to that which is intellectual, it will have an inclination upward. Intellect, however, he says, is an incorporeal quantity, without momentum and tendency. But, he says, why do we admit the intervals and extensions of voice to be quantities, but do not say that the intervals of tendency, or momentum are quantities ? Moreover, Iamblichus in answer to Cornutus and Porphyry, who assert that momentum, considered according to gravity and levity, is quantity, observes, that momentum is neither gravity nor levity, but the measure of gravity and levity. For heavy or light bodies would of themselves proceed to infinity, considered as merely heavy or light ; but since the power of momentum inserts from measures order and bound in things heavy and light, they have an arrangement which is good and right.

In the last place, the divine Iamblichus, conformably to his intellectual theory, indicates as follows, the first principles of the two species of quantity, and of *the one* in which both are contained. The power of *the one* from which every quantity emanates, is extended through all things, and flowing from itself terminates every thing. So far therefore as it penetrates all things indivisibly, it gives subsistence to continued quantity ; but so far as it gives limitation to every thing, and causes it to be one, it produces discrete quantity. According however, to one most principal cause containing at once these two energies, it produces these two species of quantity. And according to its own identity and total nature, it every where in the several parts of things and in all things produces continued quantity. But according to the similitude of each of these to itself, (i. e. to *the one*) and because it is wholly in each, it produces discrete quantity. According likewise to the union of intelligible quantities with each other, it produces continued ; but according to the separate union of them with each other, it gives subsistence to discrete quantity. Likewise according to its abiding energy, it produces discrete, and according to its flowing energy, continued quantity. And since it at the same time both abides and proceeds, it produces the two species ; for the power of intelligible measures, at the same time, or at once contains both, abiding in one and the same.

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other, or that they are situated any where, or which of the parts are conjoined to each other. Nor can any one show this in the parts of time; for no one of the parts of time endures; and how can that have any position which does not endure? But you may rather say that the parts of time have a certain order; because one part of time is prior, but another posterior. The like also takes place in number; because one is numerated prior to two, and two prior to three; and thus numbers may have a certain order, but you can by no means assume that they have any position. In a similar manner likewise in speech; for no one of its parts endures, but it is spoken, and what is said, can be no longer assumed. Hence there will not be a position of its parts, since no one of them endures. Some things therefore consist from parts which have position, but others from parts which have not position. Those things, however, which have been mentioned are alone properly said to be quantities; but all the rest are so denominated from accident. For looking to these, we say that other things also are quantities. Thus the whiteness is said to be much, because the superficies is great; and an action is said to be long, because the time [in which it was performed] is much; and for the same reason motion is much. For each of these is not said to be a quantity by itself. Thus, if any one should explain what the quantity of an action is, he will define it by time, and say, that it was accomplished in a year, or will explain its quantity in some such way. And explaining what the quantity is of whiteness, he will define it by superficies; for such as is the quantity of the superficies, such also he will say is the quantity of the whiteness. So that the particulars which we have mentioned, are alone properly called quantities essentially; but of other things, no one is so called essentially, but from accident<sup>2</sup>.

Again,

\* What order is, says Simplicius, in discrete, that position is in continued quantities. For as discrete quantities on account of their distance, and elongation from *the one*, require order, that through this they may be near to *the one*, and may not be confounded by being inordinately scattered; thus also continued quantities, since they fall from the impenetrable nature of *the one*, in

Again, nothing is contrary to quantity. For in definite quantities, it is evident that nothing is contrary; as for instance, to two cubits, or three cubits, or to superficies, or to any thing of this kind. For nothing is contrary to them. Unless perhaps some one should say that the much is contrary to the few, or the great to the small. No one of these, however, is a quantity, but rather belongs to relatives. For nothing, itself considered by itself, is said to be great or small, but in conse-

in which all things subsisted as in sameness, require position by which some parts are conjoined to others, that they may not be heaped together like an indigested mass.

Number indeed has not position, because it is not continued; for those things which have position, must be continued and extended; since thus the position of the parts will be seen to conjoin some parts to others. For in the number three, it must not be said, that such a unity is conjoined with such a unity, as in a line it is evident that one part is copulated to another. But it may be asked, why did not Aristotle as evidently take away position from number, as he does from speech and time? Perhaps, because, as the interpreters say, number seems to receive position, on account of the things numbered. And perhaps also because this is especially indicative of things having position, viz. that the parts remain; and since speech and time evidently have not parts which remain, but number has, hence, if number had continuity, it would also be among the number of things having position. On this account, Aristotle is silent as to number. However, though speech, time, and number have not position, yet as we have already observed, they obtain *order* instead of *position*. Order, indeed, is properly considered in discrete quantities, so far as prior and posterior are assumed in them; and hence also it is in time, so far as the past precedes the present time, and the present the future time. But in number, order is not in each of the unities; since, for instance, there is not order in the unities of the number three; but order is in the extent of numbers, because one precedes two, and two precedes three, and so on in succession. In a similar manner also, there is order in speech, so far as some parts precede others, and some syllables come before others.

Plotinus, however, and Iamblichus, doubt against what is here said by Aristotle, and assert that nothing has position in reality. For if those things are said to have position, the parts of which remain, since among sensible natures nothing remains in consequence of their perpetual flux, neither will any thing sensible properly have position. In answer to this, however, Simplius with his usual acuteness observes, that though it should be granted that matter continually flows, and that bodies have additions and ablations to infinity, by the continual accession of some things, and the departure of others, yet there is something which evidently remains, whether it be according to the subject as some say, or it is that which is properly quality according to the opinion of others, or it is specific essence, or an individual and composite essence, or whether it be something else of this kind, which remains in mutations, and is known from the beginning to the end. For Aristotle speaks of things manifest, and not of such as are occult, and dubious.

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quence of being referred to something else. Thus a mountain is said indeed to be small, but a grain of millet seed to be large ; because the one is greater than things homogeneous, but the other is less than things homogeneous. The reference therefore is to something else ; for if they were said to be small or great by themselves, the mountain could never be said to be small, but the grain of millet seed large. Again, we say that there are many men in the village, and but few in Athens, though there is a far greater multitude in the latter than in the former. We also say that there are many in the house, and but few in the theatre; though the multitude in the latter far exceeds that in the former. Farther still, two cubits, three cubits, and every thing of this kind signify quantities ; but the great or the small, does not signify quantity, but rather relation ; for the great and the small are surveyed with reference to something else. And hence it is evident that they are among the number of relatives. Again, whether any one admits, or does not admit that things of this kind are quantities, there is not any thing contrary to them. For how will any thing be contrary to that which cannot be assumed itself by itself, but is referred to another thing ? Farther still, if the great and the small are contraries, it will happen that the same thing will at the same time receive contraries, and that the same things will be contrary to themselves. For it happens that the same thing is at the same time both great and small. Thus something with reference to this thing is small, but the very same thing with reference to something else is great. Hence it happens that the same thing, is at the same time both great and small ; so that at one and the same time it receives contraries. Nothing, however, appears at one and the same time to receive contraries ; as, for instance, in essence. For this indeed appears to be capable of receiving contraries. No one, however, is at the same time ill and well ; nor is any thing at the same time white and black ; nor does any thing else at one and the same time receive contraries. It will happen also that the same things will be contrary to themselves. For if the great is contrary to the small, but the same thing is at the same time great and small ; the same thing also

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will be contrary to itself. It is, however, among the number of things impossible, that the same thing should be contrary to itself. The great therefore is not contrary to the small, nor the much to the few. Hence, though some one should say that these do not belong to relatives, but to quantity, yet they will have nothing contrary<sup>3</sup>.

But

<sup>3</sup> As in the predicament of essence after the division of its species and differences, Aristotle proceeded to consider those things which are the peculiarities of it, and which are consequent to it, he also adopts the same method in the predicament of quantity. And, in the first place, he unfolds those things which are common to quantity, and the other predicaments, and afterwards thus considers its peculiarities. He says, therefore, that nothing is contrary to quantity. It will be requisite however to see after what manner every species of quantity has not a contrary, and how the contraries which appear to exist in every species of quantity, are not inherent in it, so far as it is quantity, but so far as it is referred to some other predicament. A line indeed, so far as it is a line, has no contrariety, but so far as it is *such* a line, it is considered, and is allotted such properties, according to rectitude and curvature. A superficies also, so far as it has a twofold extension, has no contrariety; but if roughness and smoothness are considered about it, these indeed are said to be inherent in it, not so far as it is a superficies, but so far as it is *such* a superficies, according to the quality of it, just as we say that whiteness and blackness are in a line, not so far as it is a line, but so far as it is *such* a line. Again, a body also, so far as it is body, i. e. so far as it has three dimensions, has no contrary. For the incorporeal is not contrary to body, as Lamblichus also says, because contraries are placed under the same genus, but the incorporeal and body are not under the same genus. And perhaps nothing hinders essence from being the genus of them. For we say that of essence one kind is body, but another the incorporeal. Hence if contraries consist in affirmation and are positive, the incorporeal is either something better than body and the cause of it, or something worse, which also is in body; but in neither way will the corporeal and the incorporeal be contraries. Farther still, neither is any thing contrary to time, so far as it gives limitation to motion by a proper measure. Hence, if any one should think that day is contrary to night, he who thus thinks will certainly not produce a contrariety in time, so far as time; for it is the same; since when it is day in one place, it is night in another: but so far as the air is illuminated in one place, and obscured in another, which is not so far as the air is a quantity, but so far as it possesses a certain quality, it is allotted such contrarieties. Farther still, neither is any thing contrary to number; for every thing discrete is one certain thing, and according to this receives no excess nor defect, like the equal and the unequal, which receive the more and the less, and on this account are indefinite. What however shall we say, if some one should assert that the even and the odd are the contraries of number, by considering them as two species? And in like manner, if it should be said that the continuous and the discrete are the contraries of quantity? In answer to this, it may be said, that the division in essence

But the contrariety of quantity especially appears to subsist about place. For they admit that the upward is contrary to the downward, asserting

sence is through opposites. For of animal one kind is rational and another irrational. One kind also is mortal and another immortal, and yet we admit that nothing is contrary to essence. For it is one thing to consider contrariety about essence and about quantity, when directing our attention to the qualities which happen to them, and another to consider that there is no contrary to essence itself, or to quantity itself. Speech also, so far as it is quantity, has no contrary. For the true and the false are in speech so far as it is significant, but not so far as it is extended and measured by a short and long syllable. It now remains among the number of quantities to speak of place, concerning which also it may be doubted whether it receives contrariety with the upward and the downward, which appear to be the species or parts of place. Some, however, think that the upward and downward have not a subsistence in nature, but according to habitude considered with reference to us; as when it is said, that what is above our head is upward, and what is under our feet is downward. Hence those who are of this opinion, consider the upward and downward as subsisting according to different habitudes; and after this manner they are evidently not contraries, since contraries cannot be in the same according to the same. If however, the upward and downward are considered, not according to habitude, but according to the interval of the universe from the middle to the extremity, and on the contrary from the extremes to the middle, then the upward and downward will be distant and different from each other according to nature. To these, however, Simplicius adds, it must be said, that the upward and downward do not signify place, but the predicament *where*; just as yesterday and to-day, do not signify time, but the predicament *when*. And this also was the opinion of Andronicus. Perhaps, however, the upward and the downward are the differences of place, and yesterday and to-day of time, yet not so far as place and time are quantities; but place has such differences according to position and local peculiarity, which are assigned in the predicament *where*; and time obtains such differences as yesterday and to-day, according to measures derived from motion. For place and time in quantity, are assigned according to extension alone; yet according to a proper character or designation, place is in the predicament *where*, and time in the predicament *when*. Hence place, so far as it is quantity, has not the upward and downward, but so far as it is a quantity with a certain quality.

But the divine Iamblichus, treating of quantity with his usual sagacity and accuracy, says, that the common conception of every quantity is as follows: Quantity is divisible into nonexistent parts; for this property is similarly extended to multitude and magnitude. One thing also belonging to it is numerable, but another measurable, and each of these is predicated definitely and indefinitely. Thus length is predicated definitely, because it subsists with boundaries, and indefinitely, because it is uncertain how far the boundaries may be extended. Hence, if all things are definite according to the communion of quantity, it is of no consequence if one thing has one boundary, another two, and another three boundaries. Iamblichus, however, must be considered

asserting that the place towards the middle is downward; because there is the greatest interval from the middle to the extremities of the world. They also appear to derive the definition of other contraries from these; for they define contraries to be those things which being in the same genus are most distant from each other<sup>4</sup>. But quantity does not appear to receive the more and the less; as for instance, the quantity of two cubits; for one thing is not more two cubits than another. Nor is there

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dered in what he here says, as determining quantity according to the divisible, and not according to that by which it is alone distributed into parts. For it is divisible into parts, not as a whole only, but it is also divided, as one thing into many, which indeed is inherent in quantity so far as quantity.

<sup>4</sup> As the straight and the curved are contraries, not so far as they are quantities, but being quantities something else accedes to them, thus also the upward and downward happen about place. And as animal itself, having no contrary, is distributed and divided according to contrary differences, thus also place is divided by contrary differences. Hence, contrariety is not produced so far as place is quantity, but according to certain other things which accede to place, which is quantity. And because contrariety happens about other quantities, hence Aristotle especially assigns a contrary to place, among other things, because other contraries also have their designation, on account of the interval which is in place. For those things are called contraries which are very much distant from each other. But in quality the distance is formal and specific; and in quantity it is dimensive, which also is said to be the more principal distance, and from this the others proceed and are denominated.

Simplicius farther observes, that there was no small difference of opinion among the ancients about place. For some said that it was to be defined according to relation. For as place it is conceived to be that which contains body; and that which contains is said to subsist with reference to the thing contained, as a relative. But others asserting that place is space, said that it was quantity, and not a relative. Some also dismiss the upward and downward, and consider them as contraries. Others say, that these are among the number of relatives, in the same manner as the right hand and the left hand. But the Pythagoreans say that place is the boundary of every thing which exists. And these indeed, though in words they assert the same thing as Aristotle, yet in reality differ most widely from him. For Aristotle says, that place is the boundary of that which contains, so far as it contains the thing contained, and therefore he denies that the ultimate heaven is in place. But the Pythagoreans assert that place is the boundary of every form and of every thing, in which it is placed, and by which it is contained. Place, therefore, being thus more universally assigned, the upward is to be considered as surpassing in purity and power according to a transcendency of essence; and the downward must be said to be that which is lower than, and subordinate to, all such opposites. Hence it is evident, that the upward and

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the more and the less in number. Thus three or five [of one thing] are not said to be more than thrce or five [of another thing], nor is five more five, than three is three. Nor is one time said to be more time than another. And, in short, in the above-mentioned [species of quantity] no one of them is said to be more or less. It is, however, especially the peculiarity of quantity, to be said to be equal and unequal. For each of the above-mentioned quantities are said to be equal and unequal. Thus body is said to be equal and unequal ; and also number and time are said to be equal and unequal. In a similar manner too in the rest of the above-mentioned particulars, each of them is said to be equal and unequal. Of the residue, however, such as are not quantities do not entirely appear to be called equal and unequal. Thus, for instance, disposition, is not entirely said to be equal and unequal, but rather similar and dissimilar. Whiteness also is not entirely said to be equal and unequal, but rather similar or dissimilar. Hence it will be especially the peculiarity of quantity, to be said to be equal and unequal<sup>s</sup>.

the downward may be after this manner considered in all things, universally and absolutely, and according to the proper nature of every thing. For on this account the power which sustains and embraces every thing in the universe, is placed in the heavens, according to the transcendency of a limit, which is the boundary of all things.

<sup>s</sup> That to be said to be equal and unequal is the peculiarity of quantity, may be shown as follows : Quantity so far as quantity is measurable ; but the measurable is sometimes adapted to be measured by the same measures, and sometimes by more or fewer. Hence that which is measured by the same measures is equal ; but that which is measured by more or fewer is unequal. Quantity, therefore, so far as quantity, is said to be equal and unequal ; since so far as quantity, it is measurable, and so far as measurable, the equal and unequal are inherent in it. Archytas also having asserted that the equal and unequal are the peculiarity of quantity, confesses that quantity is beheld in multitude and magnitude, and in momentum, or inclination, since no one of these is the attendant on essence or quality. Whence also, he divides the equal and unequal triply, according to the three differences of quantity.

## CHAPTER VII.

THOSE things are said to be RELATIVES that are said to be that which they are from belonging to other things, or in whatever other way they may be referred to something else. Thus the greater is that which it is, by being so called with reference to something else; for it is said to be greater than a certain thing. And the double is that which it is by being so called with reference to something else; for it is said to be the double of a certain thing. And in a similar manner with respect to other things of this kind. Such things, however, are among the number of relatives, such as habit, disposition, sense, science, position. For all that we have enumerated are that which they are, by being so called from belonging to other things, or in whatever other manner they may be referred to something else; nor are they any thing else. For habit is said to be the habit of some one; science the science of something; and position the position of something; and in a similar manner with respect to other things. Relatives, therefore, are such things as are said to be what they are, from belonging to other things, or in whatever other manner they may be referred to something else. Thus the mountain is said to be great with reference to something else; for with relation to something, the mountain is said to be great. The similar also is said to be similar to something; and other things of this kind are in like manner said to be what they are with relation to something. Reclining, however, standing still, and sitting, are certain positions; and position is among the number of relatives. But to recline, or to stand still, or to be seated, are not indeed themselves positions, but are parenthetically denominated from the above-mentioned positions<sup>6</sup>. Contrariety,

<sup>6</sup> Again, says Simplicius, it must be enquired why, since Archytas arranges quality prior to quantity, Aristotle not only arranges quantity, but also the predicament of relation prior to quality.

ricty, however, is inherent in relatives. Thus virtue is contrary to vice, each of them being a relative; and science is contrary to ignorance.

But

lity. Unless, says he, Archytas, as we have before observed, as being the friend of intelligible forms, after essence immediately arranges quality, by which the peculiarity of forms is determined, who also immediately after quality subjoins quantity, as that which is implanted in essence, and is the principle of those things which subsist by themselves. Hence he arranges quality and quantity after essence, and after quantity ranks the common and innate habitude to something, which also he arranges prior to other adventitious habitudes. But Aristotle, since in the present treatise he directs his attention principally to a corporeal essence, arranges quantity prior to quality, because it is more corporeal. After quantity also, he subjoins the predicament of relation, because of quantity one kind is by itself, but another with reference to something else. The discussion of relatives also is in continuity with the discussion of quantity, because excesses, defects, and proportions are considered in multitude and magnitude, to which the more and the less accede, and in which certain relative habitudes subsist. Hence relatives are very properly arranged after quantity. Again, since multitude accedes to essence on account of quantity, and habitude at the same time appears, by which the communion and difference of those things which have a mutual comparison with each other are considered, hence the predicament of relation, according to a natural order, follows the predicament of quantity.

Simplicius farther observes, that Plotinus and Iamblichus doubt whether the habitude pertaining to things related is a certain subsistence, or nothing more than a mere name. For it is necessary either that there should be no habitude of things, or that certain habitudes should subsist, and some habitudes should be without subsistence. But that not all habitude is to be taken away, is evident from this consideration, that as essence, quantity, and each of the other genera have a subsistence, it is necessary also to place habitude among the number of things, since the advantages arising from it are great. For neither would genera, nor the things which are under genera have any communion among themselves, unless there were some ratio of habitude in things. But it is absurd to subvert the communion of things which differ from each other. For it is absurd to take away harmony, not only that which is vocal, nor that which is comprehended in numbers, but also that which subsists in all essences, powers, and energies, and which collects things into sameness, and causes them to have a habitude to each other. Besides, if the habitude of things were subverted, the commensurable, the equal, the object of science, and science, would also be subverted. Hence if geometry and music are conversant with habitudes, and these habitudes were without subsistence, those sciences would be ridiculous and despicable, since they would be conversant with things which have no subsistence. Again, how could it be said that divinity is the object of desire to all things, if there were no habitude of the thing desiring to the object of desire? Farther still, since some things are prior, and others posterior, if habitude were taken away, there would be no relation of things prior to posterior, and of the posterior to the prior; and this not existing there would be no communion between them.

But contrariety is not inherent in all relatives; for to the double nothing is contrary, nor to the triple, nor to any thing of this kind<sup>7</sup>. Relatives, however, appear to receive the more and the less. For the similar and the dissimilar are said to be so more and less; and the equal and the unequal are said to be so more and less; each of them being a relative.

them. For body, soul, intellect, and deity, have not the same essence with each other, nor the same nature, but it is necessary that these should subsist according to the habitude alone of things thus differing, which communicate with each other. Hence the genus of habitude is most opportune, not only in sensible, but also in intellectual natures, and in those incorporeal which are posterior to intellectual natures. To which may be added, that those who take away habitude, subvert also *sameness*; not perceiving that *same* and *different*, without which we cannot speak of any thing, have properly a relative habitude, and being ignorant that composites, which are formed from the conjunction and agreement of different things, subsist on account of habitude.

<sup>7</sup> Aristotle says that virtue and vice, science and ignorance, are relatives, because according to the relation which they have to their genus, viz. according to habit, they will be relatives. For habit is among the number of relatives. It may, however, be enquired, how Aristotle afterwards ranks science and virtue, and the opposites to these, among qualities? Perhaps because the same thing according to different things may be placed in a different predicament. Hence science and virtue, and their opposites, so far as they cause their subjects to possess certain qualities, will be qualities, but so far as they indicate habitude to something else, they will be relatives. Aristotle also subjoins that contraries are not inherent in all relatives, since contrariety is not inherent in the double, nor in the triple, nor in any other of such like relatives. Why, however, is contrariety partly inherent in relatives and partly not? Perhaps because they cannot be understood without another predicament. Indeed, they always subsist together with other things; and hence when they are assumed, and are in a predicament possessing contrariety, they also will have contrariety. In a similar manner, if they should be in predicaments not possessing contrariety, neither would they possess contrariety. For whatever things are inherent in the genus which is the subject of relatives, the same things also happen for the most part to the relatives themselves. Hence, when they are considered in habit, or universally in quality, they receive contrariety, because quality also receives contrariety; but when they are in the double, or the triple, or universally in quantity, they will no longer be subject to contrariety, because quantity does not receive contrariety. The like also takes place when they are inherent in essence, as in a father and son; for then they do not receive contrariety, because neither does essence receive it. On this account it is evident, that so far as relation receives contrariety, it has also something common with those genera which receive the same; and that so far as it does not receive it, it accords with those genera which do not receive contrariety; because relation also, according to each mode, accords with all the genera. Hence to receive a contrary is not the peculiarity of relatives, since contrariety is neither inherent in all relatives, nor in relatives alone.

For

For the similar is said to be similar to something ; and the unequal, unequal to something. All relatives, however, do not receive the more and the less. For the double is not said to be more and less double, nor any one of things of this kind. But all relatives are referred to things which reciprocate. Thus, a servant is said to be the servant of a master ; and a master the master of a servant. The double also is the double of the half ; and the half is the half of the double. The greater is greater than the less ; and the less is less than the greater. The like also takes place in other things ; except that they sometimes differ in diction by case. Thus, knowledge is said to be the knowledge of that which is knowable ; and that which is knowable is knowable by knowledge. Sense also is the sense of that which is sensible ; and that which is sensible is sensible by sense. Sometimes, however, they do not appear to reciprocate, if that is not appropriately attributed to which a thing is referred but he who attributes errs. Thus wing, if it is attributed to bird does not reciprocate, nor can we say the bird of a wing ; for the first is not appropriately attributed, viz. wing to bird. For wing is not predicated of it so far as it is bird, but so far as it is winged ; since there are wings of many other things which are not birds. Hence, if it is appropriately attributed, it also reciprocates. Thus, wing is the wing of that which is winged ; and that which is winged is winged by wing. Sometimes, however, it is, perhaps, necessary to invent a name if a name is not given to that to which it may be appropriately attributed. Thus, a rudder, if it is attributed to a ship, is not appropriately attributed. For a rudder is not predicated of a ship so far as it is a ship, since there are ships without rudders ; and hence they do not reciprocate. For a ship is not said to be the ship of a rudder. But, perhaps, the attribution will be more appropriate, if it is thus attributed ; a rudder is the rudder of that which is ruddered ; or in some other way ; for a name is not assigned. And a reciprocation takes place, if it is appropriately attributed ; for that which is ruddered is ruddered by a rudder. In a similar manner also in other things. Thus, head will be more appropriately attributed to that which is headed,

headed, than to animal. For a thing has not a head so far as it is an animal ; since there are many animals which have not a head.

And perhaps some one may thus easily assume those things to which a name is not given, if from those things which are first, he assigns names to those also with which they reciprocate ; as in the instances above adduced, from wing winged, and from rudder ruddered. All relatives, therefore, if they are appropriately attributed, are referred to things with which they reciprocate. For if they should be attributed to any thing casual, and not to the things to which they are referred, they will not reciprocate. But, I say, that neither will any one of things which are acknowledged to be referred to things which reciprocate, though names are assigned to them, reciprocate, if it is attributed to any thing accidental, and not to that to which it is referred. Thus, a servant, if he is not attributed as the servant of a master, but of a man, or a biped, or any thing else of this kind, will not reciprocate ; for the attribution is not appropriate. If, however, that to which a thing is referred, is appropriately attributed, every thing else which is accidental being taken away, and this thing alone being left, to which it is appropriately attributed, it will always be referred to it. Thus a servant, if he is referred to a master, every thing else being taken away which is accidental to the master, as the being a biped, the being capable of science, and the being a man, and his being a master, is alone left ;—in this case the servant will always be referred to him. For a servant is said to be the servant of a master. But if that to which it is at any time referred is not appropriately attributed ; other things being taken away, and that alone being left, to which it is attributed ;—in this case, it will not be referred to it. For let a servant be referred to man, and a wing to bird, and let the being a master be taken away from man ; for servant will no longer be referred to man ; since master not existing, neither does servant exist. In a similar manner also, let the being winged be taken away from bird ; and wing will no longer be in the number of relatives ; for that which is winged not existing, neither will wing be the wing of any thing. Hence it is necessary to attribute that

to

to which a thing is appropriately referred. And if, indeed, a name is assigned, the attribution becomes easy ; but if it is not assigned, it is perhaps necessary to invent a name. But being thus attributed, it is evident that all relatives are referred to things which reciprocate<sup>8</sup>.

Relatives, however, appear to be naturally simultaneous ; and in most of them, it is true that they are. For the double and the half are simultaneous ; and the half existing, the double is ; the master existing, the servant is ; and the servant existing, the master is. Other things also are similar to these. These likewise co-subvert each other. For the double not existing, the half is not ; and the half not existing, the double is not. The like also takes place in other things which are of this kind. It does not, however, seem to be true in all relatives, that they are simultaneous by nature. For the object of science may appear to be prior to science ; since for the most part, things pre-existing, we obtain the sciences of them. For in few things, or in nothing, can any one see science originating together with the object of science. Farther still, the object of science being subverted, co-subverts science ; but science does not co-subvert the object of science. For the object of science not existing, science is not ; but science not existing, nothing hinders but that the objects of science may exist. Thus, in the quadrature of the circle, if it is an object of scientific knowledge, the science of it does not yet exist, though it is itself an object of science. Again, animal being taken away there will not be science, but it will happen that there will still be many objects of scientific knowledge. Things also pertaining to sense subsist similarly to these ; since the sensible appears to be prior to sense. For the sensible being subverted co-subverts sense ; but sense does not co-subvert the sensible. For the

<sup>8</sup> Simplicius informs us, that Archytas, though he no less accurately discusses the predicaments than Aristotle, yet passes over in silence the property of relatives, that they are referred to things which reciprocate. The reason of this, Simplicius adds, was, perhaps, because since Archytas admits relatives to be simultaneous, and asserts one to be the cause of the other, he affirms their essential alternate conversion, and neglects that conversion which is according to predication. Perhaps too, he omits it because the conversion according to predication appears to be the same time introduced with that which is essential.

senses are conversant with body, and are in body ; but the sensible being subverted, body also is subverted ; since body is among the number of sensibles ; and body not existing, sense also is subverted. Hence the sensible co-subverts sense. But sense does not co-subvert the sensible. For animal being subverted, sense indeed is subverted, but there will still be the sensible, such, for instance, as body, the hot, the sweet, the bitter, and all such other things as are sensible. Farther still, sense is produced together with that which is sensitive ; for at one and the same time animal and sense are produced. But the sensible is prior to the existence of animal or sense. For fire and water, and things of this kind from which the animal consists, are, in short, prior to the existence of animal or sense ; so that the sensible will appear to be prior to sense<sup>9</sup>.

It

Aristotle now assigns that which is especially the peculiarity of relatives, viz. that they are by nature simultaneous. For it is more adapted, and more peculiar to science that the gates of them should be opened through those things which are properly inherent in the objects of science. Indeed, this is especially necessary in the first genera, since after this manner only can we speculate each of them. Hence Archytas also assigns the simultaneous existence of relatives, and one of them being alternately the cause of the other, as the peculiarity of relatives. For if the double is, it is also necessary that the half should exist ; and, on the contrary, if the half is, it is also necessary that the double should exist, since the double is the cause of the existence of the half, and the half is the cause of the existence of the double. Aristotle, however, Simplicius adds, uses the word *appear*, either because it was the opinion of the ancient philosophers, that relatives are simultaneous, or on account of the variety of opinions about it. That it was the opinion of the ancient philosophers, indeed, is evident from this, that Archytas, as has been before observed, admits a simultaneous existence to be the peculiarity of relatives, to which also Plato appears to assent.

It deserves also to be noticed, that there are some few things in which science is the same with the object of science. For those things which are without matter are certainly at the same time present with that science which always abides, and is permanent in energy ; whether there is any such thing in us, which perpetually remains in the intelligible world, as it appeared there is to Plotinus and Iamblichus, or whether it is in that intellect, which always understands in energy, if only any one is willing to call the intelligence of such an intellect science.

But that the object of science being subverted, science also is subverted, and that science being subverted does not destroy the object of science, is evident. For if the objects of science should be taken away, there would not be a science of any thing, and therefore science would have no existence ;

It is, however, dubious, whether no essence is among the number of things which are relatives, as seems to be the case, or whether this happens in certain second essences. For it is true, indeed, in first essences; since neither the wholes, nor the parts of first essences are relatives. Thus, a certain man is not said to be a certain man of something; nor is a certain ox said to be a certain ox of something. In a similar manner also with respect to the parts of these. For a certain hand is not said to be a *certain* hand of some one, but *the* hand of some one; and a certain head is not said to be a *certain* head of some one, but *the* head of some one. The like also takes place in most second essences. Thus, man is not said to be the man of some one; nor an ox the ox of some one; nor the wood the wood of some one; but they are said to be the possession of some one. In things of this kind, therefore, it is evident that they are not among the number of relatives. In some of the second essences there is, however, a doubt; for instance, head is said to be the head of some one; hand is said to be the hand of some one; and in like manner other things of this kind; so that these may appear to be among the number of relatives. If, therefore, the definition of re-

existence; but though science should be taken away, yet the object of science will remain. Simplicius adds, for if ever through sloth or indolence we cast off the knowledge of things, yet, nevertheless, those things remain which are the objects of knowledge. Thus in music we formerly used to hear the quarter-tone, but now we have no sensation of this interval. But, that this is the case, Aristotle shows by adducing as an instance the quadrature of the circle. For as it was not discovered in his time, he says, if it is an object of knowledge the science of it does not yet exist, though it is itself an object of science. According to Iamblichus, however, the quadrature of the circle was known to the Pythagoreans, as appears from the assertions and demonstrations of Sextus Pythagoricus, who received by succession the art of demonstration; and after him Archimedes succeeded, who discovered the quadrature of a circle by a line which is called the line of Nicomedes. Likewise, Nicomedes attempted to square the circle by a line which is properly called the *quadratrix*. And Apollonius by a certain line which he calls the sister of the curve line, similar to a cockle, or tortoise, and which is the same with the quadratrix of Nicomedes. Carpus also attempted to square the circle by a certain line which, he says, is formed from a twofold motion. And many others, according to Iamblichus, have solved this problem in various ways. Simplicius, however, justly observes, that perhaps this theorem has been discovered organically, (i. e. by the assistance of curves which the moderns call mechanical) but not demonstratively; or in other words, with strict geometrical accuracy.

latives has been sufficiently framed, it is among the number of things very difficult, or among the number of things impossible to show that no essence ranks among relatives. But if the definition has not been sufficiently framed, but those things are relatives, the essence of which is the same as the being referred after a certain manner to a certain thing; something may perhaps be said in answer to these things. The former definition, however, is consequent to all relatives; yet it is not the same thing, for the very being of them to consist in relation, and that being what they are, they are referred to other things. And from hence it is manifest, that he who definitely knows any one of relatives, will also definitely know that to which it is referred. It is also, therefore, evident from these things, that if any one knows that this particular thing is among the number of relatives; and if the essence of relatives is the same as subsisting in a certain manner with reference to something; he will also know that with reference to which this particular thing after a certain manner subsists. For if, in short, he does not know that with reference to which this particular thing after a certain manner subsists; neither will he know whether it subsists after a certain manner with reference to something. And in particulars, indeed, a thing of this kind is evident. Thus, if any one definitely knows that this particular thing is double, he will also immediately definitely know that of which it is the double. For if he does not know that it is the double of something definite, neither, in short, will he know that it is double. In like manner, if any one knows that this particular thing is better than something else, it is necessary from what has been said, that he should immediately definitely know that than which it is better. But he will not indefinitely know that this is better than that which is worse: for a knowledge of this kind is opinion and not science; since he will not accurately know that it is better than something worse. For it may so happen that nothing is worse than it. Hence it is evidently necessary, that he who definitely knows any relative, should also definitely know that to which it is referred. It is possible, however, definitely to know what the head and the hand are, and every

every thing of this kind, which are essences ; but it is not necessary to know that to which they are referred. For it is not necessary to know definitely of whom this is the head, or of whom this is the hand. And hence these will not be among the number of relatives. But if these are not among the number of relatives, it will be true to say, that no essence is a relative. Perhaps, however, it is difficult for him to assert any thing very clear about things of this kind, who has not made them the subject of frequent consideration. And to have doubted about each of these is not useless.

## CHAPTER VIII.

I DENOMINATE QUALITY that according to which certain things are said to be *such*<sup>1</sup>. But quality is among the number of things which are multifariously

<sup>1</sup> It is a question among the interpreters, says Simplicius, why Aristotle inscribes this predicament concerning *quale* and *quality*, and whether the same thing is signified by both these words? Unless *quality* signifies the peculiarity itself, and that which is possessed, but *quale*, that which participates. Thus whiteness signifies the colour itself, and a *white thing* that which is coloured. If this, however, be admitted, which of these will be the predicament? Will it be some simple and incomposite form, or will it be a certain composite from subject and form? since these differ from each other. And if some one should contend that both these are two predicaments, there will be the same thing of quantity, and of relation, and they will be partly simple, and partly composites; so that there will not be only ten, but at least twenty predicaments. But, perhaps, because quality itself is called *quale*, and not only that is called *quale* which participates (for the ancients call whiteness a *white thing*), hence Aristotle inscribes the predicament concerning *quality and quale*. For whiteness is called a white thing, but a white thing, viz. that which participates, is not called whiteness. Simplicius farther observes that this inscription does not appear to have been assigned by Aristotle, since he does not similarly inscribe the other predicaments, but Achaicus and Alexander think that it is the fault of the transcriber who thus inscribed it. If, however, he adds, any one should contend that the inscription is proper, he may say that *quality and quale* signify the same thing with Aristotle, as may be shown from his Metaphysics.

With respect to the term *quality*, Plato in his *Theætetus* insinuates that he was the author of it. Hence, some of the ancients entirely subverted qualities, admitting that *quale* alone had an existence. This was the case with Antisthenes, who once said to Plato, I see a horse, yet I can-  
not

multifariously predicated<sup>2</sup>. One species of quality, therefore, is called habit and disposition. But habit differs from disposition in this, that it is a thing more lasting and stable. And of this kind are the sciences and the virtues. For science appears to rank among the number of things which are more stable, and are with difficulty removed, when science is even but moderately possessed, unless a great mutation should be produced from disease, or any other casualty of this kind. In like manner virtue, such as justice and temperance, and every thing of this nature, does not appear to be easily removed or easily changed. But dispositions are said to be things, which are easily moved and rapidly changed; such as heat and cold, disease and health, and other things

not see *equinity*. But Plato said in reply, you have that by which a horse is seen, viz. a sensible eye, but you do not yet possess that by which quality is beheld and considered. Hence, of the ancients, some entirely subverted certain qualities, but left others; and all those which they admitted to have an existence, and to be the causes of existence to other things, they thought to be incorporeal. But others, as the Stoics, thought the qualities of incorporeal natures were incorporeal, and of bodies corporeal.

<sup>2</sup> Qualities, says Simplicius, are powers, and on that account are active, yet they are not primarily active, nor alone active. Hence, if quality is not every thing active, yet it is something active. In like manner also, power is not simply said to be quality, but a certain power; so that if there is a certain quality, it will also be a power, but the converse is by no means true, viz. that some power will always be a quality. Being, therefore, so far as it is being, will possess power in itself, but not from the participation of quality, since there is also a certain other power which is not quality. Hence being is very properly said to be most powerful, because it possesses the most principal and first power. Such essences also as are the same in energy, i. e. whose essence is the same with their energy, are not indigent of any quality, although they are powers, because they have received a power more ancient than qualities. Hence some powers have a subsistence by themselves. For the cause of power descends from on high, proceeding through all beings, and filling and containing all things, even as far as to such as are last, or in other words, terminating its progression in privations. If, however, we determine quality according to its proper and peculiar character, how will the conception of it be conjoined with the conception of power? Perhaps because its peculiarity is not repugnant to power. For every thing can do that which it does according to the peculiarity of itself. In short, it is the peculiarity of quality to distinguish essences from each other, to insert in them a proper character and energy about the participant of quality, and at the same time to extend their character; just as quantity energizes about that which is a quantum alone, and essence is conversant with essential form.

of

of this kind.. For a man is disposed after a manner according to these; but is rapidly changed, from being hot becoming cold, and passing from health to disease. The like also takes place in other things: unless some one through length of time has become naturalized to these, and the disposition is incurable, or cannot without great difficulty be removed; in which case it may be called a habit. But it is evident that those things ought to be called habits which are more lasting, and are with greater difficulty removed. For those are not said to possess a scientific habit, who do not very much retain the dogmas of science, though they are disposed after a certain manner according to science, either worse, or better. Hence, habit differs from disposition in this, that the latter is easily removed, but the former is more lasting, and is with more difficulty removed.

Habits are also dispositions; but dispositions are not necessarily habits. For those who have habits, are also after a manner disposed according to them; but those who are disposed are not also entirely in the possession of habit<sup>3</sup>. Another kind of quality is that according to which

<sup>3</sup> Since Aristotle, says Simplicius, has delivered the division of qualities through four members, which also insinuates the duad prior to the tetrad, it is requisite to indicate the consequent order of division, which proceeds from the duad, just as Plato orders that a thing should first be divided as much as possible according to the lesser number. Of qualities, therefore, it must be said, that some are natural, but others adventitious. And the natural, indeed, are always internal, and inserted in things; but the adventitious operate externally, and may be rejected. And of these some are habits and dispositions, which differ by a longer and shorter time, by easy mutation, and difficult omission. But of natural qualities, some are according to capacity, and others according to energy. And the qualities according to capacity are those by which we are said to be adapted to effect any thing. But of those qualities which are according to energy, one kind is that which operates profoundly, which also is predicated in a twofold respect according to passive qualities. For either by the assistance of passion something is inserted in the senses, or because qualities accede from passion, such as sweetness, heat, whiteness, and the like. For these are qualities, and their possessors are very properly called *qualia*. But they are also called passive, so far as they insert passion in the senses, or so far as they accede according to passion. For some one under the influence of shame becomes red, timid, and pale. There is also another kind of qualities, viz. of those whose energy is in superficies, such as figure, and the form which is the resemblance of an animated form, and colour, not so far as it is simply colour, but so far

which we say that men are pugilistic, or adapted to the course, or healthy, or diseased ; and, in short, whatever is said to take place according

as it gives completion to figure and resemblance. The same thing also may be said of every thing, which is seen in superficies according to lineament and representation. It is requisite, however, to know, as Iamblichus also remarks, that Aristotle admits figure to be an adventitious quality. For the same area, may at one time become a triangle, and at another a square, when transformed by art. And this is also the case with colour which is not natural, as the paleness of those who are afraid. There is also a certain disposition naturally, and not adventitious, as health and disease. And there are likewise habits of this kind, since they are possessed naturally.

But Aristotle says, that science is among the number of things which are more stable, and are with difficulty removed, when science is even but *moderately* possessed. On which Simplicius observes, that the word *moderately* here does not signify that which is *superficially* known, since of such knowledge there is neither habit nor science ; but Aristotle says *moderately*, because there are some sciences which are not very demonstrative, and on this account are not properly sciences ; as Plato also shows that there are certain disciplines of this kind. Perhaps also in science there is a certain intension and remission, just as there is in habit and disposition ; and hence, if some one should not have arrived at the summit of science, but only have made a moderate proficiency in it, as he possesses science, so it will be removed with difficulty, unless a great change is effected by disease, or something else of this kind. For some, Simplicius adds, through severe illness have lost all scientific knowledge. Thus, in Palestine, a certain person who excelled in the liberal disciplines, from disease forgot all that he had learned, so that after the recovery of his health, he was under the necessity of returning to the rudiments of grammar. The same thing also happens from another cause. Thus, it sometimes happens that he who is struck on the head, or who has drunk poison, will forget every thing, as happened to be the case, from eating a certain herb, to the soldiers who fought against the Parthians with Antonius \* the general of the Roman army, as Arrian narrates in his treatise On the Transactions of the Parthians. These soldiers, however, at length recovered their recollection, by drinking a mixture of wine and oil. Afterwards, Aristotle says, that in like manner the virtues are not easily removed, not because the virtues are similarly firm with, and as difficult to be removed as the arts and sciences ; for the virtues are firmer and more tenacious than these ; but he says *in like manner*, because the use of these virtues is every where requisite, and their energy is in every place, in every time, in every action, and in every circumstance of life. He also subjoins the example of disposition, adducing as an instance, heat, not natural heat, such as that of fire, but adventitious, such as that of heated water. And in a similar manner he adduces cold, not natural, as that of snow, but that which accedes to bodies that are made cold, and which also sometimes departs. Sickness and health, likewise, are easily removed. For these rapidly change to the contrary, unless they are so long retained by some one, as to be changed into his nature ;

\* Viz. Lucius Verus Antonius.

cording to natural power or imbecility. For each of these is not denominated from being disposed after a certain manner, but from possessing a natural power or imbecility of doing something easily, or of suffering nothing. Thus men are said to be pugilistic, or adapted to the course, not because they are disposed after a certain manner, but from possessing a natural power of doing something easily. And they are said to be healthy, from possessing a natural power of suffering nothing easily from casual circumstances; but to be diseased, from possessing a natural imbecility of suffering nothing easily from any thing casual. The hard and the soft have a subsistence similar to these. For a thing is said to be hard from possessing a power of not being easily divided; and that is said to be soft, which has an imbecility with respect to this very thing<sup>4</sup>. The third genus of quality consists of passive qualities  
and

and this takes place when disease cannot be cured, and health is with difficulty lost, otherwise they are not dispositions, but it is proper to call such qualities habits.

It is requisite to observe, however, that the habit pertaining to those intellectual natures, which are entirely separate from body, must not be assimilated to the habits which are here, but rather to those simple and unmixed forms which intellect contains in itself; just as the wisdom pertaining to intellect is different from that which pertains to soul. For the wisdom which is in soul, is a habit, but that which is in intellect is essence. Hence, it must not be enquired, if any quality here is common and synonymous with quality in the intelligible world. For in the latter all things, because they are separate and sufficient from themselves, are not indigent of the participation of any thing, on which account also they alone are denominated true beings. No quality, therefore, will be common to these corporeal, and those divine natures.

<sup>4</sup> Aristotle now passes on to the second species of quality, which is predicated, as he says, according to natural power or imbecility. For since power has a multifarious signification, it now signifies natural aptitude, which also is predicated in a twofold respect, since one kind is simply predicated, but the other is considered with reference to the promotion, according to which aptitude is now perspicuous and prepared.

Simplicius farther observes, that this natural power is more universal, being as it were a certain genus, pertaining to every thing which is perfected in any manner whatever. For it is not possible that any thing should proceed from the imperfect to the perfect, unless intermediate power is present, leading the imperfect to perfection, which power receives its completion from the most perfect itself which accedes the last of all. Power, therefore, is that which brings together extremes, affords a path by which they may proceed from a worse to a better condition, and  
prepares

passions. And things of this kind are such as sweetness, bitterness, sourness, and every thing allied to these; and farther still, heat and cold, whiteness and blackness. That these, therefore, are qualities is evident. For the recipients of them are called from them *qualia*. Thus honey from receiving *sweetness*, is said to be *sweet*; and a body from receiving *whiteness*, is said to be *white*. The like also takes place in other things. But they are called passive qualities, not because the recipients of the qualities suffer any thing. For neither is honey said to be sweet, from suffering any thing; nor any thing else among other things of this kind. Similarly to these also, heat and cold are said to be passive qualities, not from the recipients themselves suffering any thing; but because each of the above-mentioned qualities is productive of passion in the senses, they are called passive qualities. For sweetnes produces a certain passion according to taste, and heat according to the touch. And in a similar manner the rest. But whiteness and blackness, and other colours, are not called passive qualities after the same manner with the above-mentioned, but in consequence of being produced from passion. That many mutations, therefore, of colours are produced through passion is evident. For a man when he blushes becomes red; and when he is terrified, pale; and every thing else of this kind. Hence, if any one naturally suffers a passion of this kind, it is likely that he will have a similar colour. For the disposition which is now produced about the body when he blushes, may also be produced in the natural constitution; so that a similar colour will be naturally

prepares them for, and furnishes them with an occasion of arriving at perfection. In our soul also, when the intellect of it is perfected by a separate intellect, viz. by an intellect of an order superior to that which is participated by the human soul, then this natural power leads our intellect to intellectual form, and intellection in energy. But this power is especially evident in the works of nature. For these are conversant with motion, which proceeds from natural power or capacity into energy, and cannot be received in any thing else than that which is adapted to receive it; since every form does not accede to every thing, but to that alone which can be perfected, so far as it has an aptitude to receive it. In a similar manner also in the soul, inasmuch as it is far distant from that intellect which is in energy, and is proximate to nature, it is considered according to natural power.

produced.

produced. Such symptoms, therefore, of this kind as receive their beginning from certain passions which are difficult to be moved, and are permanent, are called passive qualities. For whether in the natural constitution paleness or blackness is produced, they are called qualities; for according to these we call them *quales*; or whether through long disease or heat, paleness or blackness happens to the same person, and he is not easily restored to his former condition, or these remain through the whole of life; these also are called qualities; for in a similar manner from these we call them *quales*. But such symptoms as are produced from things which are easily dissolved, and rapidly restored to their former condition, are called passions, and not qualities; for they are not called according to them certain *quales*. For neither is he who blushes in consequence of being ashamed called red; nor is he who is pale through being terrified called pale; but they are rather said to have suffered something. Hence things of this kind are indeed called passions, but not qualities.

Similarly to these also passive qualities and passions are denominated in the soul. For such things as immediately, from the birth of any one, are produced from certain passions difficult to be removed,—these are called qualities; such as insanity, anger, and things of this kind. For men are said to be *quales* according to these, viz. wrathful, and insane. In a similar manner also, such other mutations of a thing from its proper condition as are not natural, but are produced from certain other symptoms, which are with difficulty removed, or which are, in short, immovable;—these also, and things of this kind are called qualities; for those who possess them are called *quales* according to them. But such as are produced from things which are easily and rapidly restored to their former condition, are called passions; as, for instance, if any one being afflicted becomes more angry. For he is not called angry, who in a passion of this kind is more wrathful, but he is rather said to have suffered something. And hence things of this kind are, indeed,

said to be passions, but are not called qualities<sup>5</sup>. The fourth genus of quality is figure, and the *morphe*\* which is about every thing; and besides these, rectitude and curvature, and whatever else is similar to these. For according to each of these, a thing is said to be *quale*, or to possess a certain quality. For to be a triangle or a square is said to be a certain *quale*, and also a right line or a curve. According to *morphe* also, every thing is said to be *quale*. The rare and the dense likewise, the rough and the smooth may appear to signify a certain *quale*. It seems, however, that these are foreign from the division of quality; since each of them rather appears to manifest a certain position of parts. For a thing is said to be dense from having its parts near to each other; but a thing is said to be rare, from having its parts distant.

<sup>5</sup> Some one perhaps may enquire why Aristotle before described disposition and habit by the easily moveable and the difficultly moveable, and now distinguishes passions and passive qualities by the same characteristics. The answer is, because before he considered habits and dispositions which are produced from learning, and extrinsically, as perfections difficult or easy to be removed; but here he considers the passive qualities and passions, which according to nature are easily, or with difficulty removed. And if this answer is not deemed sufficient, it may be farther observed, that heat so far as it disposes a subject in some way or other is called disposition, and so far as it has a permanent disposition is called habit; which also, so far as it is superficially effected by some agent, is called passion; and so far as the passion is produced permanently and intrinsically, it is called passive quality. Both these also, viz. that any thing is produced by passion, and that it occasions passion in the senses, are considered according to passion.

Simplicius farther observes, that Archytas appears to have arranged the species of quality according to passion, prior to the species of quality which is according to natural power. And perhaps this is more reasonable, because that which is in energy ought to precede that which is in capacity. Archytas also asserts, that the whole of this species of quality is properly conversant with, and receives its specific distinction in passion. He likewise unfolds this common element of it, comprehending at the same time in a common definition passive qualities and passions, by which means he escapes many doubts, and at the same time definitely comprehends their nature. For this species of quality is not pure, nor without matter and body, nor is it fixed in form, but appears to be a certain nature between forms and bodies, which is assimilated to bodies according to passion.

\* *Morphe* pertains to the figure, colour, and magnitude of superficies. See the Physics.

from

from each other. And a thing is smooth, indeed, from its parts being situated in a certain respect in a right line ; but it is rough, because one part exceeds, and another is deficient. Perhaps, therefore, there may appear to be a certain other mode of quality ; but those we have enumerated are nearly such as are mostly adopted. The above-mentioned, therefore, are qualities. But those things are *qualia* which are paronymously denominated according to them ; or which in some other manner are denominated from them. Most, therefore, and nearly all of them are called paronymously ; as for instance, a white man from whiteness, a grammarian from grammar, and a just man from justice ; and in a similar manner in the rest. Some things, however, because names are not given to qualities, cannot be paronymously denominated from them. Thus a racer or a pugilist, who is so called according to natural power, is not paronymously denominated from any quality. For names are not given to the powers, according to which these are called *quales* ; as names are given to sciences, according to which men are said to be pugilists, or wrestlers, from disposition. For there is said to be a pugilistic and palæstric science ; and from these those who are disposed to them are paronymously denominated *quales*.

Sometimes, however, the name being assigned [to quality] that which is called *quale* according to it is not paronymously denominated. Thus from *virtue a worthy man* derives his appellation ; for from possessing virtue, he is said to be worthy, but he is not paronymously denominated from virtue. A thing of this kind, however, does not take place in many things. Those things, therefore, are called *qualia* which are paronymously denominated from the above-mentioned qualities, or which are in some other manner denominated from them<sup>6</sup>. But contrariety is inherent

<sup>6</sup> Form is considered by Aristotle in a twofold respect ; for it is either essential, or is a quality of superficies ; the latter of which is called by him *morphe*. Form, therefore, is now considered by him, not as essential, since such a form is not quality, but it is considered so far as according to essential forms, it appears about superficies, according to which we say that some things are beautiful, and others deformed. For such forms are qualities, and these qualities are conversant with colour and figure.

inherent in quality. Thus justice is contrary to injustice, whiteness to blackness, and other things in a similar manner. Things also which subsist according to them are denominated *qualia*. Thus the unjust is contrary to the just, and the white to the black. A thing of this kind, however, does not happen in all things. For nothing is contrary to the yellow, or the pale, or to such like colours, though they are qualities. Farther still, if one of contraries is a quality, the other also will be a quality. And this is evident from particulars, to any one who directs his attention to the other categories. Thus, if justice is contrary to

But Iamblichus observes concerning this fourth species of quality, that according to Plato figures precede the constitution of bodies, as being the causes of their existence, and that from the differences of figures, he infers the differences of qualities. For Plato says, that the hot is that which is composed from figures of acute angles, such as pyramids are; and that the cold is that which is composed from figures less acute, such as the icosaedron, and in a similar manner in other things. Plato, however, does not assume mathematical figures, since these are neither material, nor natural, nor are considered in motion, but he admits such planes as are material and natural, and are conversant with motion \*. But Aristotle neither supposes with Plato, that figures are the principles of the elements, nor that they are immoveable, incorporeal, and immaterial, with mathematicians; but he considers them as material, consisting in bodies, and giving limitation and form to the superficies of bodies. Neither is the opinion of the Stoics, who assert that figures are bodies, in the same manner as other *qualia*, consonant to that of Aristotle. For body, indeed, is considered in quantity, but quality is different from quantity. The opinion, therefore, of Aristotle is a medium between those who assert that figures are entirely incorporeal, and those who assert that they are corporeal. Simplicius adds, but Archytas rightly explains such an opinion; for he says, that such a quality does not consist in figure, but in figuration; by which he insinuates that the subsistence of this kind of quality is with bodies, and that such qualities are present to bodies now formed and figured. Archytas also indicates that figures are not received through the whole of a body, but are only superficially present with it. For things figured, since they are not figures, have figure externally placed around them. He likewise insinuates, that such qualities sufficiently subsist, not according to their own energy, but so far as they are received by something else, and which indeed indicates that they are things figured, and not such as impart figure. It is also evident from Archytas, that such qualities do not consist according to termination, but according to a perfection reduced into something else. Indeed, as figure is the boundary of dimension, so the termination of the whole of form as far as to superficies produces *morphe* (*μορφη*), which is the apparent vestige of *form* (*ειδος*), and is the extreme extension of the procession of reason (i. e. of productive principle) as far as to exteriors.

\* See this unfolded in the Introduction to my translation of the *Timaeus* of Plato, and in the notes to my translation of Aristotle's treatise On the Heavens.

injustice,

injustice, but justice is a quality, injustice also is a quality. For no one of the other categories accords with injustice, neither quantity, nor relation, nor where, nor, in short, any one of things of this kind, except quality. The like also takes place in the other contraries according to quality<sup>7</sup>. *Qualia* also receive the more and the less. For one thing is said to be more or less white than another; and one thing is said to be more or less just than another. The same thing likewise receives an accession. For a thing which is white, is capable of becoming still more white. This, however, is not the case with all, but with most things. For some one may doubt whether justice can be said to be more or less justice; and in a similar manner in other dispositions. For some doubt about things of this kind; and assert that justice is not entirely said to be more or less than justice, nor health than health. But they say that one person has more of health than another, and that one person has less of justice than another; and in a similar manner with respect to grammar, and other dispositions. The things, however, which are denominated according to these, indubitably receive the more and the less. For one man is said to be more a grammarian than another, and to be more just and healthy than another; and in a similar manner in other things. But triangle and square do not appear to receive the more and the less, nor any other figure. For those things which receive the definition of a triangle, and the definition of a circle, are all of them similarly triangles, or circles. But of things which do not receive the same definition, one is not said to be more [a certain quality] than another. For a square is not more than an oblong, a circle; since neither of them receives the definition of the circle. In short, unless both receive the definition of the thing proposed, the one

<sup>7</sup> It is well observed by Simplicius, that Aristotle says, "if justice is contrary to injustice," because he has not yet unfolded what are contraries, and because in reality these are not opposed as contraries, but as habit and privation, on which account also Archytas speaks more accurately when he says, that not only contrariety is inherent in quality, but also privation. For the words of Archytas are as follow: "Certain contraries are conjoined to quality, as if it received a certain contrariety and privation."

cannot

cannot be said to be more [a certain quality] than the other. All qualities, therefore, do not receive the more and the less. Hence, of the above-mentioned particulars, no one is the peculiarity of quality. Things, however, are said to be similar or dissimilar according to qualities alone. For one thing is not similar to another according to any thing else than so far as it is *quale*. Hence it will be the peculiarity of quality, to be called similar or dissimilar according to it<sup>8</sup>. It is not, however,

<sup>8</sup> Aristotle having investigated in all the predicaments, whether the more and the less belong to them or not, says that in quality qualia receive the more and the less, where by *qualia* he means *qualities*, as the examples indicate. For in the place of an example, he assumes justice, though before he had said the just. And he again proves the thing proposed by induction, and adduces the white as an instance of corporeal qualities, and the just as an instance of the qualities of the soul. But each of these compared to another thing of the same species, and to itself, is said to receive intension and remission. For snow is said to be whiter than milk. Likewise, whiteness in the bodies of men, and justice in animals, in process of time, receive intension and remission; yet this is not the peculiarity of quality, since neither do these alone receive the more and the less, because it was before observed, that relatives also receive the more and the less. Again, neither does it belong to all quality to receive the more and the less, since neither figure which is quality, nor triangularity, nor the quality of the circle, receives the more and the less. Likewise, neither perfect virtue, nor perfect art, receives these; nevertheless, many qualities receive the more and the less. Hence, there are four sects concerning the intension and remission of qualities. For some are of opinion, that all qualities and qualia receive the more and the less, as Plotinus and other Platonists seem to assert; since every thing material receives the more and the less, and matter receives these on account of its natural infinity. But there is another opinion the contrary to this, which says, that in qualities, as in justice and whiteness, there is neither the more nor the less, since each is a certain whole, and consists according to one reason; on which account, as they say, intension and remission is in the participants. For the participations have an extent, because some things participate more, but others less, and on this account also, they think that habits receive the more and the less, because the recipients are *qualia*. This opinion also Aristotle appears to notice, when he says, "Some one may doubt whether justice can be said to be more or less justice." And he immediately subjoins, "For some assert that justice is not entirely said to be more or less than justice." In which place, he doubtless considers those things which are called by the authors of this opinion qualia, as receiving the more and the less. For he says, that one grammarian is more or less a grammarian than another, and that one thing is more just and more sane than another. Hence, when he says, "And in a similar manner with respect to grammar, and other dispositions," he calls habits in common dispositions, as also in what precedes, he calls them qualities. But the third sect is that

however, necessary to be disturbed, lest any one should say, that we, proposing to speak of quality, con-numerate many things which are relatives ; for we said that habits and dispositions are among the number of relatives. For nearly in all things of this kind, the genera are said to be relatives ; but of particulars no one is a relative. Thus science being a genus, that which it is, it is said to be with reference to some-

that of the Stoics, who say that the virtues neither suffer intension nor remission ; but habits and qualities, according to them, partly receive intension and remission, and partly do not. There is also a fourth opinion which asserts, that immaterial qualities, and those which subsist by themselves, do not receive the more and the less, but that material qualities suffer intension and remission. Porphyry, however, opposes this opinion, because it does not rightly consider immaterial qualities. For these, as he says, are essences, and on this account, they neither receive intension nor remission, as neither do other essences.

Simplicius farther observes, that Iamblichus objects to the opinion of Plotinus, which changes qualities, and in a similar manner *quale*, into intensions and remissions. For, he says, it is absurd that quality, which is participated, should be changed in quality with the mutations with which the composite is changed. For how will that which is participated differ from its participants ? Whence also, at the same time, the axiom respecting incorporeal natures is destroyed, viz. that they are impassive and unchangeable. Afterwards, Iamblichus adds the most true contemplation of the dogma, and says, that when an incorporeal essence gives itself to its recipients, and produces *quale* in body, it, nevertheless, abides according to itself in body, and though merged in body, yet does not lose its own proper essence. Hence it is attended with a certain impressed form, which receives intension. In a similar manner also, there is an incorporeal essence of quality, which is not capable of abiding in the same form, and on that account is not immaterial but material ; yet it is not entirely material and separated from the whole of its nature, but after a certain manner abiding in itself, it is abstracted from a remoteness and infinity contrary to itself. Archytas also briefly insinuates the cause of receiving the more and the less as follows : " Certain common things are conjoined to quality, such as to receive contrariety and privation, and to receive the more and the less, as in passions." For since passions participate of a certain infinity, on that account they receive a certain indefinite intension, according to the more and the less ; and thus quality, according to its own nature, will have the more and the less, and not on account of its participants. Iamblichus also enquires how the similar and the dissimilar are the peculiarity of quality ? To this it may be replied, that if impression and character especially produce similitude, and quality consists in character, it will justly have its peculiarity according to the similar and dissimilar. Archytas also insinuates the same thing when he says, " But the peculiarity of quality is the similar and the dissimilar ; for we say that all those things are similar in colour which have the same colour, and the same idea of character ; but those are dissimilar which subsist in a contrary manner."

thing else; for it is said to be the science of a certain thing. But of particulars, no one is said to be that which it is, with reference to something else. Thus grammar is not said to be the grammar of something; nor music the music of something; unless perhaps according to genus these also are said to be relatives. For instance, grammar is said to be the science of something, not the grammar of something; and music is the science of something, not the music of something. So that particular sciences are not among the number of relatives. We are said, however, to be *quales* from particular sciences; for we possess these. And we are said to be scientific from possessing certain particular sciences. Hence these are particular qualities according to which we are sometimes said to be *quales*; but these are not among the number of relatives. Again, if the same thing should be a particular quality and a relative, there is no absurdity that it should be numerated in both genera.

## CHAPTER IX.

To ACT and TO SUFFER receive contrariety, and the more and the less. For to heat is the contrary of to refrigerate, to be heated is the contrary of to be refrigerated, and to be pleased is the contrary of to be pained; so that they receive contrariety. They also receive the more and the less. For it is possible to heat more and less, to be heated more and less, and to be pained more and less. To act and to suffer, therefore, receive the more and the less. And thus much we have said of these things. But we have spoken of *the being situated* in what we said about relatives, and have observed, that it is paronymously denominated from positions. And with respect to the other categories, viz. *when*, *where*, and *to have*, because they are manifest, nothing else can be said of them, than was said in the beginning; that *to have*, signifies, indeed,

indeed, to be shod, to be armed ; that *where* signifies, for instance, in the Lyceum, in the Forum ; and such other things as are asserted of these. What has been said, therefore, of the proposed genera is sufficient<sup>9</sup>.

## CHAP.

<sup>9</sup> Since there are ten genera, four of which have been considered, as they are more universal, and receive a more extended contemplation, Aristotle very properly thought they should be copiously discussed, but that the rest should be treated with brevity. And with respect to the predicament of position, Aristotle refers the reader to the predicament of relation. For we say that position, since it is the position of something posited, is among the number of relatives. It will be useful, however, to learn what Porphyry and Iamblichus have discussed about the remaining three predicaments, since they are neglected by Aristotle. They say, therefore, that *where* and *when*, are as those things which are relatives, which are not principally considered in things, but are among the number of accessories. For quantity being supposed, those things which are in time and place accede, as *where* and *when*, as also such things as are relatives. *Where*, indeed, is not place, nor is *when* time ; but time and place having a prior existence, these afterwards accede ; so that a thing which is in place is said to be somewhere, and that which is in time to be *when*. Thus Socrates *yesterday* was in the *Lyceum*. But *where* seems to be of one species, and not to receive differences ; but, nevertheless, this indeed is indefinitely said of those things which are in place, as of those which are in a city, and it is also said definitely, as of those which are in a porch, or in this part of a porch. It likewise receives all the differences of place, since *where* is said to be both upward and downward ; and it may also be predicated according to peculiar and common place, and according to place essentially and accidentally. In a similar manner also, *when* is not time, but time pre-existing, *when* is predicated of a certain thing. Thus the festival of Bacchus is said to be in the past year, or in the present, or in the future. *When* also receives the differences of time. For the past is called *formerly*, the present is called *now*, and the future *hereafter*. In like manner the predicament of *having*, signifies something acquired, and separate from the essence of an existing thing, at the same time that it exists together with it. The predicament *to have*, therefore, is a habitude of certain acquired things. For to be cloathed is nothing else than to *have* a garment, and to be shod is nothing else than to *have* shoes. And these, indeed, are divided from the possessor, and separate from his essence, neither belonging to him as essence, nor as accident. Hence the predicament *to have* or *habit* does not possess in itself specific differences, but is capable of receiving a division according to the differences of those things which are possessed. And these, indeed, are animated, as a stag, and an ox, but those inanimate, as a garment, and armour. It can likewise receive a division according to the difference of those things which are possessed ; as when some one has apt habits in the soul, and corporeal habits in the body ; yet according to the *having*, or *being had*, there is no difference. But because Porphyry and Iamblichus say, that what is *had* or possessed in the soul, is among the number of acquired habits, it deserves to be considered whether or not those habits are qualities, and those things which are denominated from them are qualia; just as bodies

## CHAPTER X.

LET us now speak concerning OPPOSITES, and in how many ways it is usual to be opposed. One thing, therefore, is said to be opposed to another quadruply; either as relatives; or as contraries; or as privation and habit; or as affirmation and negation. And thus speaking according to a rude delineation each of things of this kind is opposed; as relatives, as the double to the half; as contraries, as evil to good; as privation and habit, as blindness and sight; and as affirmation and negation, as he sits, he does not sit. Such things, therefore, as are opposed as relatives, are said to be that which they are with reference to opposites, in whatever way they may be referred to them. Thus the double of the half, is said to be that which it is with reference to something else; for it is said to be the double of something. Science also is opposed to the object of science as a relative; and science is said to be that which it is with reference to the object of science. The object of science likewise is said to be that which it is, with reference to an opposite, viz. science; for the object of science is said to be an object of science to something, viz. to science. Such things, therefore, as are opposed as relatives, are said to be what they are with reference to opposites, or in whatever manner they may be referred to each other. But things which are opposed as contraries, are by no means said to be that which they are with reference to each other, but are said to be contrary to each other. For neither is good said to be the good of evil, but the contrary to evil; nor is white said to be the white of black, but the contrary to it. So that these oppositions differ from each

also participating of blackness, are said to have blackness. For the habits of the soul are not placed about the soul in the same manner as garments about the body, but they are certain dispositions about it, causing it more or less to be changed in quality.

other

other<sup>1</sup>. Such contraries, however, as are of that kind, that it is necessary one of them should be inherent in those things, in which it is naturally adapted to be inherent, or of which it is predicated ;—such as these have nothing intermediate. But those contraries in which it is not necessary that one of them should be inherent, have something intermediate. Thus, for instance, health and disease are naturally adapted to subsist in the body of an animal ; and it is necessary that either health or disease should subsist in the body of an animal. The odd and the even also are predicated of number ; and it is necessary that either the odd or the even should subsist in number. Nor is there any thing intermediate in these, neither between disease and health, nor between the odd and the even. But those contraries in which it is not necessary that one of them should be inherent, have something intermediate. Thus black and white are naturally adapted to be in body ; and it is not necessary that one of these should be inherent in body ; for not every body is either black or white. Vilness and worth also are predi-

<sup>1</sup> Aristotle, says Simplicius, appears to have derived what he here discusses about opposites from the treatise of Archytas ON OPPOSITES ; which Archytas does not co-arrange with his treatise *On the Ten Genera*, but has thought proper to consider them separately. For he delivers the division of them as follows : “ Opposites are partly according to custom, and partly according to nature. And those things, indeed, are said to be mutually opposed, which are contrary, as good is contrary to evil, health to sickness, and truth to falsehood. Some things also are opposed as habit and privation ; as life is opposed to death, sight to blindness, and science to oblivion. Some things likewise are opposed as relatives ; as the double is opposed to the half, the governor to the governed, and the master to the servant. And some things are opposed as affirmation and negation ; as to be a man, is opposed to this, not to be a man ; and to be worthy, to not to be worthy.” Aristotle, therefore, defines that to be the first of the other oppositions, which is according to the genus of relation, because this opposition has something peculiar, viz.. that things which are thus opposed are mutually simultaneous. But Archytas adduces the three above-mentioned opposites as relatives, as subsisting according to habitude, and says as follows concerning relative opposition : “ It is necessary that relatives should at one and the same time be generated and corrupted. For it is impossible that the double should be, and the half not have an existence, or, on the contrary, that the half should have an existence, and the double not. In like manner, as often as the double is generated, at the same time the half is generated, and as often as the double is corrupted, together with it also the half is corrupted.”

eated.

cated of man, and of many other things ; yet it is not necessary that one of these should be in those things of which it is predicated. For not all things are either vile or have worth. There is also something between these. Thus, between the white and the black, there is the dark brown and the pale, and such other colours ; but between vileness and worth, that which is neither vile nor has worth is the medium. In some things, therefore, names are given to the intermediate natures. Thus the dark brown, the pale, and such other colours, are the media between white and black. But in some things it is not easy to assign a name to that which is intermediate ; but that which is intermediate is defined by the negation of each of the extremes ; as, for instance, that which is neither good, nor bad, neither just, nor unjust<sup>2</sup>. Privation, however,

<sup>2</sup> The difference of contraries is unfolded by Archytas as follows : "Oppositions are divided into species mutually different. For of contraries some are without, but others have a medium. Thus between health and disease there is no medium ; and, in a similar manner, we must not admit that there is any other contrariety between rest and motion, him who is awake, and him who is asleep, the straight and the curved. But between the much and the few, the intermediate is the measured and the moderate; between a sharp and a flat voice that which is concordant; between the swift and the slow, that which proceeds with an equable motion; and between the more and the less, that which is equal. Whence universally, among things especially necessary, it is necessary that there should be one contrariety which does not receive a medium. For between health and disease there is no medium, since it is necessary that every animal should be ill or well. Nor has sleep and wakefulness any medium, since it is necessary that every animal should either be awake or asleep. In like manner, there is no medium between rest and motion, since it is necessary that every animal should either be at rest, or in motion. But though these things are especially necessary, it is not necessary that both or either of these contraries should subsist about its recipient, when they receive a medium. For the medium between white and black is the dark brown, and it is not necessary that every animal should be black or white. Thus also between the great and the small, the medium is the equal, and it is not necessary that every animal should be either great or small. Between the hard and the soft, the medium is that which is well perceived by the sense of touch ; and it is not necessary that every animal should be hard or soft. Of contraries also, there are yet three differences, because some things are opposed, as good to evil, as health to sickness ; some are opposed, as evil to evil, as avarice to prodigality ; and some as neither of these to the other, as the black to the white, and the heavy to the light. Farther still, of contraries, some accede to the genera of genera ; for good is contrary to evil, and good is the genus of the virtues, and evil of the vices ; but others accede to the genera of species.

however, and habit are predicated of something which is the same. Thus sight and blindness are predicated of the eye. And universally, each of these is predicated of that in which habit is naturally adapted to be produced. But we then say that each of the things which are capable of receiving habit, is deprived of it, when it by no means is inherent in that in which it is naturally adapted to be inherent, or when it is naturally adapted to possess it. For we say that a man is toothless, not because he has not teeth; and we say that he is blind, not because he has not sight; but because he has not these, when he is naturally adapted to have them. For some persons have neither sight nor teeth from their birth; yet they are neither called toothless, nor blind. To be deprived, however, and to possess habit, are not privation and habit. For the sight is habit, but blindness privation. But to possess sight is not sight, nor is to be blind blindness. For blindness is a certain privation; but to be blind is to be deprived, and is not privation. For if blindness were the same with to be blind, both might be predicated of the same person. But a man, indeed, is said to be blind, yet he is by no means said to be blindness. To be deprived also, and to possess habit, appear to be opposed in the same manner as privation and habit; since the mode of opposition is the same. For as blindness is opposed to sight, so likewise to be blind is opposed to the possession of sight<sup>3</sup>.

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species. Thus virtue is the genus of prudence and temperance, but vice of imprudence and intemperance; and these are contrary in species. For prudence is contrary to imprudence, and temperance to intemperance. And if prudence and temperance are species of virtue, imprudence and intemperance are species of vice. The first genera, therefore, are also those which we denominate the genera of genera. But they likewise receive a division, because there are certain extreme species, and referred to sense, which are not only species, but also genera. Thus triangle is a species of angle, but the genus of the right-angled, equilateral, and scalene triangle." Simplicius adds, that in what is here said by Archytas, some things accord with what is delivered by Aristotle; but that the ultimate difference, through which some things are contraries in the genera of genera, others in the genera of species, and others in species, are perhaps here omitted by Aristotle, as not pertinent to the present discussion.

<sup>3</sup> According to Iamblichus, the opposition of privation is not to be considered according to any one signification of habit, but according to all the significations of it. For thus there will be

That, however, which falls under affirmation and negation, is not affirmation and negation. For affirmation is an affirmative sentence, and negation is a negative sentence; but nothing which falls under affirmation or negation is a sentence, but a thing. These, however, are said to be opposed to each other, as affirmation and negation; since in these also there is the same mode of opposition. For as affirmation is sometimes opposed to negation; as, for instance, he sits, is opposed to, he does not sit; thus also the thing which is under each sentence is opposed; for instance, that some one sits, is opposed to, some one does not sit. But that privation and habit are not opposed as relatives is evident; since that which a thing is, is not asserted of its opposite. For sight is not the sight of blindness, nor is it in any other way referred to it. In like manner, neither is blindness said to be the blindness of sight; but blindness, indeed, is said to be the privation of sight, but is not said to be the blindness of sight. Farther still, all relatives are referred to things which reciprocate; so that blindness also, if it was among the number of relatives, would reciprocate with that to which it is referred. But it does not reciprocate; for sight is not said to be the sight of blindness. That things also which are predicated according to privation and habit, are not opposed as contraries, is from these things manifest. For of contraries between which there is nothing intermediate, it is always necessary that one of them should be inhe-

be a perfect opposition of all privations to all habits, and thus there will be opposites in common to every species; as, for instance, the opposition of this privation to this habit, according to its own proper mode. For, in short, if any one has not that which he is naturally adapted to have, and when he is naturally adapted, he is said to be in privation. Since, therefore, habit is said to be multifariously, non-habit also and privation will have a multifarious subsistence.

Archytas also, (Simplicius adds) triply divides privation. For he says, that privation and to be deprived, are predicated triply; either because a thing by no means possesses, as a blind man has not sight, a dumb man has not voice, and a man without discipline has not science. A thing also is said to be deprived, when it does not well possess any thing. Thus, he who has not a good hearing, hears with difficulty, and he who has dim eyes sees with difficulty. And according to a third mode, when the quality of a thing is not possessed; as that which has small feet, and that which has a slender voice.

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rent in those things in which it is naturally adapted to be inherent, or of which it is predicated. But between these there is nothing intermediate, of which it was necessary that the one should be inherent in that which is capable of receiving it; as is evident in disease and health, and in the odd and the even number. Of those things, however, between which there is something intermediate, it is never necessary that one of them should be inherent in every thing [which is capable of receiving it]. For it is not necessary that every thing which is capable of receiving should be either white or black, either hot or cold; since nothing prevents there being a certain medium between these. Again, of these also there was a certain medium, of which it was not necessary that one of them should be inherent in that which is capable of receiving it; unless in those things in which one of them is naturally inherent; as in fire to be hot, and in snow to be white. In these, however, it is necessary that one of them should be definitely inherent, and not in whatever way it may happen; for neither does it happen that fire is cold; nor that snow is black. Hence it is not necessary that one of them should be inherent in every thing which is capable of receiving it, but in those things alone in which one of them is naturally inherent; and in these, that which is definitely, and not casually one. In privation and habit, however, neither of the above-mentioned particulars are true. For it is not always necessary that one of them should be inherent in that which is capable of receiving it; since that which is not yet naturally adapted to have sight, is neither said to be blind, nor to have sight. Hence these things will not be among the number of such contraries as have nothing intermediate. Neither will they be among the number of things which have something intermediate; since it will be some time or other necessary that one of them should be inherent in every thing capable of receiving it. For when a man is now naturally adapted to have sight, then he is said either to be blind, or to have sight; nor has he one of these definitely, but either of them as it may happen. But in contraries in which there is something intermediate, it is never necessary that one of them should be inherent in every thing [which is capable

pable of receiving it], but in certain things [only], and in these one of them definitely, and not either of them casually. Hence it is evident that things which are opposed according to privation and habit, are not in either of these ways opposed as contraries.

Farther still, in contraries indecd, the recipient existing, it is possible that the change of the contraries into each other may be effected, unless one of them is naturally inherent in something; as, for instance, it is naturally inherent in fire to be hot. For it is possible for that which is well to be ill; for that which is white to become black; for the cold to become hot; and the hot to become cold. It is also possible for the worthy to become depraved, and the depraved to become worthy. For he who is depraved being led to better pursuits and discourses, advances though but a little to a better condition. If, however, he once makes a proficiency, though but in small degree, it is evident that he will become at length perfectly changed, or will have made a great proficiency; for he will always become more disposed to virtue, if he has made any progress whatever from the beginning. Hence it is likely that he will receive a greater increase, and this always taking place, that he will at length be perfectly restored to a contrary habit, unless he is prevented by time. But in privation and habit, it is impossible that a mutation into each other should be effected. For a mutation may take place from habit to privation; but it is impossible there should be a mutation from privation to habit; since neither can he who has become blind again see; nor being bald again possess hair; nor being toothless again have teeth. It is evident, however, that such things as are opposed as affirmation and negation, are opposed according to no one of the above-mentioned modes; for in these alone it is always necessary, that one of them should be true, but the other false. For neither in contraries is it always necessary that one of them should be true, but the other false; nor in relatives; nor in habit and privation. Thus, for instance, health and disease are contraries; and neither of them is either true or false. In a similar manner also, the double and the half are opposed as relatives; and neither of them is either true or false. Neither in things which

which are predicated according to privation and habit [is one of them true, and the other false]; as, for instance, sight and blindness. And, in short, no one of things which are predicated without any conjunction is either true or false; but all the above-mentioned particulars are predicated without conjunction. Nevertheless, a thing of this kind may especially appear to happen in those contraries which are predicated according to conjunction. For, that Socrates is well is the contrary of Socrates is ill. But neither in these is it always necessary, that one of them should be true, and the other false. For Socrates existing, one of them will be true, but the other false; but Socrates not existing, both will be false. For Socrates, in short, not existing, neither is it true that Socrates is ill, nor that he is well. But in privation and habit, [the subject] in short, not existing, neither of them is true; and [the subject] existing, the one is not always true, but the other false. For that Socrates sees is opposed to Socrates is blind, as privation and habit. And Socrates existing, it is not necessary that one of them should be true or false; for when he is not naturally adapted to have them, both are false. But Socrates, in short, not existing, thus also both are false, viz. that he sees, and that he is blind. In affirmation and negation, however, whether Socrates is or is not, one of them will always be false, and the other true. For it is evident, with respect to these two, Socrates is ill, and Socrates is not ill, that when he exists one of them is true, but the other false. And in a similar manner, when he does not exist. For when he does not exist, that he is ill is false; and that he is not ill is true. Hence, in those things alone which are opposed, as affirmation and negation, it will be the peculiarity, that one of them is always either true or false\*.

## CHAP.

\* The discussion of Aristotle concerning opposites, says Simplicius, being finished, it will be useful to write what Archytas says of them in his treatise *ON OPPOSITES*, because the divine Iamblichus has not inserted any thing from it in his treatise; and probably he never saw it; for if he had seen it, it would not have been unnoticed by him. Archytas, therefore, says as follows: "Things are said to be mutually opposed, according to law and nature, some indeed as contraries;

## CHAPTER XI.

EVIL is necessarily contrary to GOOD ; and this is manifest from an induction of particulars. Thus disease is contrary to health, injustice to justice, and fortitude to timidity. And in a similar manner in other things. But to evil, sometimes good is contrary, and sometimes evil.

For

contraries ; as good to evil, health to sickness, and truth to falsehood. Some also are opposed as habit to privation ; as life to death ; sight to blindness ; and science to oblivion. Some, again, are opposed as being after a certain manner relatives ; as the double to the half ; the governor to the governed ; and the master to the servant. But some are opposed as affirmation and negation ; as to be a man to that which is not to be a man, and to be worthy to that which is not to be worthy." Archytas also, having thus explained the four oppositions, adds as follows concerning the difference of them : " These, however, differ from each other, because contraries do not necessarily subsist together at one and the same time, nor are they at one and the same time corrupted. For health is contrary to disease, and rest to motion ; but neither is health simultaneous with sickness, nor rest with motion, nor are both these generated or corrupted at one and the same time. But the habits of generation and privation differ from these, because contraries are naturally adapted to be changed into each other ; as health into sickness, and sickness into health, the sharp into the flat, and the flat into the sharp. Privation and habit, however, subsist differently, because habit is changed into privation, but privation is not changed into habit. Thus an animal dies, but a dead animal does not return to life. And universally, habit is the possession, but privation the defect of that which is according to nature. But with respect to those opposites which are relatives, it is necessary that they should be generated and corrupted, at one and the same time. For it is not possible that the double should exist, and the half not exist, or that the half should exist, and not the double. Whenever also the double is generated, the half also is generated ; and as often as the double is corrupted, at the same time also the half is corrupted. Affirmation and negation, indeed, are rather species of speech, and are rather significant of the true or the false. For that a man is, is true when he exists, and false when he does not exist. There is the same reasoning also with respect to negation. For this is either true or false, together with the thing signified : it is true indeed, when the thing exists, but false when it does not exist. There is also a certain medium between good and evil, which is neither good nor evil. Likewise, between the few and the much, the medium is the moderate ; and between the slow and the swift, that which is moved equably. But between habit and privation

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For to indigence, which is an evil, excess is the contrary, which is also an evil. In a similar manner mediocrity, which is contrary to either of these, is good. And this, indeed, may be seen in a few things ; but in most the contrary to evil is always good<sup>s</sup>. Again, of contraries it is not necessary if the one is, that the remainder should also be ; for all persons being well, there will be health indeed, but not disease. And in like manner, all things being white, there will be whiteness indeed, but not blackness. Farther still, if to Socrates is well, Socrates is ill. is contrary ; and it is not possible that both can be inherent in the same thing ; it cannot be possible, that one of the contraries existing, the other also exists. For that Socrates is well existing, that Socrates is ill.

there is no medium. For there is nothing intermediate between life and death, sight and blindness ; unless some one should say, that an animal when it is not yet generated is the medium between life and death ; and that in like manner a whelp who does not yet see is the medium between that which it is to be blind, and that which it is to see. He, however, who says this, will assign a medium from accident, and not according to the proper boundary of contrarieties. But relative opposites receive media. For the medium between a master and a slave is a free man ; the medium between the greater and the lesser, is said to be the equal ; and between the wide and the narrow is the coherent. Thus also between other contraries, some medium will be found, either with, or without a name ; but between affirmation and negation there is no medium. Thus, between the man is and the man is not, the musician is and the musician is not, there is no medium. And universally, it is necessary that he who says any thing of any thing should either affirm or deny something of it. He must affirm, indeed, when he signifies that something is inherent, as the being musical is inherent in man, and the being warlike in a horse.. In like manner, he must deny that something is inherent when he signifies that something is not, as that a man is not, or that a horse is not ; or when something does not co-exist with this or that thing, as that the man is not musical, or that the horse is not warlike. Indeed, between affirmation and negation there is no medium." These things, therefore, Archytas wrote concerning the mutual difference of opposites, and at the same time also has accurately shown the nature of them, in which, as is evident, he has been followed by Aristotle.

<sup>s</sup> Aristotle, says Simplicius, follows Archytas, in adopting this difference of contraries. For Archytas thus writes in his treatise ON OPPOSITES : " Farther, there are three differences of contraries. For some things are opposed as good to evil, as, for instance, health to sickness ; some as evil to evil, as avarice to prodigality ; and some as neither to neither, as the white to the black, and the heavy to the light ;" where he calls neither, that which by posterior philosophers was called *indifferent*, just as Aristotle also calls the negation itself of the extremes, neither good nor evil..

will not exist. But it is evident that contraries are naturally adapted to subsist about the same thing, either in speech or genus. For disease and health are naturally adapted to subsist in the body of an animal; but whiteness and blackness are simply in body; and justice and injustice are in the soul of man. It is necessary, however, that all contraries, should either be in the same genus, or in contrary genera, or should be genera themselves. For white and black are in the same genus; since colour is the genus of them. But justice and injustice are in contrary genera; for of the one virtue is the genus, but of the other vice. And good and evil are not in a genus, but are themselves the genera of certain things<sup>6</sup>.

## CHAPTER XII.

ONE thing is said to be PRIOR to another quadruply. First, indeed, and most principally according to time; according to which, one thing is said to be older, and more ancient than another. For it is said to be older and more ancient, because the time is longer. In the second place, [one thing is said to be prior to another,] because it does not reciprocate according to the consequence of existence. Thus one is prior to two. For two existing, it immediately follows that one is; but one

<sup>6</sup> Archytas, says Simplicius, does not omit, but seems more accurately to have explained the difference of contraries adduced by Aristotle. For thus Archytas writes about them: "Of contraries also, some subsist in the genera of genera. For good is contrary to evil, and good is the genus of the virtues, and evil is the genus of the vices. Some likewise are in the genera of species. For virtue is contrary to vice, and virtue is the genus of prudence and temperance, and vice is the genus of imprudence and intemperance. And, lastly, some are in species. For fortitude is contrary to timidity, and injustice to justice; and justice and fortitude are species of virtue, and injustice and timidity are species of vice." Hence, Archytas here says, that nothing hinders but those contraries which are the genera of genera may also be reduced under some one genus, as good and evil under quality. He also asserts, that some are the genera of species, and others species; and he subjoins, that the first genera are always species; for, he says, they are not only genera, but also species.

existing,

existing, it is not necessary that two should exist. Hence, the consequence of the existence of the remainder does not reciprocate from the existence of one. But a thing of that kind appears to be prior, from which the consequence of existing does not reciprocate. In the third place, the prior is predicated according to a certain order, as in sciences and discourses. For in the demonstrative sciences, the prior and posterior subsist in order; since the elements are prior in order to the diagrams; and in grammar the elements are prior to syllables. And in a similar manner in discourses; for the proem is prior in order to the narration. Farther still, besides what we have mentioned, the better and the more honourable appear to be prior by nature. For the multitude are accustomed to say that those whom they more honour and love are prior in their esteem. This, however, is nearly the most foreign of all the modes. So many, therefore, nearly are the modes of priority which are adopted. But, besides the above-mentioned, there also may appear to be another mode of the prior. For of those which reciprocate according to the consequence of existence, that which is in any respect the cause of the existence of the one, may be justly said to be prior by nature. And that there are certain things of this kind is manifest. For, that man exists, reciprocates according to the consequence of existence with the true sentence respecting him. For if man is, the sentence is true by which we say that man is. And it reciprocates. For if the sentence is true by which we say that man is, then man is. A true sentence, however, is by no means the cause of the existence of a thing; but it appears that a thing is, in a certain respect, the cause that a sentence is true. For in consequence of a thing existing, or not existing, a sentence is said to be true or false. Hence one thing may be said to be prior to another according to five modes..

## CHAPTER XIII.

THOSE things are said to be **SIMULTANEOUS**, simply indeed, and most properly, of which the generation is in the same time; for neither of these is prior or posterior. But these are said to be co-existent according to time. Those things, however, are naturally simultaneous, which reciprocate, indeed, according to the consequence of existence, but the one is by no means the cause of the existence of the other; as in the double and the half; for these reciprocate. Thus the double existing, the half also is; and the half existing, the double is. But neither is the cause of existence to the other. Those things also, which being derived from the same genus have a division opposite to each other, are said to be naturally simultaneous. But those things are said to have a division opposite to each other, which subsist according to the same division. Thus the winged is opposed to the pedestrian and the aquatic. For these being derived from the same genus have a division opposite to each other. For animal is divided into these, viz. into the winged, the pedestrian, and the aquatic; and no one of these is prior or posterior, but things of this kind appear to be naturally simultaneous. Each of these, however, may again be divided into species; as, for instance, the winged, the pedestrian, and the aquatic. Those things, therefore, will be naturally simultaneous, which being derived from the same genus, subsist according to the same division. But genera are always prior to species; for they do not reciprocate according to the consequence of existence. Thus, the aquatic existing, animal is; but animal existing, it is not necessary that the aquatic should exist. Hence those things are said to be naturally simultaneous, which reciprocate, indeed, according to the consequence of existence, but the one is by no means the cause of existence to the other; and this is also  
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the case with those things which being derived from the same genus, have a division opposed to each other. Those things, however, are simply simultaneous, of which the generation is in the same time.

## CHAPTER XIV.

OF MOTION there are six species, viz. generation, corruption, increase, diminution, alliation, or change in quality, and mutation according to place. With respect to the other motions, therefore, it is evident that they are different from each other. For generation is not corruption; nor is increase diminution, nor mutation according to place; and in a similar manuer with respect to other motions. In alliation, however, it is doubtful, whether it is necessary that what is changed in quality, is so changed according to some one of the other motions. But this is not true; for it happens that we are changed in quality, nearly according to all the passive qualities, or the greater part of them, without any communication with the other motions. For it is not necessary that what is moved according to passive quality, should be either increased or diminished. And in a similar manner in the other motions. Hence alliation will be different from the other motions. For if it were the same, it would be requisite that what is changed in quality, should immediately be also increased or diminished, or follow some one of the other motions; but this is not necessary. In a similar manner also, that which is increased, or moved with any other motion, ought to be changed in quality. Some things, however, are increased, which are not changed in quality. Thus, for instance, a square is increased, when a gnomon is placed about it, but does not become at all more changed in quality. The like also takes place in other things of this kind; so that these motions will be different from each other. Simply,

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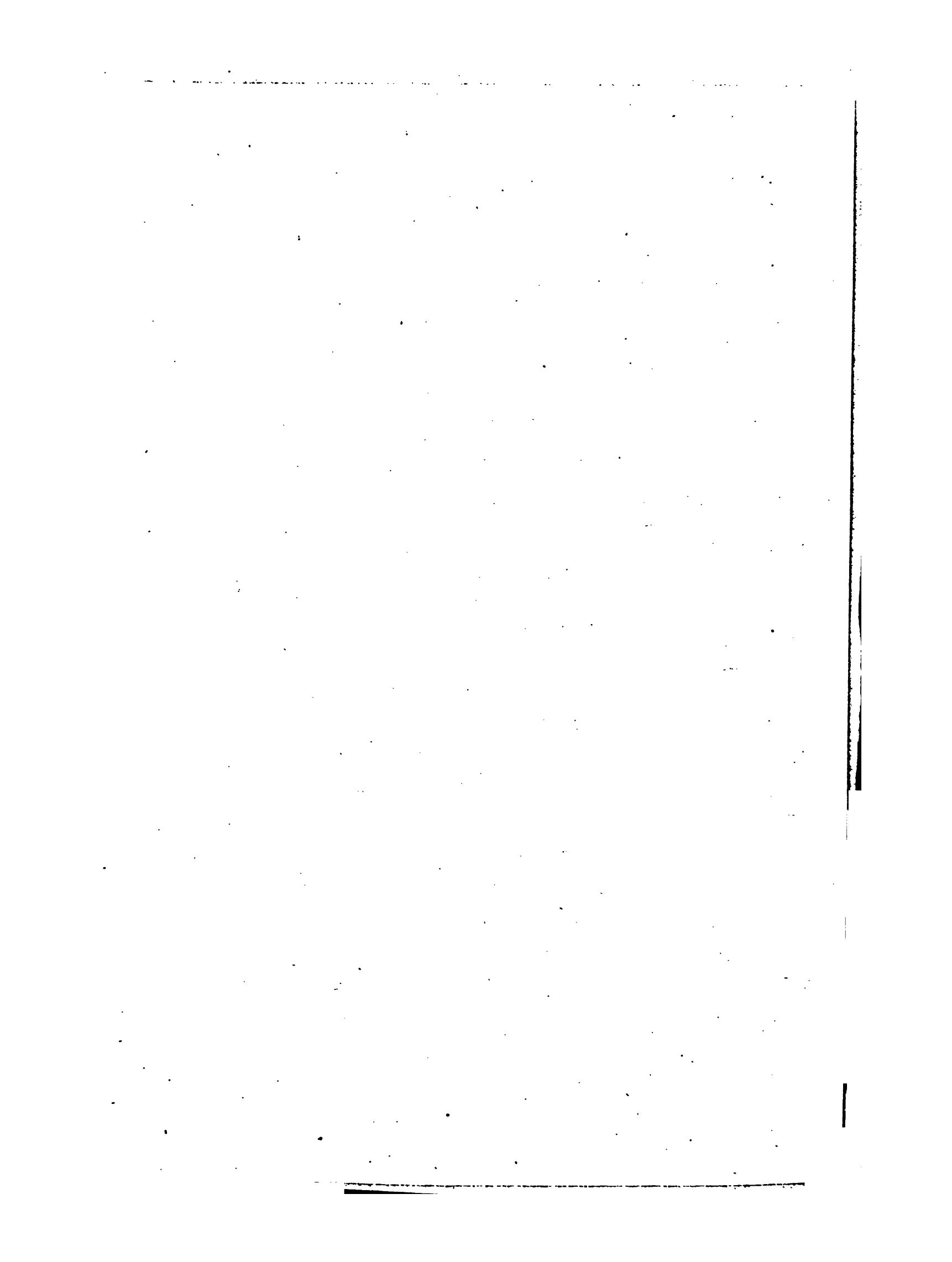
however,

however, rest is contrary to motion ; but particular rests to particular motions ; corruption, indeed, to generation ; diminution to increase ; and the rest according to place, to the mutation according to place. But the mutation according to a contrary place, appears to be especially opposed ; as, for instance, ascent to descent, and descent to ascent. It is not, however, easy to assign what is the contrary to that which remains of the motions that have been explained. But it seems that nothing is contrary to it, unless some one should also oppose to this, the rest according to quality, or the mutation of a quality into a contrary quality ; just as in the mutation according to place [we oppose] the rest according to place, or the mutation into a contrary place. For alliation is a mutation according to quality ; so that the rest according to place, or the mutation of a quality into a contrary quality, will be opposed to the motion according to quality. Thus the becoming white is opposed to the becoming black ; for a thing is changed in quality, a mutation of quality into contraries taking place.

## CHAPTER XV.

To HAVE is predicated in many modes ; since it is predicated either as habit and disposition, or as some other quality. For we are said to have science and virtue. Or it is predicated as a quantum ; as, for instance, the magnitude which any one has. For he is said to have a magnitude of three or four cubits. Or it is predicated as things about the body ; such as a garment, or a shirt. Or as in a part ; as a ring in the hand. Or as a part ; as the hand, or the foot. Or as in a vessel ; as a bushel *has* (i. e. contains) wheat, or any amphora wine ; for the amphora is said to *have* the wine, and the bushel the wheat. All these, therefore, are said to *have* as in a vessel. Or it is predicated as a possession ;

session; for we are said to *have* a house or land. A man also is said to *have* a woman, and a woman a man. The mode, however, of *having* now mentioned appears to be most foreign; for by *having* a woman we signify nothing else than that she co-habits with a man. Perhaps also, there may appear to be other modes of *having*; but all those have been nearly enumerated, which are usually mentioned.



**O N**

**I N T E R P R E T A T I O N.**



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## I N T R O D U C T I O N.

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THE treatise of Aristotle On Interpretation, says Ammonius\*, is much celebrated by philosophers, as well for the density of the theorems which are delivered in it, as for the obscurity of the diction. Hence very elaborate commentaries have been written on it by many of the Greek interpreters of Aristotle. With respect to the design of this treatise, it is necessary to observe, that logic has for its end the discovery of demonstration. But the knowledge of syllogism simply, precedes this; this again is preceded by the theory of those simple sentences which compose syllogisms; and this by the comprehension of all the simple terms, from which a simple sentence has its generation. Aristotle, therefore, having discussed in his Categories the business of simple terms, in this treatise proposes to deliver to us the simple sentences which receive their completion from the conjunction of simple terms, and which are denominated by the ancients, propositions. But there are five species of a sentence; the vocative, as "O blessed Atrides;" the in-

\* Ammonius in the exordium of his Commentary, says, that he shall be very grateful to the god of discourse (Hermes) if he is able to add any thing to the elucidation of this treatise from what he recollects of the interpretations of his divine preceptor Proclus, the Platonic successor, who exercised a power of unfolding the opinions of the ancients, and a scientific judgment of the nature of things, in the highest perfection possible to man. This eulogium, which will be immediately assented to by every one who is an adept in the writings of Proclus, also unequivocally proves that this commentary is the legitimate progeny of the great Ammonius, unadulterated with the dross of Philoponus.

perative,

perative, as, "Go swiftly, Iris;" the interrogative, as, "Who is he, and from whence?" the precative, as, "Hear me, O father Jove;" and besides these, the enunciative, according to which we assert something of a thing, as, "The gods know all things," and, "Every rational soul is immortal." This being the case, Aristotle in this treatise does not instruct us in every simple sentence, but in the enunciative alone; because this species of sentence is alone susceptive of truth and falsehood, and under this demonstration are classed, for the sake of which the whole of logic is discussed by the philosopher. The design, therefore, of the present treatise is, in short, to consider the first composition of simple terms, subsisting according to the categoric form of the enunciative sentence. But I say the *first*, because the composition of simple terms produces syllogisms; yet the first composition does not produce them, but that which is effected through the conjunction of terms subsisting according to the first composition. Hence, in this treatise, Aristotle surveying these simple terms by themselves, alone considers them as enunciations, and not as propositions; but in his Analytics, assuming them as parts of syllogisms, he very properly at the same time thinks fit to consider them also as propositions.

From what has been said likewise, it is immediately evident where this treatise is to be arranged. For if simple sentences have a middle order, between simple terms and syllogisms; and if the Categories unfold the theory of simple terms, the present treatise that of simple sentences, and the Analytics that of syllogisms, it is evident that it will have an arrangement between the Categories and the Analytics, being subsequent to the former, and preceding the latter, and being likewise prior to all the other logical treatises of Aristotle.

In the next place, let us consider why Aristotle inscribed this treatise Concerning Interpretation? We say then that our soul has twofold powers, some indeed being gnostic, but others vital, which also are denominated orectic, or pertaining to appetite. And the gnostic are those by which we know things, and are, intellect, the dianoetic power, opinion, imagination, and sense; but the orectic are, those according to which

we

we aspire after good either real or apparent, and are such as, will, pre-election, anger, and desire. This being the case, the species of sentence besides the enunciative proceed from the orectic powers of the soul, not energizing itself by itself, but being extended to something else, which appears to contribute to the attainment of what appetite desires ; the soul in this case, either investigating words from another, as in an interrogative sentence, or things. And if it investigates a thing, it either aspires to obtain that object about which it speaks, as in a pre-cative sentence, or some action from it ; and this latter, either from a more excellent nature, as in prayer, or from an inferior nature, as in what is properly called command. But the enunciative alone proceeds from the gnostic powers of the soul ; and this announces the knowledge of things produced in us, truly or apparently. Hence this alone is susceptible of truth or falsehood. This species of sentence, therefore, the enunciative, Aristotle thinks fit to call *interpretation*, as interpreting the knowledge of the soul. Hence, as he says in the preface to this treatise, since there are also other sentences besides the enunciative, for prayer, as he says, is a sentence, but the enunciative pertains to the present theory, on this account he inscribed this treatise, **CONCERNING INTERPRETATION**, because thus to entitle it does not at all differ from inscribing it, **CONCERNING THE ENUNCIATIVE SENTENCE**.

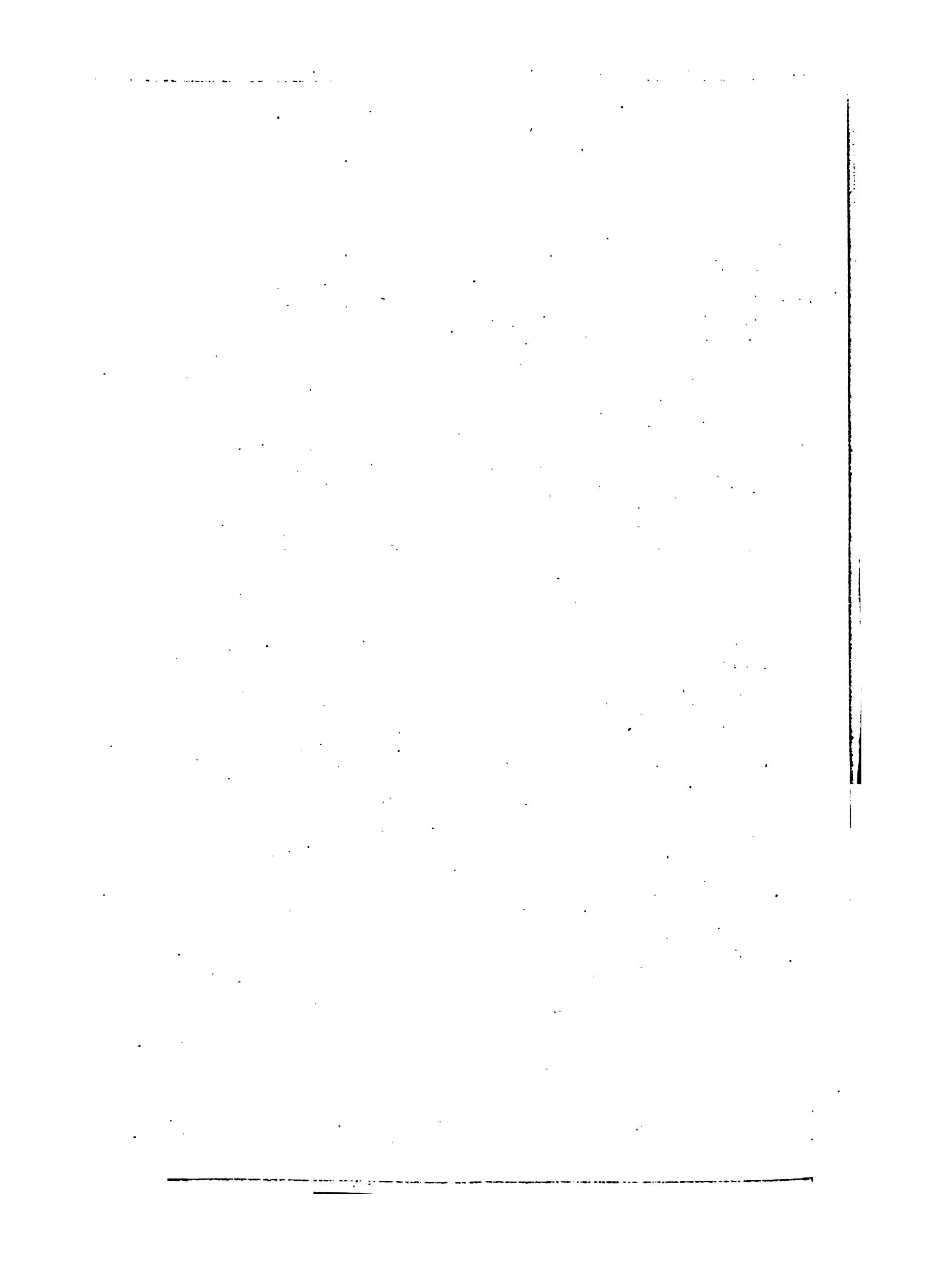
But that this treatise is the genuine production of the philosopher, no one who is conversant with the writings of Aristotle will dispute, when he looks to the persuasiveness of the diction, to the artificial and elegant disposition of the theorems delivered in it, in a manner usual with the philosopher, and to its agreement with his other treatises. Andronicus Rhodius, however, who was the eleventh in succession from Aristotle, finding in the prefatory part of this treatise, that Aristotle calls *conceptions* the passions of the soul, and that he adds, " As we have shown in the treatise On the Soul," and not being able to discover in what part of that treatise the philosopher thus denominates conceptions, thought it necessary, that of the two treatises of Aristotle, this, and that Concerning the Soul, one of them should be considered as spurious, and that this ought to be rejected rather than that. It must be ob-

served,

served, however, that in the treatise On the Soul, the phantasy is frequently called by the philosopher *passive intellect*; intellect, indeed, as containing in itself the object of knowledge, and by this differing from sense; because of those things which sense knows externally posited, entirely requiring their presence in order to energize about them, of these the phantasy contains in herself the types fashioned through the senses, and is able to energize without the assistance of externally posited objects. Hence, in sleep, when the senscs remain unenergetic, we energize according to the phantasy. But Aristotle calls it *passive*, because its knowledge subsists in conjunction with a certain division and interval, as having both its essence and energy inseparable from body, and being a certain principle of the senses. Aristotle, therefore, in his treatise On the Soul evinces that our soul knows nothing of sublunary natures without this passive intellect. In short, it will appear from that treatise, that Aristotle does not refuse to call the conceptions of our soul passions, because capacity precedes all its energies according to time. And he thus calls it, in order to distinguish it from the energies of the intellect which is denominated self-perfect, whose energy concurs with its essence, as being impassive, unmixed, and separate from all body. Andronicus, therefore, does not justly suspect this treatise to be spurious.

It now remains to consider the division of this treatise into sections; and we shall find, that it is clearly divided into four. The first, indeed, is concerning the principles of the enunciative sentence, or such things as contribute to the doctrine pertaining to this sentence; just as you may call definitions and postulates, and what are denominated common conceptions, geometrical principles, which Aristotle in the Categories thinks fit to denominate the elements of diagrams. Since, therefore, in the doctrine of propositions he calls something a noun, and something a verb, and likewise calls something affirmation, negation, enunciation, and contradiction, before he says any thing about propositions, he very properly informs us what each of these names signifies. This, therefore, is the first section of the treatise, which discusses the above-mentioned principles

principles of the enunciative sentence. But the three sections that follow it instruct us in propositions. And of propositions, some receive their completion from two simple terms alone conjoined, one being the subject, but the other that which is predicated, as when I say, Socrates walks ; for here Socrates is said to be the subject term, but he walks, that which is predicated. Some propositions, therefore, receive their completion from a subject alone, and that which is predicated, but others have besides this a third thing predicated, as when I say, Socrates is just ; for here the subject is *Socrates*, *just* that which is predicated, and *is* that which is predicated in addition. But other propositions, besides these, have also the mode added, signifying how that which is predicated is inherent in the subject, such, for instance, as the necessary, the impossible, the contingent, the well, the wisely, and the justly ; as when I say, it happens that Socrates is a musician, or, Socrates interpreted wisely. It is not, however, possible to conceive more terms than these, connected with each other, in order to the production of one proposition. But the second section of this treatise delivers to us the most simple propositions, and will be Concerning Proposition, or enunciation from a subject, and that which is predicated. The third section is concerning propositions more composite than these, in consequence of an additional something which is predicated ; and will be concerning proposition, or enunciation from a subject, a predicate, and a third additional predicate. But the fourth section delivers to us propositions with a mode. After this manner, therefore, Aristotle discusses all the species of propositions, and confidently asserting that there are not more contradictions than these, concludes this short treatise. Near the end also of the treatise he considers, besides these, a certain problem, which is appropriate to the proposed theory.



O N  
**I N T E R P R E T A T I O N.**

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**CHAPTER I.**

IN the first place, it is necessary to determine what noun and verb are ; and in the next place, what negation, affirmation, enunciation, and a sentence are. Those things, therefore, which are in the voice, are symbols of the passions of the soul ; and those things which are written are symbols of the passions in the voice. And as there are not the same letters among all men, so neither are there the same voices, or articulate sounds. The passions of the soul, however, of which these are primarily the signs, are the same among all men ; and the things of which these are the similitudes are also the same. Concerning these, therefore, we have spoken in the treatise On the Soul ; for these belong to another discussion<sup>1</sup>. But as in the soul, a conception is at one time without truth.

<sup>1</sup> The philosopher, says Ammonius, assumes these four, viz. things, conceptions, articulate sounds, and letters, as useful to the proposed theory ; in which things, indeed, have the first order, conceptions the second, articulate sounds the third, and letters the last. For conceptions have for their end the comprehension of things, and they are then truly conceptions, when they harmonize as it were with things themselves ; since they are images in the soul of things. But articulate sounds are enunciative of conceptions ; and on this account they are given to us by nature, in order that through them we may signify to each other the conceptions of the soul, may associate together and perform the duties of society. For man is a social animal. Hence those.

truth or falsehood, but at another time it is that in which one of these is necessarily inherent; thus also it is in voice, or articulate sound.

For

those who do not use the same language, have no political communion with each other, as having no knowledge of each others conceptions. But letters have for their end the preserving the remembrance of articulate sounds. Of these four, however, two, Aristotle says, are from nature, and two from position. And things, indeed, and conceptions are from nature, but articulate sounds and letters from position. But he distinguishes things which are from nature, from those which are from position, by the following rule. Things which are among all men the same, these, says he, are from nature; but those things which are not among all men the same, these are not from nature, but position. And this reasonably. For the nature of the universe being one, every where makes those things to be similar, which are said to be according to the same form; but if certain things are different among different men, these will not be the fabrications of nature. Since, therefore, things and conceptions are among all men the same; for there is every where the same form of man, horse, and lion, and in a similar manner there is the same conception among all men of man and stone, and other things; but articulate sounds and letters are not among all men the same, since the languages of the Greeks, Phoenicians, and Egyptians, are different, and again, each nation writes its own language through different letters; —this being the case, Aristotle asserts that things and conceptions are from nature, but articulate sounds and letters from position, and not from nature.

Ammonius farther observes, that a resemblance differs from a symbol, so far as the former endeavours as much as possible to represent the very nature of the thing, and it is not in our power to transform it. For the resemblance in the painted image of Socrates, if it have not the bald, the flat-nosed, and the projecting eyes, cannot be called the resemblance of him. But a symbol or sign, (for the philosopher calls the same thing by both names) is wholly in our own power, as solely deriving its subsistence from our conception. Thus, for instance, as to the time when two armies should engage, the symbol may be the sounding of a trumpet, and the throwing of a torch, as Euripides says,

But when the flaming torch was hurl'd, the sign  
Of purple sight, as when the trumpet sounds\*, &c.

We may also suppose the elevating of a spear, the darting of a weapon, and a thousand other ways.

Ammonius also adds as follows, for the sake of those who wish to elevate themselves to the contemplation of beings, and to survey the exempt causes of those things which are now discussed by Aristotle. There are three orders having the relation of principles above natural essences †, viz, the divine, the intellectual, and, besides these, the psychical, or that pertaining to soul. This being the case, we say that things are generated from the gods; that conceptions derive their

\* See Harris's Hermes, p. 333. † In the Greek φυσικές. But for φυσικές we should evidently read φυγικές.  
subsistence

For the false and the true are conversant with composition and division. Nouns and verbs, therefore, are assimilated to the conception which is without composition and division ; such, for instance, as man, or white, when something is not added ; for then it is neither true nor false. Of which this is an indication, that the word *tragelaphos*\* signifies, indeed, something, but not yet any thing true or false, unless *to be* or not *to be* is added, either simply, or according to time<sup>a</sup>.

## CHAPTER II.

A NOUN, therefore, is a sound significant from compact, without time, of which no part taken separately is significant. Thus in the

subsistence from intellects ; and that from souls characterized by reason, and possessing an essence separate from all body, articulate sounds originate. For our discourse at present is not about casual voice, but about that which signifies things through the medium of conceptions, according to a certain compact and consent, and which can also be itself signified through letters ; or, in other words, it is about that voice which is articulate, human, and is called dialect. Physicians properly distinguishing this according to instruments, from voice simply so called, say, that of instruments some are vocal, as the lungs, and the aspera arteria, of which the former supplies the matter of voice, but the latter contributes to the formation of it, as it were, according to the flat and the sharp, and things similar to these ; but other instruments are useful to dialect, or the articulate evolution of voice, as the tongue, the palate, the lips, and the teeth, which are particularly subservient to the impulse of the rational soul, and which fashion as if it were a certain matter a grave or acute voice, into the generation of letters and syllables, and, in short, dialect, to which also the enunciative species of sentences is referred.

\* It is well observed by Ammonius, that Aristotle does not assert that *all* truth subsists in composition or division. For what composition or division will there be in intelligible natures with Plato ? And with Aristotle himself, the truth which is surveyed according to the essence of beings, truly most simple, or which subsists according to the intellectual apprehension of such beings, is exempt from all opposition to the false ; which truth is discussed by him in his Metaphysics, and in the third book of his treatise On the Soul. But the truth which is conversant with composition or division is that which subsists in the motions pertaining to speech, and which can alone exist in an enunciative sentence.

\* i. e. An animal partly a goat, and partly a stag.

noun *Kallippos*, *ippos* signifies nothing by itself, as it does in the sentence *kalos ippos* (i. e. a beautiful horse). Nor is it in simple nouns as it is in those that are conjoined. For in the former a part is by no means significant ; but in the latter, a part wishes, indeed, to be significant, yet signifies nothing separately. Thus in the word *Epaktrokeles*\*, *keles* signifies nothing by itself. But I say, according to compact, because no name or noun is from nature, but when it is fabricated is a symbol. For illiterate sounds also signify something, such as the sounds of beasts, of which there is no noun<sup>3</sup>. Not man, however, is not a noun.

<sup>3</sup> It is here, says Ammonius, worth while to investigate how, since in the Cratylus, Socrates contending against Hermogenes, who asserts that names are from position, shows that they are from nature, Aristotle now asserts that no name is from nature. And we must say, that a subsistence from nature is considered in a twofold respect by those who contend that names are from nature. In like manner, a subsistence from position is said to be twofold, by those who admit that names are from position. For of those who think that names are from nature, some so understand the term nature, as conceiving names to be the fabrications of nature, and this was the opinion of Cratylus and Heraclitus, who asserted, that an appropriate name was assigned by nature to every thing, just as we see a different sense attributed to different sensibles. For names according to them are similar to the natural, and not to the artificial images of visible things; as, for instance, they are similar to shadows, and to the images which appear in water, or in mirrors. They add, that those denominate truly, who utter a name of this kind; but that those who do not, do not even denominate a thing, but utter a sound alone. That it is likewise the work of a man of science to investigate the appropriate name assigned to every thing by nature; just as it is the work of one who sees acutely to know accurately the proper appearance of every thing. But others say, that names are from nature, so as naturally to accord with the things which are denominated by them. Hence, Archidamus (i. e. the tamer of princes), Archesilaus (the prince of the people), Agesilaus (the leader of the people), and Basilicus (royal), and the like, are the natural names of a wise prince, but not of one who is stupid. The natural names also of him whose fortune is propitious are Fortunatus and Felix, but not of him whose fortune is unpropitious. And thus they say that names are similar, not to natural images, but to those produced by the painter's art, which fashions different resemblances of different paradigms, and endeavours, as far as possible, to express the form of each. Hence frequently, analysing from names, we endeavour to investigate the natures of the things denominated by them; and knowing these we endeavour to show that the names are assigned consonant to the things.

But again, of those who contend that names are from position, some assert that they subsist in such a manner from position, as that any thing may be called by any name he

\* i. e. A piratical ship.

may

noun<sup>4</sup>. Neither is a name instituted by which it ought to be called ; for it is neither a sentence, nor a negation<sup>5</sup>. But let it be an indefinite noun,

may be willing to give it. And this was the opinion of Hermogenes. Others, however, do not assent to this, but contend that names are assigned by the author of names alone, and that this is one who has a scientific knowledge of the nature of things. That this man promulgates a name adapted to the nature of every thing, or one who is ministrant to the man of science, and who is instructed by him in the essence of every thing, and is ordered to conceive and assign names adapted and appropriate to things. But they contend that names are from position, for this reason, because not nature, but the conception of the rational soul produced them, looking to the peculiar nature of a thing, and to the analogy of the male and female, which are properly adapted to be seen in mortal animals. For the fabricators of names did not inconsiderately denominate rivers in the masculine, but seas and lakes in the feminine gender, but they thought that the latter should be named in the feminine gender, as being the receptacles of rivers, in the same manner as fountains, as having with respect to them the relation of a mother. But they were of opinion that rivers, in consequence of pouring into seas and lakes, had an appropriate analogy to the masculine gender, and in a similar manner in every thing else they discovered an analogy more clear, or more obscure. For according to this conception they also denominated intellect in the masculine gender, but soul in the feminine; surveying the former, indeed, as being able to illuminate, but the latter as being naturally adapted to be illuminated by intellect. But thus proceeding, neither did they refuse to employ a difference of this kind according to gender, in the gods themselves ; calling the sun in the masculine gender, but the moon in the feminine, as receiving light from the sun. For if the Egyptians are accustomed to denominate the moon in the masculine gender, they did this with reference to the earth, which is not only illuminated by the sun, but also by the moon. Hence Aristophanes, in the Banquet of Plato, says, that the male is adapted to the sun, but the female to the earth, and the male and female to the moon. It is evident, however, that the Greeks acted with greater rectitude than the Egyptians. For since the moon receives light from the sun, she transmits it attempered in herself to the earth. Thus also they denominate heaven in the masculine, but earth in the feminine gender, because the latter receives the efficacious power of the former, and becomes through this the mother of plants. Hence also Aristotle in his treatise On the Generation of Animals, praises such a distinction of these names according to gender. In a manner similar to these things likewise, when they perceived the different energies of supermundane natures, with those eyes which are naturally adapted to perceive such objects, they found the same analogy, remotely indeed, but at the same time they did find it in the names by which they are called. And if it should appear that the same thing is denominated by the same men both in the masculine and feminine gender, we must not by transferring the confusion of our ignorance to ancient and wise men say that names are confused, and imposed without any reason. For thus we shall extirminate the etymology which is known to all men ; but we should rather say that each gender is ascribed to the same

noun, because it is similarly inherent as well in that which is, as in that which is not<sup>6</sup>. *Philonos*, however, or *Philoni*, and such like words, are

thing, according to its different characteristic properties. From hence it is easy to infer, that the conception of neuter names, is either to be referred to that which is prior to both genders, or to that which is composed from both. It is to be referred to that which is prior to both, as when we speak of the first cause, whom no one of those who have delivered to us theology involved in fables has dared to represent in a male or female form. And this very properly. For the female is co-ordinate with the male; but to that which is simply cause, nothing is co-ordinate. When, therefore, we denominate God in the masculine gender, we thus denominate him, in consequence of preferring the more venerable to the subordinate gender. Either, therefore, we refer what is called the neuter gender to this, or to that which is composed from both genders, as when *paidion* (a child) is denominated either according to that which proceeds from the better to the worse, as seed and water, or according to that which is common to both, as animal; or according to other such like modes.

It is evident, therefore, that the second signification of names from nature, concurs with the second signification of names from position. For the names which are imposed by the founder of names, as subsisting appropriately to the things of which they are the names, may be said to be from nature, but so far as imposed by some one, they may be said to be from position. Socrates, therefore, in the Cratylus of Plato, acting as an arbitrator between Cratylus and Hermogenes, who diametrically differed from each other about the question whether names are from nature, or position, shows that they neither are from position in the manner in which Hermogenes thought they were, because there is also in them a subsistence from nature, according to the second signification of a subsistence from nature, and especially in those names by which we signify universals and the peculiarities of things, as possessing a definite nature, and which we are able to comprehend. For in order to denominate rightly according to the first position of names, in particulars which are naturally adapted to be all variously changed it is necessary to invoke the assistance of Fortune. Socrates also shows that neither are names from nature, in the manner in which Heraclitus said they were, because they are also from position: and moreover, that such names as signify an eternal nature, are also from position according to the second signification of a subsistence from position. Aristotle, therefore, in this place, when he says that no name is from nature, does not dissent from what is asserted by Socrates in the Cratylus. For he, as well as Plato, denies that subsistence of names from nature which was adopted by Heraclitus and his followers; but he does not refuse to admit that they subsist from nature in the way which was maintained by the divine Plato. But he manifests this in many of his treatises, in which he endeavours to show that names accord with things, as is evident in his Physical Auscultation in the names of *chance* and *a vacuum*; in his Meteors, in the names of *a drop of water*, and of *rain*; and in such names as we know were imposed by him, as that of *entelecheia*, which he gave to form, or that of *boundary* or *term*, which he gave to simple words in syllogisms, or that

are not nouns, but cases of a noun? But the definition of it, (i. e. of the case of a noun) is as to other things the same; [with the definition of

that of *figure*, which he assigned to the syllogistic connection of propositions. In this treatise also of Interpretation, the name of *an indefinite noun*, or *an indefinite verb*, or of *contradiction*, imposed by him, most clearly manifest the conception of the philosopher about names.

If, however, some one should fancy it may be shown, that neither after this manner ought it to be said that names are from nature, in consequence of the transposition of names, and from the same thing being frequently called by many names, to this we reply, that transposition very clearly evinces the subsistence of names from nature. For it is evident that we employ transposition in consequence of passing to certain names which are more adapted to things. But we must say that the multitude of names by no means prevents each of them from being adapted to the nature of the thing denominated. For as there may be many images of the same man, the matter being different, viz. being brass, or wood, or stone, and yet all the images possess a similitude to the man; after the same manner also here, nothing hinders but that the same nature may be denominated through different syllables, one and the same essence being signified from all of them, according to different conceptions. Thus the name *anthropos*, *merops*, and *brotos*, signify the same thing (i. e. *man*.) But the first of these signifies *man*, so far as *he considers what he sees*; the second, so far as *he has a divisible voice*; and the third signification refers to *the lapse of the soul into generation*, or the sublunary region, and *the defilement which is there*. Or the name *anthropos*, indeed, as with reference to the composite from soul and body, is from *giving articulation to the voice*, or from *having an elevated countenance*; but *merops* is from *employing a voice distributed into parts*; and *brotos*, from *being mortal and subject to fate*. Hence,

We mortals (*μορταί*) cities raise, ———

says the Cyrenean \*. Since, however, others endeavour to exterminate the subsistence of names from position, adducing for this purpose prayers and imprecations, in which our names, when uttered, evidently either benefit or injure those who are named, though these names are from the compact, which reasonably subsists among men, but which cannot even be suspected to subsist between men and the gods;—to this we reply, that the gods having produced us self-motive natures, very properly also gave us dominion over, and the power of performing many actions. Immutably also perceiving all our concerns, receiving our positions, and looking to these, they act by us as self-motive natures, according to our deserts. Or rather we through the phantasies, appetites, and inclinations, arising from these positions, prepare in ourselves a certain mode of life, and conformable to this enjoy that providence of the gods which is adapted to us; just as we see that bodies when they are burnt become naturally light, and tend upward; but when

\* i. e. Callimachus.

v 8

changed

of a noun]. Because, however, in conjunction with [the verb] *is*, or *was*, or *will be*, it does not signify what is true or false, and a noun always [signifies this, hence] it differs [from a noun]. For instance, *Philonos is*, or *is not*; since this does not yet signify either what is true, or what is false.

### CHAPTER III.

A VERB is that which in addition to something else signifies time; of which no part is significant; and it is always an indication of those things which are asserted of something else<sup>4</sup>. But I say that in addition

changed again into a more terrestrial and ponderous nature, again tend downward, according to the inclination or momentum which they then possess. When the sovereign sun also is at his meridian altitude, and illuminates all the hemisphere above the earth, those who are awake, and whose eyes are in a condition according to nature, enjoy the good resulting from his light; but those who are asleep, or shut their eyes, or in some other way obstruct their sight, do not receive this good, through their own fault, and not through any envy of the god, who abundantly supplies all things with light. Thus far the excellent Ammonius. Those who are desirous of seeing more on this interesting subject, are referred to the Additional Notes to my translation of the Cratylus of Plato, in which I have collected from the divine Proclus a treasury of mythological and theological information.

<sup>4</sup> That is, it is not a true and perfect noun.

<sup>5</sup> Because it does not signify the true or the false; and wants a verb, since there is no negation without a verb.

<sup>6</sup> That is, it signifies as well any being, as any non-being.

<sup>7</sup> Aristotle alone denominates those variations cases which are oblique, but not the erect or upright variation (i. e. the nominative). The Stoics, however, and grammarians, call also the erect variation a case.

<sup>8</sup> In this definition Aristotle being studious of brevity omits that which is common to a verb, with a noun and a sentence; but this is *sound significant from compact*. Observe too, that it is one thing to signify, and another to signify with addition. Some nouns signify time, as an hour, a day, a month, a year; but it is the peculiarity of a verb in addition to something else to signify

tion to something else it signifies time. Thus, for instance, *health* is a noun ; but *is well* is a verb ; for it signifies *in addition to being well*, that health is *now* inherent. And it is always an indication of those things<sup>3</sup> which are asserted of something else ; as, for instance, of those things<sup>3</sup> which are predicated of a subject, or which are in a subject<sup>9</sup>. I do not, however, call *is not well*, and *is not ill*, verbs. For they signify, indeed, time in addition to something else, and they are always [an indication] of something<sup>1</sup> ; but a name is not given to this difference<sup>2</sup>. But let them be indefinite verbs, because they are similarly inherent, both in whatever exists, and whatever does not exist. In like manner, I do not call, *was well*, and *will be well*, verbs, but cases of a verb. But they differ from a verb ; because the one, indeed, (i. e. a verb) signifies in addition to something else the present time ; but the others, that which is about the present time. Verbs, therefore, so called by themselves, are nouns<sup>3</sup>, and signify something ; (for he who pronounces [some verb] stops the discursive power [of the hearer<sup>4</sup>], and he who hears acquiesces,) but they do not yet signify whether a thing is or is not<sup>5</sup>.

signify time, viz. to add to the thing principally signified, the time in which that thing exists. Thus runs, signifies the race which now is ; did run, signifies the race which was before. But when Aristotle says, “ of which no part is significant,” this difference distinguishes a verb from a sentence. And when he says, that “ it is always an indication of those things which are asserted of something else,” his meaning is, that it has a certain power of connecting the thing signified by a verb with another thing. This additional signification, however, of connection, cannot be sufficiently understood without a sentence, as the philosopher says at the end of this chapter. When, therefore, we say the man runs, or the man is running, we conjoin the attribute with the subject, viz. the race with man, which power of conjoining is in the verb runs, and in the verbal copula *is*.

<sup>9</sup> Universals are predicated of a subject ; accidents are in a subject. But that which is predicated of another thing, is either an universal, or an accident.

<sup>1</sup> That is, they are always an indication of an attribute which is predicated of a subject.

<sup>2</sup> That is, to the words *is not well*, *is not ill*, which are different from verbs.

<sup>3</sup> Aristotle now assumes the word *noun* in a more extended sense than in the former chapter ; viz. he assumes it for every significant word.

<sup>4</sup> That is, he causes the hearer to conceive in his mind, the thing signified by the verb.

<sup>5</sup> That is, before they are assumed in enunciation, and conjoined with nouns.

For neither is *to be*, or *not to be*, an indication of a thing<sup>6</sup>; nor if you should say *that which is merely being*; [will it be an indication of any thing] for that is nothing<sup>7</sup>. They signify, however, in addition to something else, a certain composition<sup>8</sup>, without which it is not possible to understand composites.

## CHAPTER IV.

A SENTENCE, however, is voice significant according to compact, of which a certain part is significant considered separately<sup>9</sup>. [It signifies indeed] as a word, but not as affirmation or negation<sup>1</sup>. But I say, as, for instance, *man* signifies something, but not that it is, or is not<sup>2</sup>. It will be, however, affirmation or negation, if any thing is added to it<sup>3</sup>. But one syllable of the word *ανθρωπος* (i. e. man) is not [significant]. For neither in the word *mus* (a mouse) is *us* significant, but it is now sound articulate alone<sup>4</sup>. In double words, however, [a part] signifies, indeed, something, but not by itself, as we have before observed. But every sen-

<sup>6</sup> Aristotle shows that no verb signifies that a thing is, or is not, because this is not signified even by the verbs *to be* or *not to be*; so far is it from being the case that verbs considered by themselves signify that a thing is, or is not. Hence, it is more true that *to be* or *not to be* signify nothing, and, therefore, that they are not true verbs, but, as they are called in the schools, are verbal copulae.

<sup>7</sup> That is, it signifies nothing.

<sup>8</sup> That is, they have a power of conjoining an attribute with a subject, without which it is not possible to understand *composites*, viz. *a sentence*.

<sup>9</sup> This difference separates a sentence from simple words, a noun and verb.

<sup>1</sup> A part of a composite sentence, indeed, sometimes signifies as affirmation or negation; but this is not perpetually the case, and, therefore, ought not to be admitted in definition. But of a sentence, some part is always significant, as a word.

<sup>2</sup> That is, it neither affirms nor denies.

<sup>3</sup> That is, if any verb is added to it.

<sup>4</sup> That is, it does not signify any thing.

tence

tence is, indeed, significant, not as an instrument, but as we have said, according to compact<sup>5</sup>. Not every sentence, however, is enunciative, but that in which truth or falsehood is inherent; but these are not inherent in every sentence. Thus, for instance, a *prayer*, is, indeed, a sentence, but is neither true nor false. The consideration, therefore, of other sentences must be omitted; because it is more adapted to rhetoric or poetry. But an enunciative sentence belongs to the present theory<sup>6</sup>.

## CHAPTER V.

ONE first enunciative sentence, however, is affirmation<sup>7</sup>; afterwards negation. But all the rest are one by conjunction. It is necessary, however, that every enunciative sentence should be from a verb, or from the case of a verb. For the definition of man, unless *is* or *was*, or *will be*, or something of this kind is added, is not yet an enunciative sentence. Why, therefore, is the sentence *a terrestrial biped animal*<sup>8</sup>, one thing, and not many things? For it will not be one sentence, because it is pronounced without intermission. To speak of this, however, pertains to another discussion<sup>9</sup>. But one enunciative sentence is either that which signifies one thing<sup>1</sup>, or which is one by conjunction<sup>2</sup>; and

<sup>5</sup> That is, not as a natural instrument of a natural power.

<sup>6</sup> Aristotle, employing the greatest brevity, at one and the same time divides a sentence and defines enunciation. A sentence either signifies the true or the false, or it is without truth and falsehood. Enunciation is a sentence signifying the true and the false.

<sup>7</sup> Affirmation is placed before negation, because so far as pertains to articulate sound it is more simple; since negation will be produced, if to the affirmative verb the particle *not* is added.

<sup>8</sup> Definition is one sentence, not as if one enunciation, but after another manner, which it does not belong to this place to explain.

<sup>9</sup> That is, to the first philosophy. For this question is solved by Aristotle in the sixth book of his Metaphysics.

<sup>1</sup> As, *a man runs*.

<sup>2</sup> As, *either it is day, or it is night*.

many.

many enunciative sentences, are either those which signify many things, and not one thing<sup>3</sup>, or which are without conjunction<sup>4</sup>. Let, therefore, a noun or a verb be a word alone<sup>5</sup>; since it cannot be said that he who<sup>6</sup> thus renders any thing manifest by articulate sound, enunciates, whether he is<sup>7</sup> interrogated by any one or not, but that he speaks from deliberate intention. But of these, one, indeed, is a simple enunciation, as, for instance, something of something<sup>8</sup>, or something from something<sup>9</sup>; but another is composed from these, as a certain sentence which is now a composite<sup>1</sup>. Simple enunciation, however, is sound significant about something being inherent, or not being inherent, according as times are divided<sup>2</sup>.

## CHAPTER VI.

BUT affirmation is the enunciation of something concerning something<sup>3</sup>. And negation is the enunciation of something from something.

<sup>3</sup> As, the dog is moved. For *dog* signifies three things, a constellation, a quadruped animal, and a fish.

<sup>4</sup> As, I congratulate you, I am delighted, I love you, &c.

<sup>5</sup> That is, not having the power of affirming or denying.

<sup>6</sup> That is, who uses a simple word, namely, a noun or verb.

<sup>7</sup> He who being interrogated answers, may appear to enunciate by one word. He does not, however, enunciate, unless something is tacitly supplied, and which is repeated from the interrogation. As, who reads? Socrates; *reads* being understood. What does Socrates do? *Reads*; Socrates being understood.

<sup>8</sup> That is, simple affirmation, as, it is day.

<sup>9</sup> That is, simple negation, as, it is not night.

<sup>1</sup> As, it is day, not night.

<sup>2</sup> By the words, "about something being inherent or not being inherent," Aristotle means affirming or denying an attribute of something; and this according as times are divided into the past, present, or future.

<sup>3</sup> That is, of an attribute concerning a subject.

Since

Since, however, it is possible to enunciate that which is inherent as if it were not inherent ; that which is not inherent as if it were inherent<sup>4</sup> ; that which is inherent as if it were inherent ; and that which is not inherent as if it were not inherent<sup>5</sup> ; and in a similar manner about the times which are external to the present ;—this being the case, it is possible that whatever any one affirms may be denied, and that whatever any one denies may be affirmed. Hence it is evident, that there is a negation opposite to every affirmation, and an affirmation opposite to every negation. And let this be contradiction ; affirmation and negation being opposites. But I say, that the enunciation of the same thing is opposed respecting the same thing, but not homonymously, and such other particulars of this kind, as we have concluded against sophistical importunities<sup>6</sup>.

## CHAPTER VII.

SINCE, however, of things some are universals, but others particulars ; (but I call that *universal* which is naturally adapted to be predicated of many things, but that *particular* which is not adapted to be so predicated ; as man is a universal, but Callias a particular) it is necessary to enunciate that something is inherent or is not inherent, at one time in something universal, but at another in something particular. If, therefore, any one universally enunciates of that which is universal, that something is inherent, or is not inherent, these enunciations will be contrary<sup>7</sup>. But I say, to enunciate universally of that which is universal;

<sup>4</sup> The former of these enunciations is false negation, and the latter is false affirmation.

<sup>5</sup> Of these two enunciations, the former is true affirmation, and the latter true negation.

<sup>6</sup> That is, in the treatise On Sophistical Arguments.

<sup>7</sup> To enunciate *universally* is to add the universal mark or sign *every* or *none* ; and these enunciations mentioned by Aristotle will be contrary, because those things are contrary which being in

x the

versal; as, for instance, every man is white, no man is white. But when he enunciates of things universal not universally<sup>8</sup>, these are not contrary. The things signified<sup>9</sup>, may, however, sometimes be contrary<sup>1</sup>. But I say, to enunciate not universally of things universal; as, for instance, man is white, man is not white. For man being a universal, is not used as a universal in the enunciation; since the word *every*<sup>2</sup> does not signify universal, but [shows that the subject] is universally [assumed]. Of that, however, which is universally predicated, the universal predicate is not true. For no affirmation will be true, in which the universal is predicated of that which is universally predicated<sup>3</sup>; as for instance, every man is every animal. I say, therefore, that affirmation is opposed to negation contradictorily; the affirmation which signifies a universal, to that which signifies that the same is not to be universally assumed; as every man is white, not every man is white;

the same genus, are most distant from each other, and of this kind are these enunciations. Besides, contraries may at one and the same time be absent from a subject, but they cannot at one and the same time be inherent in it. Thus a body may be neither white nor black, but may be red or green; yet it cannot at one and the same time be black and white. In like manner, these enunciations may be at one and the same time, but they cannot be at one and the same time true, as Aristotle will show in the course of this chapter.

<sup>8</sup> That is, not adding the universal mark *every*, *no one*, nor the particular mark *some one*, *not every one*.

<sup>9</sup> That is, the things conceived in the mind by those who pronounce an indefinite enunciation.

<sup>1</sup> That is, when some one assumes the indefinite for the universal; as when Aristotle in the second chapter of the third book of his Nicomachean Ethics reasons as follows: "Opinion is employed about all things, therefore, pre-election is not opinion." In which place, unless the antecedent were universally assumed, the argument would have no force.

<sup>2</sup> The same thing must also be said of the mark *no one*.

<sup>3</sup> Either the attribute extends more widely than the subject, or reciprocates with it. When it extends more widely, it is certain that the universal mark is falsely added to the attribute. For it will be falsely said, that every man is every animal; unless man is horse and ox, and every other animal. But when the attribute reciprocates with the subject, it may be doubted whether it may be truly said, that every man is every thing endued with reason, and every man is every thing which is risible. This, however, will also be falsely asserted; because that which is said of every man, may also be said of Socrates. Hence, if every man were every thing risible, Socrates also would be every thing risible. Socrates, therefore, would be Plato and Aristotle, and every thing which is risible; which is evidently absurd.

no man is white, some man is white. But the affirmation of a universal, and the negation of a universal, are opposed contrarily; as every man is white, no man is white; every man is just, no man is just. Hence it is impossible that these should be at one and the same time true<sup>4</sup>. It may sometimes, however, happen, that the opposites to these are co-verified in the same thing<sup>5</sup>; as, not every man is white, and some man is white. Of such contradictions, therefore, of universals as are universally made, it is necessary that one of them should be true or false<sup>6</sup>; and also such as are of particulars; as, Socrates is white, Socrates is not white. But with respect to such contradictions as are of universals, indeed, yet are not universally made, the one is not always true, but the other false<sup>7</sup>. For at one and the same time it may be truly said, man is white, and man is not white; and man is beautiful, and man is not beautiful; for if he is deformed he is not beautiful; and if any thing is becoming to be, it is not. This, however, may immediately appear to be absurd<sup>8</sup>, because this assertion, *man is not white*, seems at the same time to signify the same thing, as no man is white<sup>9</sup>.

<sup>4</sup> These contraries cannot be at one and the same time true, but they may be at one and the same time false; or, the one may be true, but the other false. In necessary matter, however, affirmation is true, and negation false; as every man is an animal, no man is an animal. But in impossible matter, affirmation is false, and negation true; as, every man is a stone, no man is a stone. And in contingent matter, both are false; as, every man is white, no man is white.

<sup>5</sup> That is, particular sub-contraries, which contradict the universals mutually contrary to each other, are co-verified in the same thing. For particular affirmation contradicts universal negation, and particular negation, universal affirmation. But they are co-verified in the same thing; i. e. in contingent matter, as in the instance adduced by Aristotle. But in necessary matter, affirmation is true, and negation false; as, some man is an animal, not every man is an animal. In impossible matter, affirmation is false, but negation true; as, every man is a stone, no man is a stone.

<sup>6</sup> That is, when of contrary assertions, one is universal, but the other particular; as, every man is just, not every man is just. No man is just, some man is just.

<sup>7</sup> For in contingent matter, both are at the same time true, as in the examples adduced by Aristotle.

<sup>8</sup> That is to say, what has been asserted by Aristotle, that indefinites are at one and the same time true.

<sup>9</sup> Indefinite enunciation may seem to be universal, because it has a universal subject; but it is not universal, because it wants the universal mark *every*, or *no one*.

It neither, however, necessarily signifies the same thing, nor at the same time<sup>1</sup>. But it is evident, that there is one negation of one affirmation; for it is necessary that the same thing (i. e. the attribute) should deny the negation which affirmation affirmed; and also from the same, (i. e. subject) viz. either from some particular, or some universal, either as universal<sup>2</sup>, or as not universal<sup>3</sup>. I say, as, for instance, Socrates is white, Socrates is not white. But if there is something else from the same, or the same thing from something else<sup>4</sup>, that [enunciation] will not be opposite, but different from it<sup>5</sup>. To this [enunciation], however, every man is white, the enunciation, not every man is white, [is opposed]. But to this, a certain man is white, the enunciation is opposed, no man is white. And to this, man is white, the enunciation is opposed, man is not white. And thus we have shown that one affirmation is contradictorily opposed to one negation, and also what these are. We have likewise shown that there are other contraries, and what they are; and that not every contradiction is true or false, and why it is not, and when it is true or false.

## CHAPTER VIII.

THE affirmation, however, and also the negation is one, which signifies one thing of one, either universal, if it is as universal, or similarly, if it is not. For instance, every man is white, not every man is white; man is white, man is not white; no man is white, some man is white;

<sup>1</sup> It is not necessary that universal and indefinite enunciation should be at one and the same time true; nor is it also necessary that they should be at one and the same time false. But it is possible that the universal may be false, and the indefinite true; as, every man runs, a man runs.

<sup>2</sup> That is, the universal mark being added *every*, or *no one*.

<sup>3</sup> That is, indefinitely.

<sup>4</sup> That is, if negation differs from affirmation in the attribute, or the subject.

<sup>5</sup> As, the man runs, the horse does not run, are not opposite, but different enunciations.

if

if that which is white signifies one thing. But if one name is given to two things, from which there is not one thing<sup>6</sup>; there is not one affirmation, nor one negation. Thus, if any one should give the name of *garment* to a horse and to a man, the affirmation will not be one, that the garment is white, nor will the negation of it be one. For this in no respect differs from saying, that a man and a horse are white; and this in no respect differs from saying a man is white, and a horse is white. If therefore these [enunciations] signify many things, and are many; it is evident that the first enunciation<sup>7</sup> also either signifies many things<sup>8</sup>, or nothing<sup>9</sup>; for some man is not a horse. Hence, neither in these is it necessary that one should be a true, but the other a false contradiction<sup>1</sup>.

## CHAPTER IX.

IN those things, therefore, which are, and in those which are becoming to be, or passing into existence, it is necessary that affirmation or negation should be true or false<sup>2</sup>; and in universals, indeed, as universals, that always the one should be true, but the other false; and also in particulars, as we have shown. But in universals not universally pronounced this is not necessary; concerning which also we have

<sup>6</sup> That is, so as that it is an homonymous word, which does not signify one nature common to many things.

<sup>7</sup> That is to say, the garment is white.

<sup>8</sup> That is, if a garment is assumed for a man and a horse.

<sup>9</sup> That is, if a garment is so assumed, as if it signified one thing; since a garment was assumed for man horse, and man horse is not one thing, but nothing.

<sup>1</sup> For both may at one and the same time be true, as, every garment (i. e. man) is rational; not every garment (i. e. horse) is rational; or both may be at one and the same time false, as in the same examples, if garment is assumed in affirmation for horse, but in negation for man.

<sup>2</sup> Aristotle does not mean that affirmation and negation are at one and the same time true, or at one and the same time false; but that the one is true, and the other false.

spoken.

spoken. This, however, is not<sup>3</sup> similarly the case in things particular and future. For if every<sup>4</sup> affirmation or negation is true or false, it is also

<sup>3</sup> That is to say, that one part of the contradiction is true but the other false. For the sake of the intellectual reader, the following admirable digression is added concerning Necessity, from the Commentary of Ammonius on this treatise of Aristotle.

The theorem, indeed, which is now agitated by Aristotle, appears to be logical, but in reality is necessary to all the parts of philosophy. For it is necessary it should be assumed in all ethical philosophy, that not all things exist, and are generated from necessity, but that certain things are in our power. For since we have dominion over certain actions, and it is in our power to choose or not to choose, to do or not to do certain things, we say that some things which we deliberately choose, and some of our actions are laudable, but others blameable. We also think fit to exhort our neighbours to beautiful and worthy conduct, and to turn them from the contrary. This theorem also appears to be useful to physiology. For the physiologist likewise enquires whether all things that are generated, are generated from necessity, or whether some things are generated from chance and fortune. In a similar manner also it is useful to logic. This, therefore, is what is now investigated, whether all contradiction definitely divides the true and the false, or whether there is also a certain contradiction which indefinitely divides these. You will likewise find that this theorem is extended to the first philosophy. For the theologian also investigates after what manner mundane affairs are governed by providence, and whether all generated natures are definitely generated, and from necessity, as is the case with perpetual beings, or there are also certain things which have a contingent subsistence, the generation of which must necessarily be referred to partial causes, and which subsist differently at different times. Nor will you find even ignorant men neglecting the conceptions pertaining to this theorem, but some, in consequence of thinking that all things are produced from necessity, endeavour to refer the causes of their errors to fate, or to a divine and dæmoniacal providence, as he (Agamemnon) who ignorantly says in Homer,

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Not I the cause,  
But Jove and Fate, and wand'ring in the air  
Erinnys.

But others, as admitting that certain things are in our power, oppose those who contend that all things are from necessity, and considering us as self-motive natures, think that we ought to pay attention to education and virtue.

Since, therefore, this theorem possesses so great a power with respect to the whole of our life, I think it requisite to expose and dissolve the arguments of those who subject every thing to necessity, and which in the hearers of them appear to occasion any doubt. But since these arguments are of two kinds, one being more logical, and the other more pertaining to things, the more logical argument proceeds, as in some one of our energies, for instance, reaping, after the following

also necessary that every thing should exist, or should not exist. For if one person says that something will be, but another says it will not be;

lowing manner: If you reap, you will not perhaps reap and perhaps not, but you will entirely reap. And if you do not reap, in a similar manner you will not perhaps reap and perhaps not reap, but you will entirely not reap; since from necessity you will either reap, or will not reap. The *perhaps*, therefore, is subverted, since neither has it any place in the opposition between reaping and not reaping, one of these taking place from necessity, nor in that which follows from either of these hypotheses. But the term *perhaps* was that which introduced the contingent. The contingent, therefore, is subverted. To this argument, however, it is easy to reply by asking, when you say, if you reap, you will not perhaps reap, and perhaps not reap, but you will entirely reap, in what manner you think fit to admit reaping, whether as necessary, or as contingent? For if as contingent we have what we investigate; but if as necessary, in the first place, you request that to be granted to you as evident which was the object of enquiry from the beginning; and, in the next place, it will be true that you entirely do reap, and thus you will no longer be permitted to say, either you reap, or you do not reap. For how, since one of these necessarily happens, but the other is impossible, can it any longer be permitted to say, either this thing is, or that? So that this argument of theirs falls to the ground.

But the other argument, which is so weighty and difficult, as to lead many of those who appear to be more learned to embrace that opinion which subverts the contingent, proceeds from such a division as the following: The gods, say they, either definitely know the event of things contingent, or they have no knowledge whatever of them, or they have an indefinite knowledge of them in the same manner as we have. They cannot, however, be ignorant of any thing, since they produce and orderly dispose all things, and since they are intellects perfectly unmixed with matter. Or rather, if it be requisite to speak in the most accurate manner, their real essence is established above the intellectual peculiarity itself. For neither must we say that the nature and order of beings is from chance, nor is it reasonable either that the gods should be ignorant of their productions, or that they should despise the knowledge and orderly disposal of them, as if attended with intolerable labour. For to apprehend that we shall make the life of the gods laborious and unattended with leisure, and destitute of that facility of energy which is adapted to the gods, if we assert that they pay attention to particulars, can only be the opinion of those who do not perceive the transcendency of the knowledge and power of the gods, with respect to ours, and who, on account of this ignorance, think fit from our affairs to weigh those of the gods, and transfer our imbecility to them. For it is absurd to suppose, that the sovereign sun is able to illuminate at once all things in the world, (except that certain substances which not being diaphanous but solid bodies, do not afford a passage to his rays,) but that the incorporeal and perfectly immaterial power of the gods is incapable of being at once present to all things, without impediment, and with collective energy, since nothing is capable of resisting this power, except our inaptitude to receive it. Nor, indeed, even then, is the providence of the

be ; it is evident that one of them necessarily speaks truly, if every affirmation or negation is true or false ; since both will not subsist at one and

the gods in reality impeded, either with respect to a knowledge of our affairs, or an attention to them, but we then are affected in a manner similar to those who sleep or shut their eyes in the light of the sun. For as they enjoy that heat of the sun which is imparted to sublunary natures, but voluntarily deprive themselves of his illuminative power, not through any anger of the god withdrawing from them his proper rays ; thus also those, who through a depraved life are said to fall beyond the providence of the gods, are not in reality beyond its reach. For there is not any one, as the Athenian guest in Plato says, so small, as that by descending into the profundities of the earth, he can be concealed from that providence which surveys all things, and even such as are the smallest, nor is any one so great, as to soar beyond the heavens, and become situated beyond the providence which administers the whole of things. But the depraved immediately deprive themselves of the powers of the gods, who impart to us every good, and necessarily become subject to those powers which through vengeance and punishment lead them to a condition of being conformable to nature.

These things, therefore, being acknowledged, according to the common and unperverted conceptions of the soul, and being clearly demonstrated by Plato in the tenth book of his Laws, it is neither possible that the gods can be ignorant of our affairs, nor that they have an indefinite knowledge of them, in the same manner as those who conjecture about future events. For, in the first place, as we are taught by Timæus, and as Aristotle himself theologizing affirms, and prior to these Parmenides, not only in Plato, but in his own verses, there is nothing with the gods either past or future, nor of these can it be said that one is not, another no longer is, and another is not yet, and one is changed, but another is naturally adapted to be changed. For it is impossible that these and such like assertions should be adapted to true beings, and which cannot even be suspected to receive any mutation. For it is necessary that a nature which is perfectly immutable should precede that which is in any respect changed, in order that, by imparting change to other things, it may itself abide. Hence, in the gods who have the relation of a principle to all beings, it is impossible that the past or the future should be surveyed ; but all things are established in them in one eternal now, temporal measures becoming apparent together with the subsistence of the universe, and alone measuring things which have either their essence, or their energy in time. Hence also it is necessary that conjectural knowledge should be removed from the gods, and hurled into the termination of the rational life. In the next place, how can we think it right, if we possess the smallest portion of wisdom, to attribute no more to the knowledge of the gods than to our knowledge, and dare to confess it to be dubious and indefinite. For it will be the province of the same reasoning, or rather of the same folly, to compare the knowledge of irrational animals with ours, and to ascribe to them also the apprehension of universals, and intelligible natures. In short, if there is every necessity that the gods should either be the causes, or the co-operating causes of all beings, how can it be reasonable to suppose

and the same time in things of this kind. Thus, if it is true to say that a thing is white, or that it is not white, it is necessary that it should be white,

suppose that they should either be ignorant of their own offspring, or of the effects of their own offspring, or that they should have a dubious knowledge of things which are in any way produced by them, as of what does not pertain to them, and is not within the reach of their power. According to neither of these hypotheses, is it possible that the gods should pay attention to our affairs, according to a mode of providence adapted to the gods. But this mode consists in paying attention to them from the essence of the things provided for, and governing them like a pilot from the stern of a ship; not by consulting about them as the poets say, for consultation implies the want of wisdom; nor by consulting at one time and fabricating at another, for this is foreign from the one, simple, and perfectly immutable energy of their nature, and is alone adapted to those beings whose energies are measured by time, and produced in conjunction with deliberate choice; but they govern and pay attention to their offspring, as it is said, from their very being. Hence their providential energies may be assimilated to the sun, which neither consulting, nor suffering any mutation, but by his very essence, and by always abiding in the same condition of being, fills with his proper light whatever is capable of receiving it. It is not possible, therefore, that the providence of the gods can thus subsist (i. e. be attended with ambiguous knowledge) for if it did, it would not be very remote from insanity to pray to and supplicate them for rain, or the safety of fruits, or for victory in battle, of the event of which they are ignorant. But if these things are impossible, and can neither be asserted nor conceived without impiety, and are also confuted by experience, as the manifold employments of divine energies, and daily occurrences, as I may say, evince to those who are able to observe them;—if this be the case, it is evident that things contingent must be acknowledged to be arranged, and the event of them to be definitely known by the gods. For it would be more reasonable that eternal things should be overlooked by them, and be destitute of the providence pertaining to them, than things which have a flowing nature; since the former have the definite and immutable from their own nature, being allotted a subsistence of this kind from divinity; but things in generation, through the fluxible nature of their proper matter, are naturally adapted to be borne along in all-various mutation. Hence they can neither exist nor be contained and governed without abundantly partaking of the fabricative and providential cause of things which always possess an invariable sameness of subsistence, not only of that cause which is more total and exempt, but also of that which is more partial and proximate; just as in the human race, we see that children require a more abundant care than men, and the stupid than the wise. But if the gods know contingent events, and also know them definitely, lest, as we have said, we should make their knowledge to be indefinite, and if they knew that a wooden wall alone would preserve the Athenians from Barbaric dangers, that divine Salamis would lose the children of women, that Cræsus by passing over the Halys would destroy a mighty empire, and that Laius, by begetting children, would bring destruction on the whole of his family;—if they knew all these events, it is evident that it is

white, or not white. And if it is white, or not white, it was true to affirm or deny [that it is white, or not white]. Also if it is not, it is falsely

is not possible they should not have happened, or if it were possible, it is evident that the gods must have spoken falsely. One, of two things, therefore, must follow; either we must say that all things happen necessarily, and that they are known and predicted, as it is fit they should be, by the gods, and thus that which is contingent will be an empty name; or we must say that our concerns are neither known, nor providentially attended to by the gods. Since this, however, is impossible, the contingent will no longer have any subsistence.

In answer to this argument, which as we have said, it is difficult to oppose, and which seems to be corroborated by evidence, as the predictions of prophets evince, we shall reply as follows, conformably to the doctrine of the divine Iamblichus. It is requisite to divide the different measures of knowledges, and to assert that knowledge being a medium between that which knows and the thing known, since it is the energy of that which knows about the object of knowledge, as of the sight about something white, at one time knows the object of knowledge, in a manner more excellent than the nature of the thing known, at another time in a manner subordinate to, and at another, in a manner co-ordinate with the object of knowledge. For when we say, that our intellect employing itself in political actions, knows particulars by referring them to universals, and through universals as things allied to itself endeavours to know particulars, it is evident that we must then affirm the knowledge to be more excellent than the thing known, since particulars are divisible, and conversant with mutation. But the reason by which the *practic*\* intellect knows these, is indivisible and immutable. When, however, intellect being converted to itself, and energizing according to the cathartic† virtues, contemplates its own essence, it is necessary that the knowledge should be co-ordinate with the thing known. And when intellect ascending to the summit of its perfection, and employing the theoretic‡ virtues, surveys what pertains to the divine orders, how they are produced from the one principle of all things, and what is the characteristic peculiarity of each [all which is divinely unfolded by Proclus in his six books On the Theology of Plato], then the knowledge is necessarily subordinate to that which is known. This then being the case, we must say that the gods know all things, past, present, and future, in a manner adapted to the gods; viz. by one, definite, and immutable knowledge. Hence also they comprehend the knowledge of contingent events, as producing every thing in the world, and as being the causes of perpetual essences, but the co-operating causes of generated natures, according to the energies adapted to the respective divinities. They also perceive, as it were, not only the very essences of the things produced, but also their powers and energies, as well

\* The human intellect when it applies itself to particulars or practical affairs, using *maxims* in the same way as it uses *axioms* in science, i. e. employing these as the principles of its knowledge, is then called the *practic intellect*.

† For an account of these virtues see the notes to my translation of the Phædo of Plato.

‡ See my translation of the Theætetus of Plato.

those

falsely said to be so ; and if it is falsely said to be so, it is not. Hence<sup>s</sup> it is necessary, that either affirmation or negation should be true or false.

Nothing,

those which are according, as those which are contrary to nature ; for a subsistence contrary to nature, is co-introduced with the necessary subjection, in those beings which are occasionally adapted to partake of it, not prececdaneously, but according to what is called a resemblance of subsistence. The gods, therefore, know contingent events in a manner more excellent than the nature of the events themselves ; because these, indeed, having an indefinite nature, may, or may not happen ; but they, as transcending the nature of these, and causally comprehending the knowledge of them, know them also definitely. For it is necessary that they should know partible things imparibly, and without interval, multiplied things uniformly, temporal things eternally, and generable things ingenerably. For we must not attempt to say that the knowledge of the gods keeps pace with the flux of things, or that any thing with them is either past or future : since, as we learn in the Timæus, the term it was, or it will be, must not be asserted of them ; these words being significant of a certain mutation, but to them the term *is* must be alone applied. Nor must this term be con-numerated with *it was*, and *it will be*, and receive a division opposite to these, but it must be considered as significant of that which is conceived to be prior to all temporal resemblance, and as indicating their immutable and invariable nature. This also the great Parmenides evinces to be the case with the whole of an intelligible essence ; "for it was not," says he, "nor will be all things collectively and at once, but it alone *is* all things collectively." It is not requisite, therefore, to think that things which we call *contingent*, will have a *necessary* event, because they are definitely known by the gods ; for they do not necessarily happen because they are known by the gods ; but since from possessing a nature contingent and dubious, they will entirely have such or such an end, on this account it is necessary that the gods should know what will be their event. And the same thing, indeed, is in its own nature contingent ; but to the knowledge of the gods, it is no longer indefinite, but definite. But it is also evident, that it is possible by our knowledge definitely to know that which will some time or other happen, when it is no longer properly contingent, but follows from necessity the prececdaneous causes of its generation. Hence, when a sphere is at rest in a plane parallel to the horizon, it is possible as long as the plane has the same position, for the sphere to be moved, or not to be moved by some one ; but if the plane is made to incline, it is impossible that the sphere should not be moved. Hence too, we see that physicians, at one time pronounce nothing confidently about the sick, whether they will recover their health, or whether they will die, both these things being contingent ; but at another time they pronounce without hesitation concerning one of these, that it will certainly happen to the sick man.

Since, however, some conducting themselves more confidently in the investigation of the proposed theorem, fancy they can demonstrate that the gods have no definite knowledge of contingent events, adducing in proof of this, the ambiguous answers of oracles, about what is future, we must answer them in the words of the great Syrianus as follows : In the first place, it is re-

Nothing, therefore, either is, or is generated (i. e. is becoming to be) either fortuitously, or casually, nor will it be or not be, but all things

quisite to observe that the knowledge and intelligence of the gods is one thing, and the energy of the prophetess another. The prophetess, therefore, being excited by divinity conceives in herself divisible language and measures, and a dubious knowledge; for that which is illuminated is not such as that which illuminates. In the next place, dubious oracles are frequently given for the sake of benefitting the hearers of them, by exercising their reasoning power. For the gods use us as self-motive natures; and after this manner govern our actions, and distribute all things to us according to our desert. These things, however, are perhaps boldly asserted, and wander too far from our proposed enquiry.

In short, with respect to the reasoning which concludes that all things are necessary, we ask whether it says that this also happens to men from necessity, to assert that all things are necessary; or whether it says that the opinions about the mode of the generation of things, are in our power? For if the latter is true, all things are not from necessity; but if the former, how comes it to pass that certain persons are of an opposite opinion, viz. that many things are in our power? For nature compelling all things from necessity, as they say, that we should be moved contrary to nature to form an opinion of the productions of nature is perfectly irrational, and is just as if some one teaching the medical art, should through this very thing prepare his disciples to subvert the principles of the art which they study. Indeed, it is likely that an artist may do something contrary to art, yet not so far as he is an artist. Thus, a physician may administer poison, or a medicine to procure abortion, as having a self-motive soul; and art contributing nothing to the perfection of the soul, but paying attention to the body, or things external; but it is impossible that nature should do any thing contrary to her proper end. For we must not, about opinions as about prodigies, introduce a superfluity, or indigence of matter, as the cause of their production. For it is not easy for those who devise this method of solution to assign the causes of different opinions, from a difference according to matter, nor can they besides this acknowledge that fate is the cause of all things. But of these things enough.

\* Aristotle shows that there is a consecution from a word to a thing. Thus, if affirmation is true, a thing is; if negation is true, a thing is not. But he uses an hypothetic syllogism in the first figure as follows: If he who affirms or denies, says truly or falsely, it is necessary that a thing should be, or should not be. If affirmation or negation is true or false, he who affirms or denies, says truly or falsely. Hence, if affirmation is true or false, it is necessary that a thing should exist, or should not exist.

\* Aristotle uses a twofold enthymeme in this place, so that the consequent of the prior is the antecedent of the posterior proposition. For he thus reasons: Either he who affirms, or he who denies speaks truly; and, therefore, either affirmation or negation is true. Hence all things are from necessity, and there is nothing which can be or not be. This opinion, however, he confirms merely for the sake of argument, because he afterwards rejects it, and dissolves these reasons.

are

are from necessity, and not casually, or in any manner whatever. For either he who affirms says truly, or he who denies ; since otherwise, it might<sup>6</sup> similarly be generated or not be generated. For that which subsists casually, does not more subsist, or will not more subsist in this way than in that<sup>7</sup>. Again, if a thing is now white, it was true to say before, that it will be white ; so that it was always true to say, of any thing which is in generation or becoming to be, that it is, or will be ; and it is not possible that this is not or will not be. But with respect to that which it is impossible should not pass into existence, it is impossible that it should not be generated. And with respect to that which cannot not be generated, it is necessary that it should be generated. It is necessary, therefore, that all things that will be should be generated. And hence nothing will be casual, nor subsist fortuitously ; for if fortuitously, it will not be from necessity. Nor can it be said that neither of them is true ; as, for instance, that it neither will be, nor will not be. For in the first place, the affirmation being false, the negation will not be true ; and this being false, it will happen that the affirmation is not true. And, besides, if it was true to say, that a thing is white and at the same time great, it is necessary that both should exist. But [if it was true to say] it will be to-morrow, it is necessary that it should be to-morrow. And if [it was true to say] it neither will be, nor will not be to-morrow, it will not be that which may happen casually, or in any way ; as, for instance, a naval engagement. For it would be requisite that a naval engagement should neither take place, nor should not take place. These, therefore, and other such like absurdities will happen, if of every affirmation and negation, either in things universal considered as universal, or in particulars, it is necessary that the one of opposites should be true, and the other false ; viz. that nothing in things

<sup>6</sup> He now proves the consecution of the second enthymeme by a deduction to an absurdity ; viz. that otherwise a thing might equally be generated, and not be generated, which now is supposed to be absurd.

<sup>7</sup> That is, it may as well be generated, as not be generated.

generated will be casual, but that all things will be, and will be generated from necessity. Hence it will neither be requisite to consult, nor to be busily employed ; so as that if we do this particular thing, something definite will take place ; but if not, it will not take place. For nothing hinders, but that one person may for ten thousand years assert that this will take place, and that another person may assert that it will not ; so that from necessity it will come to pass, that it was then true to assert either of them. Nor is it of any consequence whether some person should utter a contradiction, or should not. For it is evident that the things thus subsist, although the one should not affirm any thing, but the other should deny it. For not because a thing is affirmed or denied, will it, therefore, be or not be ; nor will it more be or not be for ten thousand years, than for any time whatever. Hence if a thing will thus subsist in every time, that it will be true to assert the one of these, it was necessary that this should take place ; and every thing generated will always so subsist, as that it will be generated from necessity. For when any one truly says that it will be, it is not possible that it should not be generated ; and with respect to that which is generated, it was always true to say, that it will be. But these things are impossible. For we see that there is a beginning of things which will be, from our deliberating and acting ; and, in short, we see in things which do not always energize, that there is a power of similarly being and not being, in which both may happen, viz. to be and not to be ; so that also they may be generated, and may not be generated. And many things are manifest to us which thus subsist. Thus, for instance, it is possible that this garment may be cut in pieces, and it may not be cut in pieces, but prior to this may be worn out. In like manner also, it is possible that it may not be cut in pieces ; for it would not prior to this have been worn out, unless it had been possible that it might not be cut in pieces. [The same thing, therefore], must also be said in other generations, which are spoken of according to a power of this kind. Hence it is evident, that all things neither are, nor are generated, or becoming to be, from necessity ; but that some things have a casual subsistence,

subsistence, and that affirmation respecting them is not more true than negation ; and that there are<sup>8</sup> other things in which one of these subsists more frequently, and for the most part, and yet it may happen that the one of these may take place, but the other not<sup>9</sup>. It is necessary, therefore, that being should be when it is<sup>1</sup>, and that non-being should not be, when it is not. It is not, however, necessary either that every being should be, or that non-being should not be. For it is not the same thing for every being to be from necessity, when it is, and simply to be from necessity. And the like must be asserted of non-being. There is also the same reasoning in contradiction. For it is necessary that every thing should either be or not be, and also that it will be, or will not be. Yet it is not necessary to speak of one of them separately. I say, for instance, it is necessary, indeed, that there will be or will not be a naval engagement to-morrow, yet it is not necessary that there should be a naval engagement to-morrow, nor that there should not be. It is necessary, however, that it should either be or not be. Hence, since assertions and things are similarly true, it is evident that in things which so subsist, that in whatever manner they may happen to be, contraries may also happen, it is necessary that contradiction should likewise subsist in a similar manner ; which happens to be the case, in things which are not always, or which not always are not. For of these it is necessary that one part of the contradiction should be true or false ; not, however, this thing or that, but just as it may happen. It is also necessary that the other<sup>2</sup> part should be more true ; yet

<sup>8</sup> As, for instance, the finding a treasure on digging the earth ; for here the negation is oftener true than the affirmation.

<sup>9</sup> That is to say, that which rarely happens may take place, but that which happens for the most part, may not.

<sup>1</sup> This is called necessary not simply, but from hypothesis. Thus, that the sun should be moved, for instance, is *simply* necessary ; but that there should be day, is not *simply* necessary, but from hypothesis, i. e. if the sun is supposed to be above the earth. Thus it is necessary that any thing should be if it is supposed to be, because the same thing cannot at the same time be and not be.

<sup>2</sup> That is, when it is an unequal contingent.

it is not necessary that it should now be true or false. Hence it evidently is not necessary that of every affirmation and negation of opposites, the one should be true, but the other false<sup>3</sup>. For the like does not take place in things which are not indeed, but which either may be, or may not be, as in things which are ; but it happens as we have said.

## CHAPTER X.

SINCE, however<sup>4</sup>, affirmation signifies something of something<sup>5</sup>, and this is either a noun, or anonymous<sup>6</sup>; but it is necessary that what is in affirmation should be one thing<sup>7</sup>, and of one thing; all affirmation and negation, will be either from a noun and a verb, or from an indefinite noun and verb. But what a noun is, and what the anonymous, has been shown by us before. For I do not call *not-man* a noun, but an indefinite noun ; since an indefinite noun in a certain respect signifies one thing<sup>8</sup>; just as *is not well*, is not a verb, but an indefinite verb. But

<sup>3</sup> That is to say, definitely, so that it may be said which is true, and which false.

<sup>4</sup> Aristotle for the sake of brevity makes mention of affirmation alone, but the same thing must be understood of negation also. Hence he concludes, that not only affirmation, but also negation consists of a noun and verb, or of an infinite noun and verb.

<sup>5</sup> That is, of which something is asserted.

<sup>6</sup> That is, an indefinite noun, which prior to Aristotle was without a name, but was denominated by him an indefinite noun.

<sup>7</sup> For unless it were one thing, it would not be rightly collected that the enunciation is from a noun and verb, or from an indefinite noun and verb ; because it might also consist of many nouns or verbs. But it has been already observed in chap. 8. that there ought to be one subject, and one attribute.

<sup>8</sup> An indefinite noun seems to signify many, or rather infinite beings and non-beings, as was observed before in chap. 2; nevertheless, it is said, to signify one thing negatively, because it signifies many things not as they are many, but as they are united in the negation of one thing. Thus, *not man* signifies infinite things, so far as they are united in the negation of man, i. e. so far as they are not men.

without

without a verb there is no affirmation nor negation. For it is, or it will be, or it was, or it is becoming to be, and other things of the like kind are verbs, [as is evident] from what has been before asserted; since in addition to something else they signify time. Hence the<sup>9</sup> first affirmation and negation will be, man is, man is not; and afterwards, non-man is, non-man is not. Again, every man is, every man is not, every non-man is, every non-man is not; and there is the same reasoning in external times<sup>1</sup>. But when [the verb] *is* is additionally predicated as the<sup>2</sup> third thing, then the oppositions are said to subsist doubly. I say, for instance, a man is just: for here the word *is*, *is*, I say, composed as the third thing in this affirmation, whether it be [called] a noun or a verb. Hence, on this account, these will be four, of which two, indeed, will subsist with reference to affirmation and negation, according to the order of consecution, as privations, but two will not<sup>3</sup>. But I say that [the verb] *is* either is added to the just, or to the non-just; and, therefore<sup>4</sup> negation also is added. Hence there will be four. We shall understand, however, what is said from the underwritten [examples]: a man is just; the negation of this is, a man is not just. He is

<sup>9</sup> Aristotle very properly places finite before indefinite enunciations, because a finite is prior to, and more simple than an indefinite noun.

<sup>1</sup> That is, in the past and future times, which are without the present time, and, therefore, inclose it on each side.

<sup>2</sup> That is, it is the third thing in the proposition, besides the two terms the subject, (*man*) and that which is predicated (*just*).

<sup>3</sup> Those enunciations will be four which have the same attribute, and in a certain respect the same subject. I say in a certain respect, because two will have a finite, and two an infinite subject; as in the following example: Man is just; man not is just; man is not just; man not is not just. Of these, the first opposition is the affirmation and negation of a finite predicate; but the second opposition is the affirmation and negation of an indefinite predicate. But when Aristotle says that two of these enunciations will subsist with reference to affirmation and negation, according to the order of consecution as privations, his meaning is, that the enunciations, *man is not just*, *man not is not just*, are referred to the enunciations, *man is just*, *man not is just*, as privations are referred to habits. For a finite attribute is habit, or is compared to habit, as *just*; but an indefinite attribute, as *not just*, is compared to the privation *unjust*.

<sup>4</sup> Aristotle at present calls *negation*, not an entire enunciation, but these words *not is*. Farther on we shall find that he will call the word *not* negation.

not a just man ; of this the negation is, he is not not a just man. For here the [verb] *is* and *is not* are added to the just, and the not just. These, therefore, as we have shown in our<sup>5</sup> Analytics are thus arranged.

The like also will take place if the affirmation is of a noun<sup>6</sup> universally considered. For instance, every man is just : of this the negation is, not every man is just. Every man is not just, not every man is not just ; except that it does not similarly happen that those which are diametrically opposed are co-verified<sup>7</sup>. Sometimes, however, this happens to be the case<sup>8</sup>. These two, therefore, are opposed to each other. But the other two [are similarly opposed to each other], with respect to non-man, as to a certain added subject. Thus, for instance, non-man is just, non-man is not just. That is not just which is not man, that is not not just which is not man. There are not, however, more oppositions than these. But these separate from those, will be themselves by themselves, as using the noun not-man. But in those in which [the verb] *is* is not adapted, as in [the verbs] *to be well* and *to walk*, in these it effects the same when thus posited, as if [the verb] *is* were added. Thus, for instance, every man is well, every man is not well, every non-man is well, every non-man is not well. For it must not be said, not every man, but the negation *not* must be added to man. For *every* does not signify the universal, but that [a thing is assumed universally]. But this is evident from what follows : a man is well, a man is not well ;

<sup>5</sup> That is in the last chapter of the first book of his Prior Analytics.

<sup>6</sup> That is of a subject.

<sup>7</sup> For because indefinites are compared to particulars, all the enunciations diametrically opposite, may be at the same time true, viz. in contingent matter. Thus, *a man is just*, *a man is not just*, may be at one and the same time true ; and also *a man not is just* and *a man not is not just*. It is otherwise, however, in definite enunciations, because the enunciations *every man is just*, *every man is not just*, which are universals, are never at one and the same time true. But *not every man is just*, and *not every man is not just*, which are particulars, will be found to be at one and the same time true in contingent matter.

<sup>8</sup> That is, in those enunciations which are diametrically opposed in contingent matter ; as, *not every man is just*, *not every man is not just*.

non-man is well, non-man is not well. For<sup>9</sup> these differ from those <sup>1</sup>, because they are not universally [assumed]. Hence *every*, or *no one* signifies nothing else than that affirmation or negation is of a noun universally [assumed]. It is necessary, therefore, to add other things in the same manner<sup>2</sup>. But because to this [affirmation] every animal is just, the negation is contrary, signifying that no animal is just, it is evident that these will never be at the same time true, nor in the same ; but the<sup>3</sup> opposites to these will be sometime or other [at one and the same time] true. Thus, for instance, not every animal is just, and some animal is just. But these follow : This indeed, no man is just follows that every man is not just ; but the opposite, viz. some man is just, follows this, not every man is not just ; for it is necessary that some man should be just. It is evident, however, in particulars, that if any one being interrogated truly denies, [that which he denies] is also truly affirmed. For instance, is Socrates a wise man ? No. Socrates, therefore, is no a wise man. But in universals [the affirmation] is not true, which similarly asserted ; but the negation is true. For instance, is every man wise ? No. Every man, therefore, is not wise. For this is false. But this, not every man, therefore, is wise, is true. And this is opposite, but that contrary. But the opposites according to indefinite nouns and verbs, such as non-man, and non-just, may appear to be as it were negations without a noun and verb. They are not, however. For it is always necessary that negation should be either true or false. But he who says non-man does not speak more truly or falsely, but less so, unless something is added. This assertion, however, every non-man is just,

<sup>9</sup> That is, the enunciations, a man is well, a man is not well, &c.

<sup>1</sup> That is, from the enunciations, every man is well, every man is not well, &c.

<sup>2</sup> That is, as the indefinite affirmation a man is well, is made indefinite by the addition of negation to the subject, after this manner, non-man is well, the same thing also should be done in a definite enunciation as, every man is well, every non-man is well.

<sup>3</sup> That is, particulars, which are called by the interpreters *sub-contraries* ; for these are placed under universal contraries, and those which are diametrically opposed contradict. Thus, no man is just or every man is not just, contradict the enunciation every man is just. And, not every man is not just, or some man is just, contradict the enunciation, not every man is just.

does not signify the same thing as some one of those [former enunciations] ; nor the opposite to this, viz. not every non-man is just.. But this assertion, every one not just is not a man, is the same with this, no one is just who is not a man. Nouns and verbs, however, when transposed signify the same thing. For instance, he is a *white man*, he is a *man white*. For unless it is so, there will be many negations of the same thing. It has been shown, however, that there is one negation of one thing. For the negation of this assertion, he is a white man, is, he is not a white man. But of this assertion, he is a man white, unless it is the same with the enunciation he is a white man, the negation will either be, he is not not a man white, or he is not a man white. But the one is a negation of this, he is not a man white, and the other of this, he is a white man. It is evident, therefore, that a noun and verb being transposed, there will be the same affirmation and negation.

## CHAPTER XI.

To affirm and deny, however, one thing of many things, or many things of one thing, unless that is one certain thing which is manifested from the many, is not one affirmation, nor one negation. But I say one, not if one name is given to many things, nor if one thing is produced from them. Thus, for instance, man is perhaps an animal, a biped, and mild ; but one thing is produced from these. But from white, man, and to walk, one thing is not produced. Hence, neither if any one affirms one certain thing of these, is there one affirmation ; but there is one articulate sound, indeed, and many affirmations : nor if [he should affirm] these of one thing, [is there one affirmation] but there are similarly many [affirmations]. If, therefore, dialectic interrogation, is the request of an answer, either of a proposition, or of the other part of a contradiction; but a proposition is a part of one contradiction;

tradiction ; there will not be to these things one answer, for neither is there one interrogation, not even if it is true. About these things, however, we have spoken in the Topics. But it is at the same time evident, that the question what is it, is not a dialectic interrogation. For it is necessary that a choice should be given from the interrogation of enunciating this or that part of the contradiction ; but it is requisite that the interrogation should first define whether this particular thing is a man, or not this particular thing. Since, however, of things which are separately predicated, some are predicated as composites, so that the whole that is predicated becomes one thing, but others are not, what is the difference ? For of man it is true to assert separately animal, and separately biped ; and these as one thing : and also man and white, and these as one thing. But if he is a shoemaker and a good man, he is not also a good shocmaker. For if, because each of them [separately] is true, it is also necessary that both should be at the same time true, many absurdities will follow. For of a man, man and white are truly asserted, so that the<sup>4</sup> whole also is truly asserted. Again, if the same thing is white, the whole also is white ; so that it will be a man white white, and this to infinity. And again, a musician white walking ; and these frequently conjoined to infinity. Farther still, if Socrates is Socrates and man ; Socrates also is Socrates man. And if he is man and biped, he is also man biped. It is evident, therefore, that if any one says conjunctions are simply produced, many absurdities must be said to happen. Let us, however, now show how they are to be placed. Of things, therefore, which are predicated, and of those things to which it happens to be predicated, such things as are said from accident, either of the same, or the one of the other, these will not be one ; as, for instance, man is white, and a musician. But whiteness and music are not the same thing ; for both are accidents to the same thing. Nor though it should be true to say that what is white is a musician, yet at the same time, musical white will not be one thing ; for that which is

\* That is, man and white are at the same time predicated, and it may be said, he is a white man.

white

white is a musician from accident; so that white musical will not be one thing. Hence neither [if a man is a shoemaker and a good man] is he simply a good shocmaker; but [if he is an animal and a biped, he is rightly called] a biped animal, because [these] are not [predicated] from accident. Again, ncither are such things as are inherent in another [to be added]; and hence neither is whiteness to be frequently [adduced]. Nor is a man a man animal, or [a man] biped; for animal and biped are inherent in man. It may, however, be truly asserted and simply of some one; as, for instance, that a certain man is a man; or that a certain white man is a white man; but this cannot always be asserted. But when in the adjunct, something of opposites is inherent, from which contradiction follows, then it is not true but false; as if, for instance, a dead man should be said' to be a man. When, however, [something repugnant] is not inherent, then it is true. Or shall we say that when [something repugnant] is inherent, it is always not true? But when it is not inherent, it is not always true? As Homer is something, for instance, a poet. Is he, therefore, or is he not? For the verb *is* is predicated of Homer from accident; since *is* is predicated of Homer, because he is a poet, but is not predicated *per se*, or essentially. Hence in those categories in which contrariety is not inherent, if definitions are asserted instead of nouns, and are predicated essentially, and not from accident; in these, that which is some particular thing, may also be truly said to be simply such. But non-being because it is an object of opinion, cannot be truly said to be a certain being; for the opinion of it is, not that it is, but that it is not.

## CHAPTER XII.

THESE things, however, being determined, let us consider how the affirmations and negations of that which is possible to be and not possible subsist

subsist with reference to each other; and let us also consider the contingent and non-contingent, the impossible and the necessary. For [this consideration] is attended with certain doubts. For if among things connected, those contradictions are opposed to each other, which are arranged according to the verb to be, and not to be; (as, for instance, the negation of this, to be a man, is, not to be a man, and not this, to be not a man; and the negation of this, to be a white man, is, not to be a white man, and not this, to be not a white man; for if of every thing affirmation or negation is true, it will be true to say that wood is not a white man)—if this be the case, in those things in which the verb to be is not added, that which is asserted instead of the verb to be, will effect the same thing. Thus, for instance, of this affirmation a man walks, the negation will not be, that which is not a man walks, but a man does not walk. For it makes no difference to say a man walks, or a man is walking. Hence, if this is every where the case, the negation also of this, it is possible to be, will be, it is possible not to be, and not this, it is not possible to be. But it appears that it is possible for the same thing both to be and not to be. For every thing which *may* be cut, or which *may* walk, *may* also not be cut, and *may* not walk. But the reason is, because every thing which is thus possible, does not always energize; so that negation also pertains to it. For that which is capable of walking may not walk, and that which is visible may not be seen. It is, however, impossible that opposite affirmations and negations should be verified of the same thing. Hence the negation of this, it is possible to be, is not this, it is possible not to be. For it happens from these things, either that we at the same time affirm and deny the same thing of the same, or that the affirmations and negations are not made according to those additions to be, and not to be. If, therefore, that is impossible, this will be eligible. Hence, the negation of this, it is possible to be, is, it is not possible to be, and not this, it is possible not to be. There is also the same reasoning about the being contingent; for the negation of this is, not to be contingent. In a similar manner also in other things; as, for instance, in the necessary and impossible.

For

For as in those, to be, and not to be are additions, but whiteness and man are subject things; so here, to be and not to be, become as a subject; but to be possible and to be contingent are additions, which in these [enunciations] indeed, to be possible, and to be not possible, so determine the true and the false, as in those to be, and not to be. But of this, it is possible not to be, the negation is not this, it is not possible to be, but this, it is not possible not to be. And of this, it is possible to be, the negation is not this, it is possible not to be, but this, it is not possible to be. Hence, these will appear to follow each other, viz. it is possible to be, and it is possible not to be. For it is the same thing to be possible to be, and not to be; since things of this kind are not contradictions of each other, viz. it is possible to be, and it is possible not to be. But it is possible to be, and it is not possible to be, are never at one and the same time verified of the same thing; for they are opposed. Neither are these, it is possible not to be, and it is not possible not to be, ever verified at one and the same time of the same thing. In a similar manner of this [enunciation] it is necessary to be, the negation is not this, it is necessary not to be, but this, it is not necessary to be. But of this, it is necessary not to be, [the negation] is this, it is not necessary not to be. And of this, it is impossible to be, the [negation] is not this, it is impossible not to be, but this, it is not impossible to be. But of this, it is impossible not to be, [the negation] is this, it is not impossible not to be. And universally, as we have said, it is necessary that to be, and not to be should be considered as subjects, but that affirmation and negation, which produce these, should be co-arranged with to be, and not to be. It is also requisite to think that these are opposite affirmations and negations; viz. possible, not possible; contingent, not contingent; impossible, not impossible; necessary, not necessary; true, not true.

## CHAPTER XIII.

THE consequences, however, when properly made are disposed as follows: The (enunciation), it may happen to be, follows this, it is possible to be, and this reciprocates with that; and also this, it is not impossible to be, and this, it is not necessary to be. But this, it is not necessary not to be, and it is not impossible not to be, follow that, it is possible not to be, and it may happen not to be; and thus, it is necessary not to be, and it is possible to be, follow that, it is not possible to be, and does not happen to be. But this, it is necessary to be, and also this, it is impossible not to be, follow this, it is not possible not to be, and it is not contingent not to be. What we say, however, may be surveyed from the following description.

1		3
It is possible to be.		It is not possible to be.
It may happen to be.		It may not happen to be.
It is not impossible to be.		It is impossible to be.
It is not necessary to be.		It is necessary not to be.
2		4
It is possible not to be.		It is not possible not to be.
It may happen not to be.		It may happen not to be.
It is not impossible not to be.		It is impossible not to be.
It is not necessary not to be.		It is necessary to be.

The impossible, therefore, and the not impossible, follow contradictorily the contingent and the possible, and the not contingent and the not possible, but vice versa. For the negation of the impossible, viz. it is not impossible to be, follows the enunciation it is possible to be; but affirmation follows negation. For the enunciation, it is impossible to be, follows this, it is not possible to be; since, it is impossible to be, is affirmation, but, it is not impossible to be, is negation.

Let us also see how the necessary subsists. It is evident, therefore,

that it does not subsist in this manner, but contraries follow ; and contradictions [are placed] separately. For, the enunciation, it is not necessary to be, is not the negation of it is necessary not to be; since it may happen that both may be verified in the same thing. For that which necessarily is not, has not a necessary existence. But the reason why the necessary does not similarly follow the other enunciations is this, that the impossible being enunciated in a way contrary to the necessary signifies the same thing. For with respect to that which it is impossible should exist, it is necessary not that it should be, but that it should not be ; and with respect to that which it is impossible should not be, it is necessary that it should be. Hence, if those similarly follow the possible and the not possible, these\* follow in a contrary mode ; because the necessary and the impossible do not signify the same thing, but, as we have said, vice versa. Or is it impossible that the contradictions of the necessary should be thus arranged ? For that is possible to be which necessarily is. For if not, negation would follow ; since it is necessary either to affirm or deny ; so that if it is not possible to be, it is impossible to be. Hence it is impossible for that to be which necessarily is, which is absurd. But the enunciation, it is not impossible to be, follows this, it is possible to be, and this again is followed by, it is not necessary to be. Hence it happens that what necessarily exists, does not necessarily exist, which is absurd. Moreover, neither does the enunciation, it is necessary to be, nor the enunciation, it is necessary not to be, follow this, it is possible to be ; for to that both may happen ; but whichever of these<sup>5</sup> is true, those<sup>6</sup> will be no longer true. For at one and the same time [these are true] it is possible to be, and it is possible not to be. But if it is necessary to be or not to be, both will not be possible. It remains, therefore, that this enunciation, it is not necessary not to be, should follow, it is possible to be.

\* Viz. It is necessary, and it is not necessary.

<sup>5</sup> That is, it is necessary to be, and it is necessary not to be.

<sup>6</sup> That is, it is possible to be, and it is possible not to be.

For<sup>7</sup> this also is truly asserted of that which has a necessary existence. For this becomes the contradiction of the enunciation which follows it, viz. it is not possible to be; since it is impossible to be, and it is necessary not to be, follow that; of which the negation is this, it is not necessary not to be. These contradictions, therefore, follow according to the above-mentioned mode; and no absurdity happens when they are thus arranged<sup>8</sup>.

Some one, however, may doubt whether the enunciation, it is possible to be, follows this, it is necessary to be. For if it does not follow, the contradiction, it is not possible to be, will follow. And if any one should say that this is not a contradiction, it is necessary to call this a contradiction, viz. it is possible not to be; both which are false of that which necessarily exists. Again, however, it may appear to be possible, that the same thing may be cut and may not be cut, may be and may not be; so that that which necessarily is, may happen not to be. This, however, is false. But it is evident that not every thing which can be, or can walk, has also the power of effecting the opposites; but there are some things in which this is not true. In the first place, in those things which have power without reason; as, for instance, fire is calorific, and has an irrational power. The powers, therefore, which subsist in conjunction with reason, are the powers of many things and of such as are contrary. Not all irrational powers, however, are capable of this; but as we have said, fire has not the power of heating, and

<sup>7</sup> That is, it is not necessary not to be.

<sup>8</sup> That is when they are arranged in the following order:

1

It is possible to be.  
It may happen to be.  
It is not impossible to be.  
It is not necessary not to be.

3

It is not possible to be.  
It may not happen to be.  
It is impossible to be.  
It is necessary not to be.

2

It is possible not to be.  
It may happen not to be.  
It is not impossible not to be.  
It is not necessary to be.

4

It is not possible not to be.  
It may not happen not to be.  
It is impossible not to be.  
It is necessary to be.

2 A 2

not

not heating; nor such other things as always energize. Yet some things among those which possess irrational powers can at one and the same time receive opposites. This, however, has been said by us, because not every power is susceptive of contraries, not even such as are predicated according to the same species. But some powers are homonymous; for the possible is not simply predicated: but one thing is said to be possible, because it is true, as being in energy. Thus, it is possible for a man to walk, because he walks; and, in short, a thing is possible to be, because that is now in energy which is said to be possible. But another thing is said to be possible, because it can be in energy. Thus, it is possible for a man to walk because he has the power of walking. And *this* power alone exists in moveable natures; but *that* in such as are immoveable. But with respect to both it is true to say, that it is possible to walk, or to be, and that a man now walks and energizes; and that he has the power of walking. Hence, that which is thus possible<sup>9</sup>, is not truly asserted of that which is simply necessary<sup>1</sup>; but the other is truly asserted. Hence too, the universal follows that which is in a part; and to be able to be, though not all ability of this kind, follows that which exists from necessity. And perhaps, indeed, the necessary and the not necessary are the principle of the existence, or non-existence of all things; and it is necessary to consider of other things as consequent to these<sup>2</sup>. From what has been said, therefore, it is evi-

<sup>9</sup> That is, so that it is not in energy.

<sup>1</sup> The possible thus assumed, is not truly asserted of that which is simply necessary, but is truly asserted of that which is necessary from hypothesis; because it will be necessary that a thing should be when it will be, though it will not necessarily be.

<sup>2</sup> The order here is as follows:

1

It is necessary to be.  
It is not possible not to be.  
It may not happen not to be.  
It is impossible not to be.

2

It is necessary not to be.  
It is not possible to be.  
It may not happen to be.  
It is impossible to be.

3

It is not necessary to be.  
It is possible not to be.  
It may happen not to be.  
It is impossible not to be.

4

It is not necessary not to be.  
It is possible to be.  
It may happen to be.  
It is not impossible to be.

dent,

dent, that a thing which is from necessity, is in energy. Hence, if eternal natures have a prior subsistence, energy also is prior to power (i. e. to capacity). And some things, indeed, are energies without capacity, as, for instance, the first essences; but others are energies together with capacity; and these are, indeed, prior by nature, but posterior in time; and others are never energies, but are capacities only<sup>3</sup>.

## CHAP.

<sup>3</sup> Aristotle, says Ammonius, wishes to demonstrate that he follows the natural order of things, in thinking fit that the propositions of the necessary should precede the rest. And he proposes, indeed, to unfold the orders of beings according to a mode adapted to the proposed theory; but prior to this, he assumes as a certain lemma, that energy is prior by nature to the power which subsists according to aptitude (viz. that it is prior to capacity). But he proves this as a certain corollary, after the manner of geometers; collecting from what has been said, as subservient to this purpose, that the necessary is alone surveyed in that which exists in energy. And this very properly. For since the possible is predicated both of aptitude and energy, that signification alone of the possible, which pertains to energy, is capable of being in concord with the necessary. Hence, the necessary, such as is that which is not at one time, and at another time is not, but always possesses an invariable sameness of subsistence, can be asserted of those things alone, which always are in energy. If, therefore, that which is properly necessary belongs to perpetual beings, but that which is properly possible, which is that which subsists according to aptitude, belongs to things alone in generation and corruption, it will be, as things necessary are to things in generation and corruption, so is energy to capacity. But perpetual are naturally prior to generated natures. Energy, therefore, is naturally prior to capacity. Having thus syllogistically educed these conclusions, he afterwards very philosophically and theoretically unfolds about the well-ordered progression and subjection of beings, things consequent to the syllogistic conclusions. For he shows that the first and highest of beings, such as are intelligible and divine natures are energies itself, but not an energy of a certain quality; since this belongs to beings which have their essence from matter, and on this account are composites, and to those beings which participate of power according to aptitude, according to which they are able to participate of form, either always, or sometimes. For form, indeed, is always in energy, but matter is in capacity; and that which consists from both is in energy, as participating of form, that is to say, of energy. For in intelligible and divine natures, as being perfectly exempt from matter both in essence and energy, according to the right and unperverted conception of the soul about them, aptitude has no place. Hence neither in these is there any mutation, or time, or reception of form, either at a certain time, or always. So that neither does it belong to them to be and to be said to be in energy. But we denominate forms themselves which are separated from matter, energies themselves, not separating energy from essence, as in composite natures, but evincing that they are essentialized in energy. Hence, in the 12th book of his Metaphysics,

Aristotle

CHAPTER XIV<sup>4</sup>.

BUT whether is affirmation contrary to negation, or affirmation to affirmation? And is the sentence which says every man is just, contrary to the sentence, no man is just? Or is this sentence, every man is just, contrary

Aristotle says, that those which are truly gods are essences in energy. For in things which are naturally adapted to be changed, in which a subsistence in capacity is surveyed, and a subsistence according to habit and according to energy, we see capacity hastening to habit, and habit to energy, as to its proper end; for it is of no use while it remains unenergetic. Hence the Agrigentine wise man (Empedocles) reproving the poets for representing in their fables the gods in a human form, adds, precedaneously, indeed, as follows, about Apollo, of whom he had just before been speaking, but what he says applies, in short, to every divine nature.

No limbs hath he with human head adorned;  
 Nor from his shoulders branch two sprouting arms;  
 To him belong nor feet, nor pliant knees;  
 But mind alone he was; ineffable,  
 And *sacred* mind; that rapidly pervades  
 With providential cares the mighty world.

Where by the word *sacred* he obscurely indicates a cause above intellect. The authors of fables, however, do not neglect to deliver auxiliaries to those who hear them, through which they may be led to disbelieve the apparent, and investigate the true meaning of what is said, unless they happen to have minds stupidly disposed; since every fable contains some latent conception involved in fiction. For how can the progeny of Heaven and Earth be said to be of a human shape, whether such progeny is that of the apparent, or according to the real truth of the case, of the unapparent Heaven and Earth, and of the occult causes above these? Who can endure to understand in the literal sense what is said of the genitals of Heaven and the excision of these? Of the generation of Venus from these genitals when thrown into the sea? Of the deglutition of children\* and again refunding them into the light? And such other things as fables devise, giving

\* For a full, accurate, and satisfactory explanation derived from ancient sources of these and other divine fables, see the Introduction to the second book of the Republic of Plato, in vol. 1. of my translation of Plato's works; the additional Notes to my translation of the Cratylus, in vol. 5. of the same work; the Notes to my translation of Pausanias; and my translation of Sallust, On the Gods and the World.

assistance

contrary to the sentence every man is unjust? For instance, Callias is just, Callias is not just, Callias is unjust. Which of these is contrary?

For

assistance in so doing to those of more superficial understandings. How also can we speak of venereal connections among the gods? Must we not conceive them similar to the fabulous connection between Heaven and Earth? Let us return, however, from this digression, which we have been led into through commiseration of those puerile souls who consider fables as history, and who do not perceive that they are nothing more than the veils of truth.

Such, therefore, are simple and intelligible forms. But composites which receive their progression from them, and partake of matter, are either always naturally adapted to retain form, as the celestial bodies, if it be requisite by making an innovation to apply the term matter to them, or they alternately receive and abandon form, as sublunary bodies. And these we say are in energy, but we do not call them energies. In those things also in which a subsistence in capacity is separated by time from a subsistence in energy, in these, according to time, indeed, a subsistence in capacity is prior, but according to nature, a subsistence in energy. For it is necessary first that a thing should be adapted to some particular thing, in order that afterwards it may be led to that to which it is adapted. Since, however that which is in energy is perfect, but that which is in capacity is imperfect; and the perfect is naturally prior to the imperfect, for the well-ordered generation of things according to nature proceeds from the superior to the subordinate,—it is evident, that a subsistence in energy naturally precedes a subsistence in capacity. For unless man pre-existed in energy, how could he be able to produce the embryo, which we say is man in capacity? The connection, indeed of a subsistence in capacity with a subsistence in energy, has much latitude, or rather depth. In some things, therefore, capacity is so powerfully vanquished by energy, that it can only be separated from it in words, and in imagination; as is the case with the essence of the celestial bodies. For the sun was not once in capacity, and afterwards acquired a subsistence in energy: since it is impossible in wholes that divinity existing, disorder should precede order, and the privation of ornament be prior to ornament. It is also impossible that the fabricator of the universe, should at one time be in capacity, and be an imperfect fabricator, but at another time be in energy, and be perfect. And, in short, it is impossible, that the divinity who produced all the mutation of things which are generated in an orderly series, together with the essence of things naturally adapted to be changed, and the being of time itself, should participate of deliberate choice and the mutation attending it, and by being connected with time, at first not be willing, but afterwards wish to fabricate the world. But in other things a subsistence in capacity is so separated from a subsistence in energy according to time, as to have energy consequent from necessity, as is the case with the motion in a circle, [when this motion is natural]. Thus the sun, for instance, being first in capacity in the constellation the ram, becomes afterwards situated in it in energy. But it is not possible it should not become thus situated in consequence of the continuity and unceasing nature of the motion in a circle. In some things too, capacity is separated from energy according to time, and they do not entirely possess it hastening to energy; and this is the case with things in generation.

For if those things which are in voice follow those which are in the dianoetic power, but there the opinion of a contrary is contrary, as, for instance, that every man is just, is contrary to the opinion that every man is unjust ;—if this be the case, in the affirmations also enunciated by the voice, it is necessary that the like should take place. But if there, the opinion of a contrary is not contrary, neither will affirmation be contrary to affirmation, but the above-mentioned negation. Hence, it must be considered which false opinion is contrary to the true opinion, whether that of negation, or that which opines it to be the contrary. But I say as follows : There is a certain true opinion of good, that it is good ; there is another false opinion that it is not good ; and there is another opinion, that it is evil. Which, therefore, of these is contrary to the true opinion ? And if there is one [contrary] accord-

generation. For it does not necessarily follow, that because the embryo is in capacity a man, it will be perfected in the womb, and become man in energy ; as is evident from the abortions of embryos. And those things have the last order among beings, which subsist according to capacity alone, and are never capable of being led to energy ; and this is the case with the division of continued quantities to infinity, and the increase of number. For no one of these will ever become infinite in energy, and yet neither the progression of division or increase in them will ever fail. But they alone possess an aptitude to this progression. Behold, therefore, the well-ordered descending procession of beings. For some are energies themselves, exempt from all mutation, and the motion pertaining to it. But others being always moved, have, indeed, according to their essence energy always connected with capacity, but according to transition, they have energy separated from capacity by time, and yet their energy is necessarily consequent to capacity. And other beings possessing both their essence and motion in a certain time, possess a capacity with respect to each of these, preceding energy in time, as we have said, and do not always obtain it. And, in the last place, others subsist according to capacity alone, and are not naturally adapted to be led into energy.

\* Ammonius is of opinion that this chapter which forms the fifth section of this treatise On Interpretation, is either not legitimate, but was added by some one posterior to Aristotle, or if it is, was written by Aristotle for the purpose of exercising the reader's judgment of what has been said. Just as in his Categories, for the sake of exercising the reader, he contends that relatives are not entirely simultaneous by nature, but that what is sensible is prior to sense, and the object of science to science ; and yet in his Physical Auscultation, he clearly and accurately explains to us the conjoined subsistence of relatives, and presents us with the means of solving what he had asserted in the Categories.

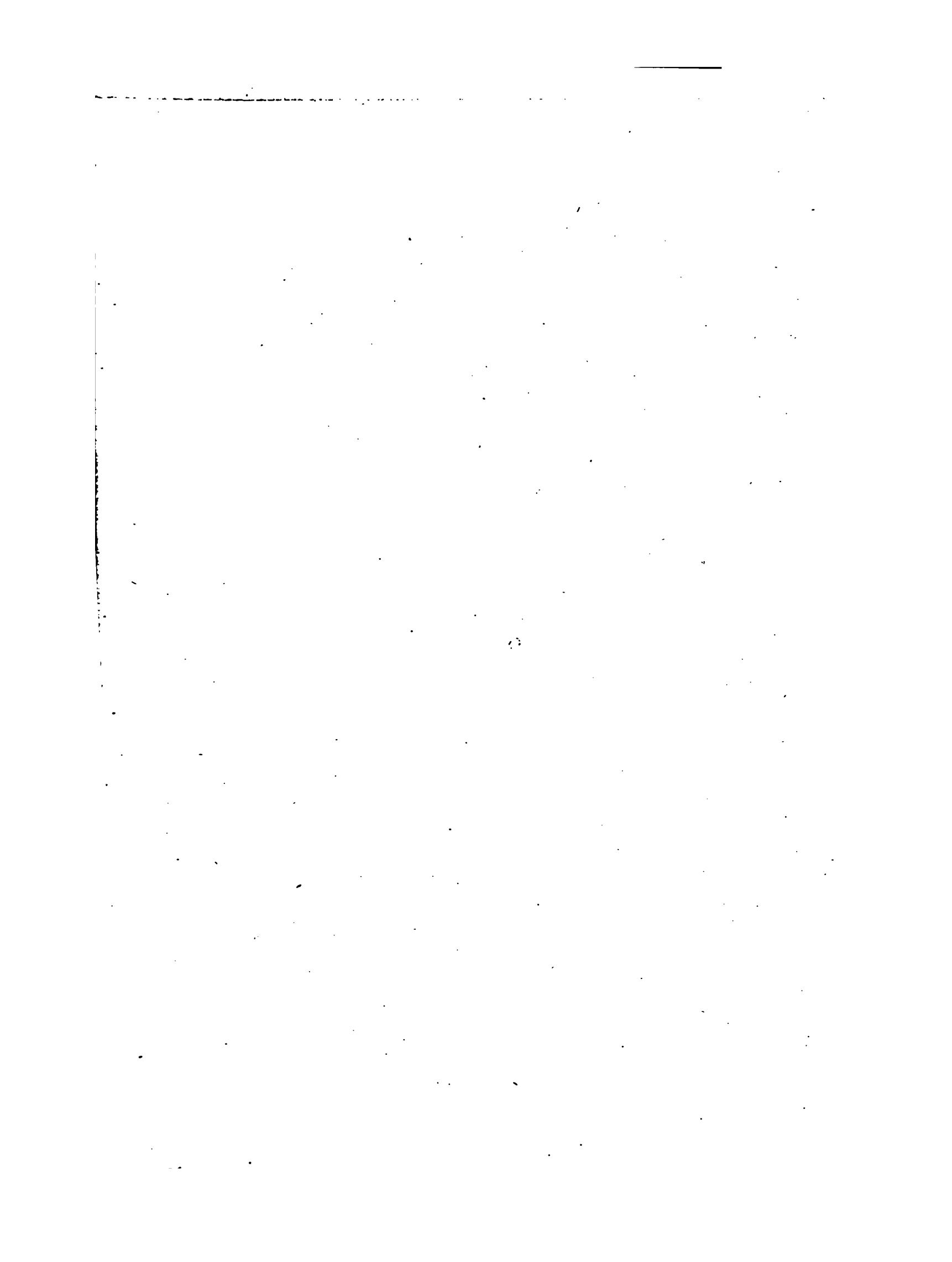
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ing to which is it contrary? If then any one should fancy that contrary opinions are defined by this, that they are of contraries, [his opinion will be] false. For of good that it is good, and of evil, that it is evil, there is perhaps the same opinion, and it is true whether [you should say that this is] one opinion, or many. And these [i. e. good and evil] are contraries. They are not, however, contraries, because they are of contraries, but rather because they have a contrary mode of subsistence. If, therefore, there is an opinion of good that it is good, but another opinion that it is not good; and there is also something else, which is neither inherent, nor can be inherent in good ;—if this be the case, no one [contrary] of other things is to be admitted, nor such opinions as fancy that to be inherent which is not, nor that not to be inherent which is. For both the former and the latter of these are infinite. But in those things in which there is deception [contraries are to be admitted]; and these are things from which there are generations. Generations, however, are from opposites ; and, therefore, deceptions also. If, therefore, good is good and not evil, and the one is essential, but the other accidental; (for it happens to it not to be evil) but of every thing, the opinion which is essential is more true, and [also the opinion which is essential is more] false, since the [more true] is thus assumed ;—if this be the case, the opinion that good is not good, is false of that which is essentially inherent; but the opinion that it is evil [is false] of that which is from accident. Hence, the opinion of the negation of good is more false than the opinion of the contrary. But he is especially deceived about every thing, who has a contrary opinion; for contraries pertain to things which very much differ about the same thing. If, therefore, one of these is contrary, but the opinion of negation is more contrary, it is evident that this will be [truly] contrary. But the opinion that evil is good is complex; for, perhaps, it is necessary that the same person [who entertains this opinion] should conceive [that good] is not good. Farther still, if it is requisite that the like should take place in other things, here also it

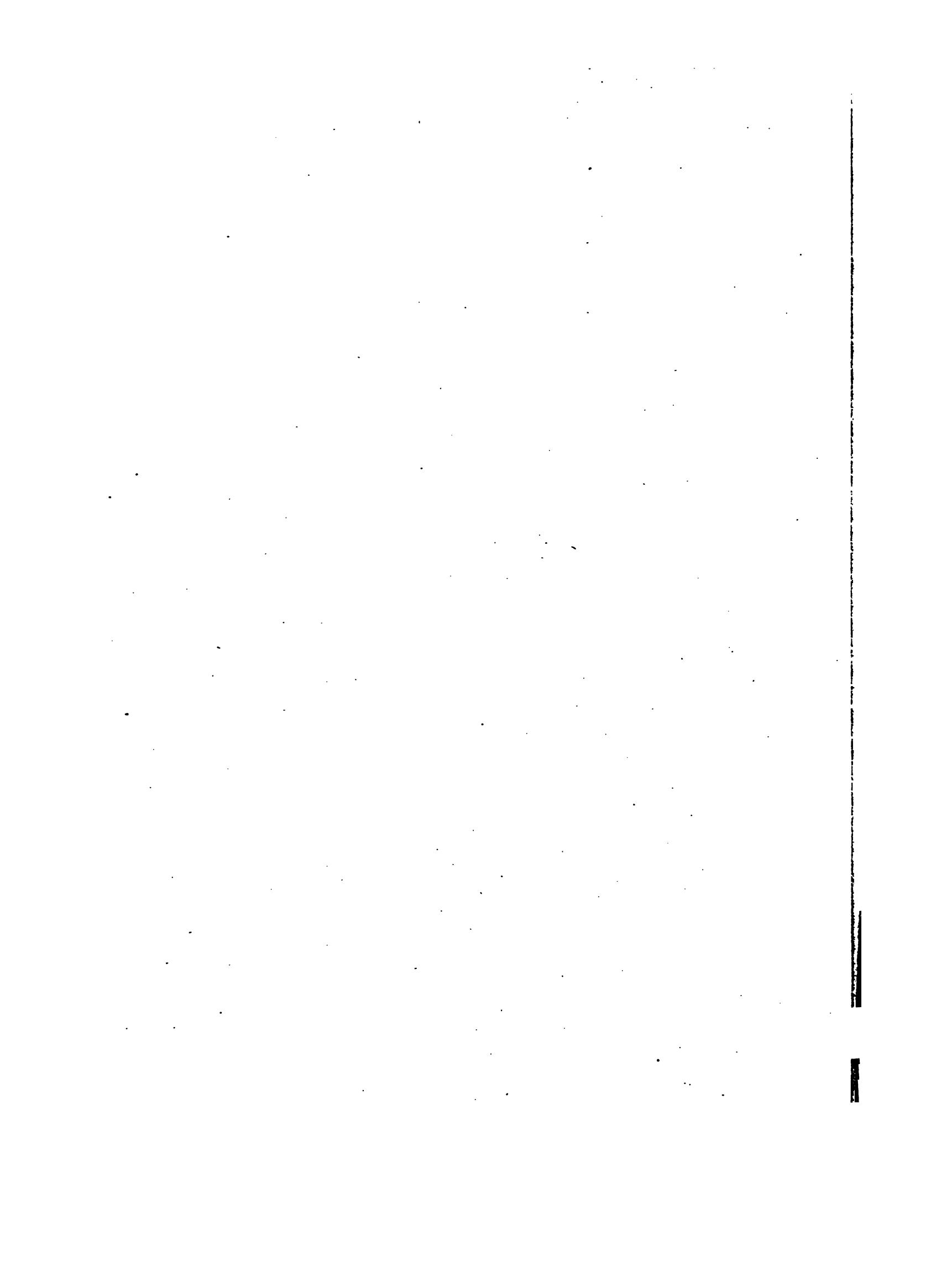
may appear to have been well said. For [the opinion] of negation is either every where, or no where [contrary]. But of those things to which there are not contraries, of these, [the opinion] also is false which is opposed to the true opinion. Thus he who fancies that man is not man is deceived. If, therefore, these negations are contrary, the other [opinions] also of negation [are contrary]. Again, the opinion of good that it is good, and the opinion of that which is not good, that it is not good, have a similar subsistence; and besides these, the opinion of good that it is not good, and the opinion of that which is not good that it is good. To the true opinion, therefore, that what is not good is not good, what opinion will be contrary? For it will not be the opinion which says that it is evil, since it may at one and the same time be true. But truth is never contrary to truth. For something which is not good is evil; so that it will happen that these opinions are at one and the same time true. Nor again, will [the opinion] that [what is not good] is not evil be [the contrary to the opinion that what is not good is not good], for at one and the same time these may be true. It remains, therefore, that the contrary to the opinion that what is not good is not good, is the opinion of what is not good that it is good; for this is false. Hence the opinion of good that it is not good, will be contrary to the opinion of good that it is good. But it is evident that it makes no difference though we should propose universal affirmation; for universal negation will be the contrary. Thus, for instance, to the opinion which opines that whatever is good is good, the opinion that nothing among the number of good things is good, [will be contrary]. For the opinion of good that it is good, if good is universally [assumed], is the same with the opinion that what is good is good. And this differs in no respect from the opinion that every thing which is good is good. The like also takes place in that which is not good. Hence, if this is the case in opinion, and the affirmations and negations in voice are the symbols of [conceptions] in the soul, it is evident that the universal negation which is about the same thing, is contrary to affirmation.

Thus,

Thus, for instance, to the affirmation that every thing good is good, or that every man is good, this negation is contrary, no good is good, or no man is good. But this assertion that not every thing good is good, or that not every man is good, is opposed contradictorily. It is evident, however, that neither true opinion can be contrary to true opinion, nor true negation to true negation. For those are contraries which are about opposites; and about these it happens that the same thing is verified. But it cannot happen that contraries can at one and the same time be inherent in the same thing.



T H E  
P R I O R A N A L Y T I C S.



## I N T R O D U C T I O N.

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ARISTOTLE in his Analytics treats of syllogism and demonstration, because in these treatises he analyses syllogism and demonstration into their parts and principles. Besides, he teaches us how syllogisms are resolved from one figure into another, and how syllogisms of the second and third figure are reduced to the first. And he likewise explains how syllogisms framed without art, are resolved into figures and modes.

The intention, therefore, of the philosopher in his Analytics, is to unfold the art of demonstration, which cannot be effected without first accurately discussing simple reasoning, because demonstration is a certain reasoning. Since, however, there are many kinds of reasoning, what they are may be learnt from the following division. Reasoning then is a knowledge which possesses a middle situation between the gnostic power and the thing known. Since, therefore, these are three, the gnostic power, knowledge itself, and the thing perceived and known, we may easily from each of these distribute the genera of reasoning; and we shall begin the distribution from the gnostic power, which is either intellect, or the dianoetic power\*, or opinion, or phantasy, or sense. But the knowledge of the rational soul, so far as rational, is called intelligence, and transitive intelligence, having time connascent

\* This is that power of the soul which reasons scientifically; viz. which in reasoning derives its principles from intellect.

with

with its energy. Intellect, however, and sense, do not produce arguments and reasonings, because the perception of the former is intuitive, and the latter through its inertness and passivity, dares not assume the province of reasoning. But the phantasy is a certain preservation of those forms or images which arise from the senses. If, therefore, sense knows no kind of argument, neither will the phantasy reason, since its province is to retain those images which are presented by the senses. For reasoning is a certain transition from one thing to another, because one thing is by argument concluded from another, when that which is concluded is not granted. But the phantasy since it perceives nothing but what it receives from sense cannot reason; for its nature is more similar to permanency than to transition, as its name indicates, which signifies *the continuance of a perceived image*. Nor will it be the province of opinion to reason, since it belongs to this power to know conclusions, but not to frame them by a syllogistic process. Nor yet will reasoning in general be the office of the dianoetic power, since it is the peculiar employment of this faculty to reason *scientifically*. It remains, therefore, that reasoning, so far as reasoning, must be the province of intelligence, or in other words of that one knowledge or gnostic power of the soul according to which we say that the whole soul is rational.

This intelligence then, either derives the principles of reasoning from intellect, which principles are axioms, and then through the dianoetic power produces demonstrative reasoning, the conclusions of which are always true and never false. Or it converts itself to opinion, and thence deriving its principles, forms dialectic reasoning, so called because it is employed by the multitude in their daily and familiar conversation with each other. This reasoning, however, is not always true, but is sometimes false, because opinion is not always true. Or, in the third place, intelligence converts itself to the phantasy, and by its assistance lays the foundations of reasoning and argument, in consequence of which the reasoning is always vicious and false. For all false opinion originates

originates from the phantasy\*, which receives and preserves the types, images, and forms of things subject to the senses, and attending the energies of intellect, just as a storm follows those who sail on the sea, disturbs and confounds the soul in her endeavours to perceive reality; till by the assistance of philosophy she becomes liberated from the tempest and perturbation it occasions.

It deserves also to be noted, that the appellation of Prior and Posterior was given to the Analytics of Aristotle in the time of Galen, as that great physician testifies; but that Aristotle, when he cites these treatises, denominates the former Concerning Syllogism, and the latter Concerning Demonstration.

It is also requisite to observe, that as the Analytics of Aristotle are written like the other works of that mighty genius, in a consummately scientific manner, letters are very properly employed in the reasoning, since the conclusions deduced from these symbols, are evidently attended with a geometrical necessity. The Latin translators, however, of this work, appear to me to have frequently destroyed the force and beauty of Aristotle's reasoning, by translating the words *ὑπαρχει* and *ὑπάρχειν*, *inest* and *inesse*. For that great ambiguity, and an evident want of necessary consecution may result from translating these words as signifying *the being inherent*, will be at once evident from the following instance,

\* It is beautifully observed by Proclus in his Commentary on the first book of Euclid p. 13.  
 "That the senses conjoin the soul to partible natures; that *imaginings fill her with figured motions*; and that appetites draw her down to a passive life." He adds, "But every thing partible is an impediment to our conversion to ourselves; *every thing figured obscures unfigured knowledge*; and every thing passive impedes impassive energy. When, therefore, we have removed these from the dianoetic power, then shall we be able to know according to this power the forms which the soul essentially contains, then shall we become scientific in energy, and unfold our essential knowledge. But while we are captive and bound, and shut the eye of the soul, we shall never obtain the perfection adapted to our nature." The same divine man also in his admirable Manuscript Commentary on the Parmenides of Plato, calls *imaginings* the winged Stymphalidae of the soul, as alone possessing a *figured* intellection of things, but by no means able to apprehend unfigured and impartible form, and as impeding the pure and immaterial intellection of the soul, by intervening, and disturbing it in its investigations.

which the reader will find in the second chapter of the first book of the Prior Analytics, and which in the translation of Pacius is as follows: “Si nulli  $\epsilon$ ,  $\tau\omega\alpha$  inest, etiam nulli  $\alpha\tau\omega\epsilon$ , inheret. Nam si alicui insit, exempli causa  $\tau\omega\gamma$ , non erit verum quod dictum est, nulli  $\epsilon$ ,  $\tau\omega\alpha$  inesse; quia  $\tau\omega\gamma$  est aliquid  $\tau\omega\epsilon$ .” i. e. “If A is *inherent in* no B, neither will B be *inherent in* any A. For if it should be *inherent in* any A, as, for instance, in C, that which was asserted will not be true, that A is *inherent in* no B, because C is something of B.” The ambiguity of this translation must be obvious to every reader. But if instead of translating  $\nu\pi\alpha\varphi\chi\epsilon\iota$  *inherent in*, it is translated *present with*\*, Aristotle’s reasoning will be, as he intended it should be, immediately evident. It must be observed, however, that in logical predication, when one thing is said to be *present with* another, a more or less intimate union of the two is implied by this expression; of which the following instances are illustrations.

Every animal is *present with* substance:  
 Every man is *present with* animal: Therefore  
 Every man is *present with* substance.

Every colour is *present with* body:  
 Every thing white is *present with* colour: Therefore  
 Every thing white is *present with* body.

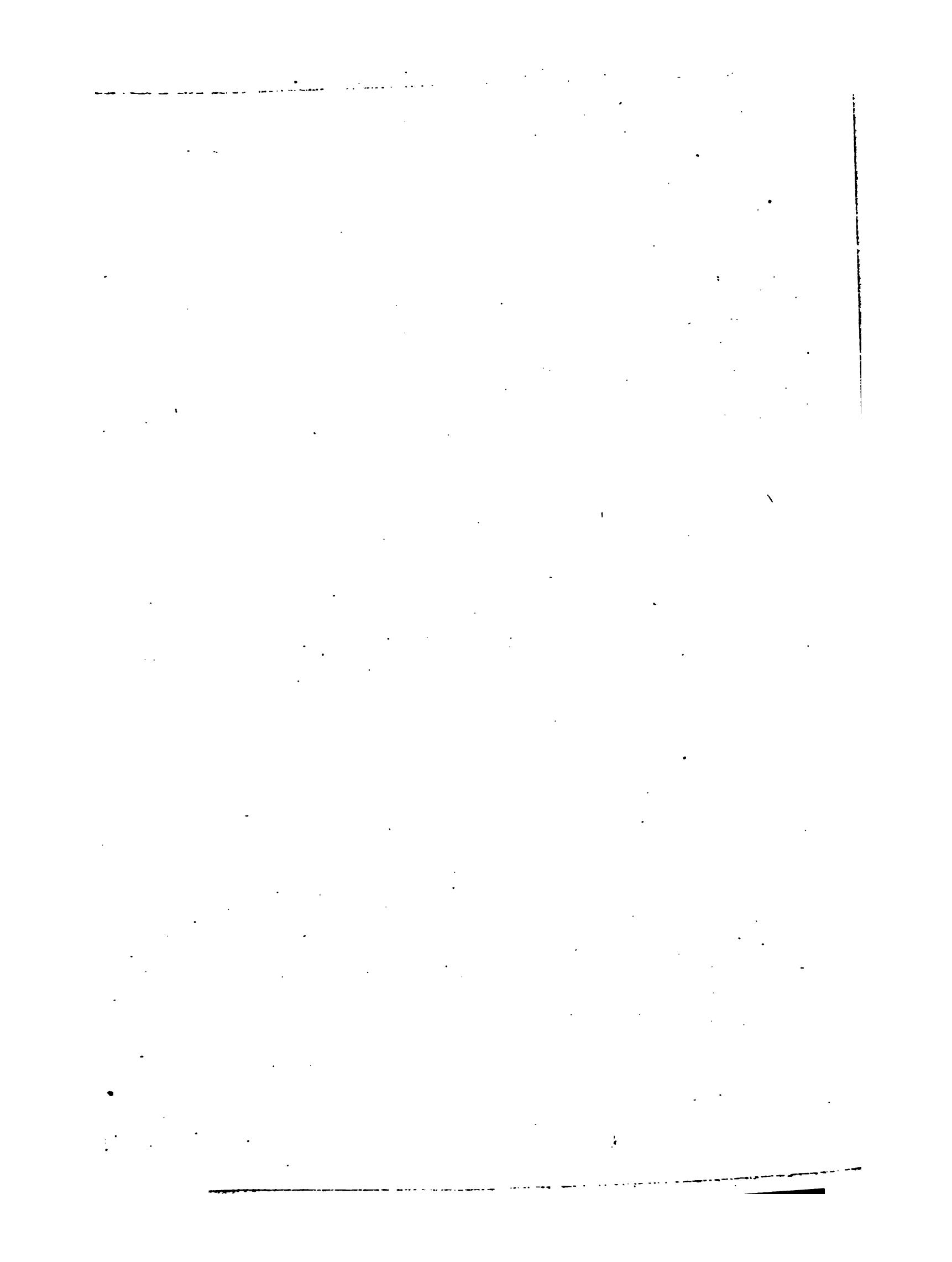
In the first of these instances the being *present with* implies the profoundest union; for every animal is a substance, and every man is an animal. But in the major of the second syllogism, the union is superficial, for colour is not a body.

As, therefore, when one thing is inherent in another, the former is present with the latter, but when one thing is present with another, it does not always follow that the one is inherent in the other; for divinity and every thing *truly* incorporeal are *present with*, without being *inherent in* body;—hence in all syllogisms, in which it may be necessary to

\* i. e. *Existing together with*; for the primary meaning of  $\nu\pi\alpha\varphi\chi\epsilon\iota$  is *to exist*; and in this sense it is used by Aristotle.

assert that one thing is inherent in another, the term *present with*, may be safely adopted as equivalent to the term *inherent in*.

I only add farther, that for the notes which accompany this translation of Aristotle's Analytics, I am greatly indebted to the excellent edition of the *ORGANON*, by Julius Pacius; and that Proclus in his Manuscript Scholia On the Cratylus of Plato observes, "That the Analytics of the Peripatetics, and demonstration which is their summit, may be comprehended by all, who are not entirely involved in mental darkness, and who have not drunk abundantly of the water of oblivion."



BOOK I.

T H E

## P R I O R A N A L Y T I C S.

### BOOK I.

#### CHAPTER I.

IN the first place it is requisite to say what the subject is of the present treatise, and for the sake of what it is undertaken; viz. that it is concerning demonstration, and for the sake of demonstrative science. Afterwards, it is requisite to define what a proposition is, what a term, and what a syllogism; and also what kind of a syllogism is perfect, and what kind is imperfect. In the next place it must be shown, what it is for a thing to be or not to be in a certain whole, and what we say it is to be predicated of every thing or of nothing, [of a certain multitude]. A proposition, therefore, is a sentence affirming or denying something of something. And this is universal either in a part, or indefinite. But I denominate *universal*, the being present with every thing or with nothing; *in a part*, the being present with something, or not with something, or not with every thing; and *the indefinite*, the being present, or not being present without the universal or particular; such, for instance, as that there is the same science of contraries, or that pleasure is not good.

good. But a demonstrative differs from a dialectic proposition in this ; that the demonstrative proposition is an assumption of one part of contradiction ; (for he who demonstrates does not interrogate, but assumes) but the dialectic is an interrogation of contradiction. So far, however, as pertains to the framing a syllogism from either proposition, the one in no respect differs from the other. For he who demonstrates, and he who interrogates syllogize, assuming that something is present with, or is not present with something. Hence, a syllogistic proposition, indeed, will be simply an affirmation or negation of something concerning something, after the manner above-mentioned. But a proposition is demonstrative, if it is true, and is assumed through hypotheses from the beginning. And a dialectic proposition, with respect to him who enquires, is an interrogation of contradiction ; but with respect to him who syllogizes, is an assumption of that which is seen and probable, as we have observed in the Topics. What, therefore, a proposition is, and in what the syllogistic, demonstrative, and dialectic proposition differ from each other, will be accurately shown in the following treatises ; but for the present purpose, what has been now determined by us may suffice. But I call that a term into which a proposition is dissolved ; as, for instance, that which is predicated, and that of which it is predicated, whether *to be* or *not to be* is added or separated. And a syllogism is a discourse, in which certain things being admitted, something else different from the things admitted necessarily happens, in consequence of the existence of these [admitted propositions]. I say, that in consequence of these admitted propositions, something else happens. And when I say that something else happens through these, I mean that there is no need of any external term, in order to the existence of the necessary [consequence]. Hence I call that a perfect syllogism, which requires nothing else besides the things assumed in order that the necessary [consequence] may be apparent. But I denominate that an imperfect syllogism, which requires one or more things, which through the supposed terms are necessary, and yet are not assumed through propositions. And it is the same thing, for one thing

thing to be in the whole of another, and for one thing to be predicated of the whole of another, when nothing can be assumed of the subject, of which the other may not be asserted: and to be predicated of nothing is assumed after a similar manner<sup>1</sup>.

## CHAPTER II.

SINCE, however, every proposition is either of that which is [simply] present, or of that which is present from necessity, or of that which may happen to be present; and of these, some are affirmative but others negative, according to each appellation; and again, since of affirmative and negative propositions, some are universal, others partial, and others indefinite;—this being the case, it is necessary that the universal privative proposition of that which is present should be converted in its terms. Thus, for instance, if no pleasure is good, neither will any good be pleasure. But it is necessary that a categoric proposition should be converted indeed, yet not universally, but in a part. For instance, if all pleasure is good, it is also necessary that a certain good should be pleasure. And of particular propositions it is necessary that the affirmative should be converted in a part; for if a certain pleasure is good, a certain good will also be pleasure. But it is not necessary that a privative proposition should be converted. For it does not follow that if man is not present with a certain animal, that animal also is not present with a certain man. Let the proposition A B, therefore, be the first privative universal. Hence, if A is present with no B, neither will B be present with any A. For if it should be present with some A, as, for instance, with C, it will not be true that A is present with

<sup>1</sup> That is, when nothing can be assumed of the subject, of which the other may be predicated.

no B\*; since C is something of B. But if A is present with every B, B will be present with some A. For if with no A, neither will A be present with any B; but it was supposed to be present with every B. [Conversion] also is in a similar manner produced, if the proposition is according to a part. For if A is present with some B, it is also necessary that B should be present with some A. For if it is present with no A, neither will A be present with any B. But if A is not present with some B, it is not necessary that B also should not be present with A. For instance, if B is animal, but A man; man, indeed, is not present with every animal, (i. e. is not participated by every animal), but animal is present with every man.

### CHAPTER III.

THE like also will take place in necessary propositions; for a universal privative is universally converted. But each of affirmative propositions is converted according to a part. For if it is necessary that A should be present with no B, it is also necessary that B should be present with no A; for if it should happen to be present with some A, it would also happen that A would be present with some B. But if A is necessarily present with every, or with some B, B also will necessarily be present with some A; for if it is not necessarily present, neither will A be necessarily present with some B. That, however, which is privative in a part, is not converted, for the reason which has been before as-

\* Theophrastus and Eudemus, the associates of Aristotle, prove this more clearly, and in fewer words as follows: If A is predicated of no B, it is, therefore, divulged and separated from all the parts of B; but that which is separated is drawn away from something which is separate; B, therefore, will be predicated of no A. For that which is separated ranks among relatives; since it is separated from something. But relatives reciprocate. B, therefore will be predicated of no A.

signed.

signed. But with respect to contingent propositions (since that which is contingent is multifariously predicated ; for we say that the necessary, the not necessary, and the possible may happen) in all those that are affirmative, there will be a similar mode of conversion. For if A may happen to every, or to some B, B also may happen to some A; for if to no A, neither will A happen to any B. For this has been already demonstrated [in chap. 2]. In negative propositions, however, the like does not take place ; but such things as are said to be contingent, either because they are necessarily not present, or because they are not necessarily present, [are converted] similarly [with the former]. For instance, if some one should say it may happen that a man may not be a horse, or that whiteness may be present with no garment. For of these assertions, the one is necessarily not present, and the other is not necessarily present. And the proposition is similarly converted. For if it happens to no man to be a horse, it also happens to no horse to be a man ; and if whiteness happens to no garment, a garment also will not happen to any whiteness. For if a garment necessarily happens to a certain whiteness, whiteness also will necessarily happen to a certain garment ; since this was demonstrated before [in chap. 2]. The like also will take place in a particular negative proposition. But such things as are said to be contingent, because they happen for the most part, and because they are naturally so adapted (after the manner according to which we define the contingent) will not subsist similarly in privative conversions ; for a universal privative proposition is not converted, but that which is particular is converted. This, however, will be evident, when we speak of the contingent. But now let thus much be manifest in addition to what has been said, that to happen not to be present with any thing, or with something, has an affirmative figure \*. For *it may happen*, is similarly arranged with *it is*; but *it is* always and entirely produces affirmation in those things to which it is attributed. For instance, *it is* not good, or *it is* not white, or, in short, *it is* not this

\* See the 12th chapter, On Interpretation.

thing. This, however, will be shown in what follows. But with respect to conversions these will subsist similarly with others.

## CHAPTER IV.

THESE things being determined, let us now show through what things, when, and how every syllogism is produced; and afterwards let us speak concerning demonstration. For it is requisite to speak of syllogism prior to demonstration, because syllogism is more universal. For demonstration, indeed, is a certain syllogism, but not every syllogism is demonstration. When, therefore, three terms so subsist with reference to each other, as that the last is in the whole of the middle, and the middle either is or is not in the whole of the first; then it is necessary that there should be a perfect syllogism of the extremes. But I call the middle<sup>1</sup>, that which is itself in another<sup>2</sup>, another<sup>3</sup> also being in it; and which likewise becomes the<sup>4</sup> middle in position. And I call the extremes<sup>5</sup> that which is itself in another, and<sup>6</sup> that in which another also is. For if A is predicated of every B, and B of every C, it is necessary that A should be predicated of every C, for it has been before shown how we predicate of every [individual of a given multitude]. In like manner also, if A is predicated of no B, but B is predicated of every C, neither will A be predicated of any C. But if the first fol-

<sup>1</sup> That is to say, in the first figure, because the middle is otherwise assumed in the second and third figures.

<sup>2</sup> Viz. Which is subjected to the greater extreme, in the major proposition.

<sup>3</sup> The less extreme is subjected to the middle term in the minor proposition.

<sup>4</sup> That is, it is arranged in the middle place, between the extremes. Thus, in the instance immediately following, A is the greater extreme, B the middle term, and C the less extreme.

<sup>5</sup> Viz. The less extreme, which is subjected to the middle term in the minor proposition.

<sup>6</sup> That is, the greater extreme, to which the middle term is subjected in the major proposition

lows every middle, and the middle is present with no extreme, there will not be a syllogism of the extremes ; for nothing necessary will happen in consequence of the existence of these ; since it will happen that the first will be present with every and with no extreme. Hence, neither a particular, nor a universal conclusion will be necessarily produced. But nothing necessary being collected, there will not through these be a syllogism. Let, however, the terms of being present with every [individual of a certain multitude] be animal, man, horse ; and let the terms of being present with no one be animal, man, stone.

[Every man is an animal :  
No horse is a man :  
Every horse is an animal.]

[Every man is an animal :  
No stone is a man :  
No stone is an animal.]

Neither then will there be a syllogism, since neither is the first term present with any middle, nor the middle with any extreme. Let the terms of being present be science, line, physician ; but let the terms of not being present be science, line, unity.

[No line is science :  
No medicine is a line :  
Every medicine is science.]

[No line is science :  
No unity is a line :  
No unity is science.]

The terms, therefore, being universal it is manifest in this figure, when there will, and when there will not be a syllogism ; and also that when there is a syllogism, it is necessary that the terms should subsist as we have said. For it is evident, that if they thus subsist there will be a syllogism. But if one of the terms is universal, and the other particular with reference to the other, when the universal is joined to the greater extreme, whether catagoric or privative, but the particular term is catagoric with respect to the less extreme, it is necessary that the syllogism should be perfect. But when the universal term is joined to the less extreme, or the terms subsist in some other way, it is impossible there should be a syllogism. I call, however, the greater extreme, that in which the middle is ; and the less extreme, that which is under the middle. For let A be present with every B, but B with some C. If, therefore,

fore, to be predicated of every [individual of a multitude] is that which we asserted it to be from the first, A is necessarily present with some C. And if A is present with no B, but B is present with some C, it is necessary that A should not be present with some C. For the manner in which we speak of being predicated of no one [of a multitude] has been defined by us. Hence there will be a perfect syllogism. A similar conclusion also must be adopted, if [the proposition] B C is indefinite, being categoric; for there will be the same syllogism of the indefinite, and of that which is assumed in a part.

But if to the less extreme, universal either categoric or privative, is added, there will not be a syllogism; whether an indefinite or a particular proposition affirms or denies. For instance, if A is present, or is not present with some B; but B is present with some C. Let then the terms of being present be, good, habit, prudence; and let the terms of not being present be, good, habit, ignorance.

[Some habit {  
is      is not } good:  
All prudence is a habit:  
All prudence is good.]

[Some habit {  
is      is not } good:  
All ignorance is a habit:  
No ignorance is good.]

Again, if B is present with no C, but A is present with some B, or is not present, or is not present with every B; neither thus will there be a syllogism. Let the terms of being present with *every individual*\* be, white, horse, swan; but the terms of being present with no one be, white, horse, crow.

[Some horse {  
is      is not } white:  
No swan is a horse:  
Every swan is white.]

[Some horse {  
is      is not } white:  
No crow is a horse:  
No crow is white.]

The same terms also may be assumed if A B† should be indefinite. Neither then will there be a syllogism, when universal either categoric or

\* The expression of *being present with every individual* must be considered by the reader as technical; it being equivalent to, *being present with every individual of a given multitude*.

† i. e. The major proposition.

privative is added to the greater extreme; but to the less extreme a privative according to a part of the indefinite, and in a part is assumed; for instance, if A is present with every B, but B is not present with some, or not with every C. For that with which the middle is not present, to this, to every, and to none, the first will be consequent. Thus, let the terms animal, man, white, be supposed; and afterwards, from among those white things of which man is not predicated, let swan and snow be assumed. Hence animal will be predicated of every individual of the one; but of no individual of the other; so that there will not be a syllogism.

[Every man is an animal:

Something white (i. e. a swan) is not a man:  
Every swan is an animal.]

[Every man is an animal:

Something white (i. e. snow) is not a man:  
No snow is an animal.]

Again, let A be present with no B, but let B not be present with some C; and let the terms be, inanimate, man, white. Afterwards, let white things be assumed, viz. swan and snow, of which man is not predicated. For inanimate is predicated of every individual of the one, but of no individual of the other.

[No man is inanimate:

Something white (i. e. snow) is not a man:  
All snow is inanimate.]

[No man is inanimate:

Something white (i. e. a swan) is not a man:  
No swan is inanimate.]

Farther still, this is indefinite, viz. that B is not present with some C; (for it is truly asserted that it is not present with some C, whether it is present with none, or whether it is not present with every C) but terms of this kind being assumed, so as to be present with none, a syllogism will not be produced; for this has been asserted before. It is evident, therefore, that when the terms thus subsist, there will not be a syllogism; since if there could, there would also be a syllogism in these terms. The like also may be demonstrated, if universal privative is posited. Neither will there by any means be a syllogism, if both intervals according to a part are predicated either categorically or privatively;

vatively; or the one categorically, but the other privatively; or if the one is indefinite, but the other definite; or both are indefinite. But let the common terms of all be, animal, white, man; animal, white, stone,

[Something white    { is      } { is not    } } an animal :  Some man        { is      } { is not    } white :  Every man is an animal.]	[Something white    { is      } { is not    } } an animal :  Some stone        { is      } { is not    } white :  No stone is an animal.]
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From what has been said, therefore, it is evident, that if there is a particular syllogism in this figure, it is necessary that the terms should subsist as we have said; that if the terms thus subsist a syllogism is necessarily produced; but by no means, if they subsist in a different manner. It is also manifest, that all the syllogisms in this figure are perfect; for all are perfected through those things which were assumed from the first. Likewise, that all problems are demonstrated through this figure\*; for in this a thing is shown to be present with every, with none, with some one, and not with some one. But I call a figure of this kind, the first figure †.

\* This is the peculiarity of the first figure. For in the second figure, an affirmative conclusion, and in the third a universal conclusion, cannot be collected.

† The quantity of a proposition, so far as pertains to syllogism is twofold, *universal* and *particular*. And it must be observed, that a universal affirming proposition has the symbol A; a universal denying proposition E; a particular affirming, has the symbol I; and a particular denying, the symbol O.

The distinct modes of syllogisms are sixteen, which being multiplied according to triple figure, make forty-eight. But of these sixteen, eight are entirely useless, viz. E E, E O, I E, II, I O, O E, O I, O O. The remaining eight are useful; viz. A A, A E, A I, A O, E A, E I, I A, O A; and they are so disposed in figures, that four modes are contained in the first, four in the second, and six in the third figure; all of them being direct. These are contained in the following barbarous terms invented by the schoolmen: 1. *Barbara*, *Celarent*, *Darii*, *Ferio*. 2. *Cesare*, *Camestres*, *Festino*, *Baroco*. 3. *Darapti*, *Felapton*, *Disamis*, *Datisi*, *Bocardo*, *Ferison*. In these words, three syllables signify as many propositions; the first syllable signifying the major; the second, the minor; the last, the conclusion.

## I.

b A r Every B is A :  
 b A Every C is B : Therefore,  
 r A Every C is A.

c E No B is A :  
 l A Every C is B : Therefore,  
 r E nt No C is A.

d A Every B is A :  
 r I Some C is B : Therefore,  
 I Some C is A.

f E No B is A :  
 r I Some C is B : Therefore,  
 O Some C is not A.

## II.

c E s No A is B :  
 A Every C is B : Therefore,  
 r E No C is A.

c A m Every A is B :  
 E s No C is B : Therefore,  
 r E s No C is A.

f E s No A is B :  
 t I Some C is B : Therefore,  
 n O Some C is not A.

b A r Every A is B :  
 O k Some C is not B : Therefore,  
 O Some C is not A.

## III.

d A r Every B is A :  
 A p Every B is C : Therefore,  
 t I Some C is A.

f E l No B is A :  
 A p Every B is C : Therefore,  
 t O n Some C is not A.

d I s Some B is A :  
 A m Every B is C : Therefore,  
 I s Some C is A.

b O k Some B is not A :  
 A r Every B is C : Therefore,  
 d O Some C is not A.

d A t Every B is A :  
 I s Some B is C : Therefore,  
 I Some C is A.

f E r No B is A :  
 I s Some B is C : Therefore,  
 O n Some C is not A.

There are also five indirect modes in the first figure; viz., *Baralipton*, *Celantis*, *Dabitis*, *Fapesmo*, *Frisesmorum*.

## CHAPTER V.

BUT when the same thing [i. e. the middle term] is partly present with every individual, and partly with none; or is present to every or to none of each [extreme]; I call a figure of this kind the second figure. And I call the middle term in it, that which is predicated of both [extremes]. But I denominate the extremes those things of which this middle is predicated; the greater extreme being that which is situated near the middle; but the less extreme being that which is situated farther from the middle. But the middle is posited external to the extremes, and is first in position. By no means, therefore, will there be a perfect syllogism in this figure. But there may be a [syllogism] both when the terms are universal, and when they are not universal. And if the terms, indeed, are universal, there will be a syllogism when the middle is partly present with every, and partly with none; to whichever extreme the privative is added \*. But a syllogism will by no means be produced in any other way. For let M be predicated of no N, but of every O. Since, therefore, a privative [proposition] is converted, N will be present with no M. But M was supposed to be present with every O; so that N will be present with no O. For this was demonstrated before. Again, if M is present with every N, but with no O, neither will O be present with any N. For if M is present with no O, neither will O be present with any M. But M was present with every N; and hence O will be present with no N. For again, the first figure is produced. But since a privative [proposition] is converted, neither will N be present with any O. Hence there will be the same syllogism. These things also may be demonstrated by a deduction to the impossible. It is evident, therefore, that a syllogism, though not a perfect

\* i. e. Whichever proposition denies, if only the other affirms.

syllogism

syllogism may be produced, when the terms thus subsist; for the necessary not only receives its completion from those things which were assumed from the first, but also from other things. But if M is predicated of every N, and of every O, there will not be a syllogism. Let the terms then of being present with be, essence, animal, man; but of not being present with, essence, animal, stone. And let the middle [term] be essence.

[Every animal is an essence :  
Every man is an essence :  
Every man is an animal.]

[Every animal is an essence :  
Every stone is an essence :  
No stone is an animal.]

Nor will there then be a syllogism, when M is neither predicated of any N, nor of any O. Let the terms of being present with be, line, animal, man; but of not being present with, line, animal, stone.

[No animal is a line :  
No man is a line :  
Every man is an animal.]

[No animal is a line :  
No stone is a line :  
No stone is an animal.]

It is evident, therefore, that if there is a syllogism when the terms are universally posited, it is necessary that the terms should subsist in that manner which we mentioned in the beginning \*, for if they subsist in any other way, the necessity of concluding will not be produced. But if the middle is universally [affected] with respect to either extreme; when universal is added to the greater extreme, either categorically, or privatively; but to the lesser extreme, according to a part, and oppositely to universal; (but I say oppositely, if the universal is privative, but the particular affirmative; and if the universal is categoric, but the particular privative) it is necessary that a syllogism privative according to a part should be produced †. For if M is present with no N, but is present with a certain O, it is necessary that N should not be present with a certain O. For since a privative proposition may be converted, N will be present with no M: but M was supposed to be present with a

\* i. e. So as that the one proposition may be made affirming, but the other denying.

† i. e. It is necessary that a particular denying conclusion should be collected.

certain O : so that N will not be present with a certain O. For a syllogism is produced in the first figure.

Again, if M is present with every N, but is not present with a certain O, it is necessary that N should not be present with a certain O. For if it is present with every O, but M is predicated of every N, it is also necessary that M should be present with every O. But it was supposed that it is not present with a certain O. And if M is present, indeed, with every N, but not with every O, there will be a syllogism, [from which it will follow] that N is not present with every O. But the demonstration is the same. If, however, M is predicated of every O, but not of every N, there will not be a syllogism. Let the terms of being present with be, animal, essence, crow ; but of not being present with, animal, white, crow.

[Not every essence is an animal :  
Every crow is an animal :  
Every crow is an essence.]

[Not every thing white is an animal :  
Every crow is an animal :  
No crow is white.]

Neither will there be a syllogism, when M is predicated of no O, but of a certain N. Let the terms of being present with be, animal, essence, stone ; but of not being present with, animal, essence, science.

[Some essence is an animal :  
No stone is an animal :  
Every stone is essence.]

[Some essence is an animal :  
No science is an animal :  
No science is essence.]

When, therefore, particular is opposed to universal, we have shown when, and when there will not be a syllogism. But when the propositions are similar in figure, for instance, when both are privative, or affirmative, there will by no means be a syllogism. For in the first place, let both be privative, and let universal be added to the greater extreme ; as, for instance, let M be present with no N, and let it not be present with a certain O : it may happen, therefore, that N may be present with every and with no O. Let the terms of not being present with any be, black, snow, animal.

[No snow is black :  
Some animal is not black :  
No animal is snow.]

But

But the terms of being present with every cannot be assumed, if M is present, indeed, with a certain O, and with a certain O is not present. For if N is present with every O, but M is present with no N, M will be present with no O. But it was supposed to be present with a certain O. The terms, therefore, cannot thus be assumed. It may be demonstrated, however, from the indefinite\*. For since it was truly asserted that M is not present with a certain O, even if it is present with no O; but when it is present with no O, there was not a syllogism, it is evident that neither will there now be a syllogism. Again, let [both the propositions] be categorical, and let universal be similarly posited; as, for instance, let M be present with every N, and with a certain O. Hence, it may happen that N may be present with every, and with no O. Let the terms of not being present with any be, white, swan, snow.

[Every swan is white:  
Some stone is white:  
No stone is a swan.]

But the terms of not being present with every cannot be assumed, for the cause which we have before adduced.

[Every swan is white: Some bird is not white: Every bird is a swan.]	[Every swan is white: Every bird is a swan: Every bird is white.]
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It may be demonstrated, however, from the indefinite. But if universal is added to the less extreme, and M is present with no O, and is not present with a certain N, it may happen that N may be present with every and with no O. Let the terms of being present with be, white, animal, crow; but of not being present with, white, stone, crow.

[Some animal is not white: No crow is white: Every crow is an animal.]	[Some stone is not white: No crow is white: No crow is a stone.]
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\* The proposition is called in this place indefinite, because it does not explain whether the attribution is true alone in a part, or universally. Hence, after a manner, it comprehends both particular and universal. Thus he who says, that a certain man is not just, does not explain, whether a certain man is, and a certain man is not just, or whether no man is just.

But if the propositions are categoric, let the terms of not being present with be, white, animal, snow; but of being present with be, white, animal, swan.

[Some animal is white:  
All snow is white:  
No snow is an animal.]

[Some animal is white:  
Every swan is white:  
Every swan is an animal.]

It is evident, therefore, that when the propositions are similar in figure, and the one is universal, but the other particular, there will by no means be a syllogism. Neither will there be a syllogism, if with some one of each term a thing is present, or is not present; or is partly present with some one, and partly not; or to every one of neither, or indefinitely. Let then the common terms of all be, white, animal, man; white, animal, inanimate.

[Some animal {is  
is not} white:  
Some man {is  
is not} white:  
Every man is an animal.]

[Some animal {is  
is not} white:  
Something inanimate {is  
is not} white:  
Nothing inanimate is an animal.]

From what has been said, therefore, it is evident, that when the terms subsist with reference to each other, in the manner we have mentioned, a syllogism will necessarily be produced; and if a syllogism is produced, it is necessary that the terms should subsist in this manner. It is likewise evident, that all syllogisms which are in this figure are imperfect; for all of them are produced by certain things being assumed which either are necessarily inherent in the terms, or are admitted as hypotheses, as when we demonstrate through the impossible. It is also manifest, that an affirmative syllogism is not produced in this figure; but all the syllogisms are privative, both those that are universal, and those that are particular.

## CHAPTER VI.

WHEN, however, with the same thing, one thing is present with every individual, but another with none; or both with every, or both with none, I call a figure of this kind the third figure. But I call that the middle in it of which we predicate both; and I denominate extremes the things which are predicated; the greater extreme being that which is more remote from the middle, and the less, that which is nearer to the middle. But the middle is arranged external to the extremes, and is last in position. Neither, therefore, will a perfect syllogism be produced in this figure. But there may be a syllogism, the terms being joined to the middle, as well universally as not universally. The terms, therefore, being universally posited, when P and R are present with every S, there will be a syllogism, in which it will be necessarily inferred that P is necessarily present with a certain R. For since a categoric assertion is converted, S will be present with a certain R. Hence since P is present with every S, but S is present with a certain R, it is necessary that P should be present with a certain R. For a syllogism will be produced in the first figure. It is also possible to make the demonstration through the impossible, and through exposition. For if both are present with every S, if some S is assumed, as, for instance, N, both P and R will be present with this; so that P will be present with a certain R. And if R is present with every S, but P is present with no S, there will be a syllogism, in which it will be necessarily inferred that P is not present with a certain R. For there will be the same mode of demonstration, the proposition R S being converted. This may also be demonstrated through the impossible, as in the former syllogisms. But if R is present with no S, and P is present with every S, there will not be

be a syllogism. Let the terms of being present with be, animal, horse, man; but of not being present with, animal, inanimate, man.

[Every man is an animal : No man is a horse : Every horse is an animal.]	[Every man is an animal : No man is inanimate : Nothing inanimate is a horse.]
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Nor will there then be a syllogism, when both are predicated of no S. Let the terms of being present with be, animal, horse, inanimate; but of not being present with be, man, horse, inanimate: the medium is inanimate.

[Nothing inanimate is an animal : Nothing inanimate is a horse : Every horse is an animal.]	[Nothing inanimate is a man : Nothing inanimate is a horse : No horse is a man.]
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It is evident, therefore, in this figure also, when there will be, and when there will not be a syllogism, the terms being universally posited. For when both the terms are categoric there will be a syllogism, in which it will be inferred that extreme is present with a certain extreme. But when both the terms are privative there will not be a syllogism. When, however, the one is privative, and the other affirmative; if, indeed, the greater term is privative, but the other affirmative, there will be a syllogism in which it will be inferred that extreme is not present with a certain extreme. But if the contrary\* takes place there will not be a syllogism. If, however, one of the terms is universally, but the other particularly joined to the middle; both of them being categoric, it is necessary that a syllogism should be produced, whichever of the terms is universally assumed. For if R, indeed, is present with every S, but P with a certain S, it is necessary that P should be present with a certain R. For since an affirmative assertion is converted, S will be present with a certain P. Hence, since R is present with every S, but S is present with a certain P, R also will be present with a certain P, so that P also will be present with a certain R. Again, if R is present

\* i.e. If the major proposition affirms, but the minor denies.

with

with a certain S, but P is present with every S, it is necessary that P should be present with a certain R; for there is the same mode of demonstration. These things also may be demonstrated through the impossible, and through exposition, as in the former syllogisms. But if one of the terms is categoric, and the other privative, and the categoric is assumed universally; when the less term, indeed, is categoric, there will be a syllogism. For if R is present with every S, but P is not present with a certain S, it is necessary that P should not be present with a certain R. For if P is present with every R, and R is present with every S; P also will be present with every S; but it is not present. This also may be shown without a deduction to the impossible, if some S is assumed with which P is not present. But when the greater term is categoric, there will not be a syllogism. For instance, if P is present with every S, but R is not present with a certain S. Let the terms of being present with every be, animated, man, animal.

[Every animal is animated:  
Some animal is not a man:-  
Every man is animated.]

But it is not possible to assume the terms of being present with none, if R is present with a certain S, and with a certain S is not present. For if P is present with every S, and R is present with a certain S, P also will be present with a certain R. But it was supposed to be present with no R. Here, therefore, the same thing must be assumed as in the former syllogisms. For the assertion that something is not present with a certain thing being indefinite, also that which is not present with any individual of a certain multitude, is truly said not to be present with a certain individual of that multitude; but not being present with any individual, there will not be a syllogism. It is evident, therefore, that there will not be a syllogism, [when there is an assumption of not being present with some individual of a certain multitude]. If, however, the privative term is universal, but the particular term is categoric; when the greater term, indeed, is privative, but the less categoric, there will be a syllogism. For if P is present with no S, but R is

R is present with a certain S; P will not be present with a certain R. For again, there will be the first figure, the proposition R S being converted. But when the less term is privative, there will not be a syllogism. Let the terms of being present with be, animal, man, wild; but of not being present with be, animal, science, wild. The middle of both is wild.

[Something wild is an animal :  
Nothing wild is a man :  
Every man is an animal.]

[Something wild is an animal :  
Nothing wild is science :  
No science is an animal.]

Nor will there then be a syllogism, when both terms are privative; and the one is universal, but the other particular. Let the terms of not being present with, when the less term is universally joined to the middle be, animal, science, wild; but of being present with be, animal, man, wild.

[Something wild is not an animal :  
Nothing wild is science :  
No science is an animal.]

[Something wild is not an animal :  
Nothing wild is a man :  
Every man is an animal.]

But when the greater term is universal, but the less particular; let the terms of not being present with be, crow, snow, white.

[Nothing white is a crow :  
Not every thing white is snow :  
No snow is a crow.]

The terms, however, of being present with cannot be assumed, if R is present, indeed, with a certain S, and with a certain S is not present. For if P is present with every R, but R is present with a certain S, P also will be present with a certain S. It was supposed, however, not to be present with any S. But it is demonstrated from the indefinite\*. Neither will there by any means be a syllogism, if each [extreme term] is present, or is not present with a certain middle; or if one is present, but the other is not present; or the one is present with some individual,

\* Because it is uncertain whether the minor proposition is true only in a part, or also universally. For if it is assumed universally, there will not be a syllogism, as was shown before.

but

but the other not with every individual; or indefinitely. But let the common terms of all be, animal, man, white; animal, inanimate, white.

[Something white    { is      is not } an animal :  Something white    { is      is not } a man :  Every man is an animal.] 	[Something white    { is      is not } an animal :  Something white    { is      is not } inanimate :  Nothing inanimate is an animal.] 
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It is evident, therefore, in this figure also, when there will be, and when there will not be a syllogism; that when the terms so subsist as has been mentioned, a syllogism is necessarily produced; and that if there is a syllogism, it is necessary the terms should subsist in this manner. It is likewise evident, that all the syllogisms in this figure are imperfect; for all of them are perfected by the assumption of certain things; and also that a universal conclusion, neither privative nor affirmative, will not be collected in this figure.

## CHAPTER VII.

IT is likewise manifest, that in all the figures, when a syllogism is not produced, both the terms being categoric or privative, and particular, nothing necessary, in short, will be inferred. But [if the one is] categoric, and [the other] privative, the privative being universally assumed, a syllogism will always be produced of the less extreme with the greater. For instance, if A is present with every, or with a certain B, but B is present with no C. For the propositions being converted, it is necessary that C should not be present with a certain A. The like also will take place in other figures; for a syllogism will always be produced through conversion. It is likewise manifest, that when an indefinite assertion is assumed for a particular attributive, it will produce the same syllogism in all the figures. It is also evident, that all imper-

fect syllogisms are perfected through the first figure. For all of them receive their completion either demonstratively, or through the impossible ; but in both ways the first figure will be produced. And if, indeed, they receive their completion demonstratively, [the first figure will be produced], because [thus] all of them will be perfected through conversion ; and conversion will produce the first figure. But if they are demonstrated through the impossible, [still the first figure will be produced], because the false being posited, a syllogism will be formed in the first figure. Thus, for instance, in the last figure, if A and B are present with every C, it may be demonstrated that A is present with some B. For if A is present with no B, but B is present with every C, A will be present with no C : but it was supposed that A is present with every C. The like will also take place in other instances. It is also possible to reduce all syllogisms to universal syllogisms of the first figure. For it is evident, that through these the syllogisms in the second figure are perfected ; except that all of them are not similarly perfected : but the universal are perfected, the privative assertion being converted ; and each of those that are particular, through a deduction to the impossible. But particular syllogisms in the first figure, are perfected, indeed, through themselves. They may, however, be demonstrated in the second figure, by a deduction to the impossible. For instance, if A is present with every B, but B is present with a certain C, it may be shown that A will be present with a certain C. For if A is present with no C, but is present with every B : B will be present with no C ; for we know this through the second figure. In a similar manner there will be a demonstration in a privative syllogism. For if A is present with no B, but B is present with a certain C ; A will not be present with a certain C. For if A is present with every C, and with no B ; B will be present with no C : but this was the middle figure. Hence, since all the syllogisms in the middle figure, are reduced to universal syllogisms in the first figure ; but particular syllogisms in the first figure, are reduced to syllogisms in the middle figure ; it is evident, that particular syllogisms [in the first figure] are reduced to universal syllogisms

syllogisms in the first figure. But the syllogisms in the third figure, the terms, indeed, being universal, are immediately perfected\* through those syllogisms. When, however, [the terms] are assumed in a part, they are perfected through particular syllogisms in the first figure. But these are reduced to those; so that particular syllogisms also in the third figure, [are reduced to the same]. It is evident, therefore, that all of them may be reduced to the universal syllogisms in the first figure. Hence we have shown how those syllogisms subsist which exhibit the being present with, or not being present with; as well by themselves, those which are from the same figure, as with reference to each other, those which are from different figures.

## CHAPTER VIII.

SINCE, however, to exist, to exist from necessity, and to exist continually, are different; (for many things exist, indeed, yet not from necessity, but other things neither necessarily exist, nor, in short, exist, yet may happen to exist), it is evident, that there will be a different syllogism of each of these, and from terms not having a similitude of subsistence: but one syllogism will consist of necessary terms; another of such as have an existence; and another of such as are contingent. In necessary syllogisms, therefore, the like will nearly take place, as in those which [simply] exist; for the terms being similarly posited in [simply] existing, and in existing or not existing from necessity, there will be, and there will not be a syllogism; except that they differ in the existing or not existing from necessity, being added to the terms. For a privative assertion is in a similar manner converted, and we similarly assign to be in the whole of a thing, and to be predicated of every. In

\* Viz. By a deduction to an absurdity.

other things, therefore, it is demonstrated after the same manner through conversion, that the conclusion is necessary, just as in existing or being present with a thing. But in the middle figure when the universal proposition is affirmative, and the particular proposition privative; and again in the third figure, when the universal is categoric, but the particular proposition privative, there will not similarly be demonstration; but it is necessary, something being proposed with which one of the extremes is not present, to make a syllogism of this; for of this there will be a necessary [conclusion.] If, however, a necessary conclusion is produced of the proposed term, [a necessary conclusion] of some individual of that term will also be produced; for the thing proposed is a part of it. But each of the syllogisms will be formed in its proper figure.

## CHAPTER IX.

It also sometimes happens that one of the propositions being necessary \*, a necessary syllogism will be produced †, yet not of either proposition casually, but of that which contains the greater extreme. For instance, if A is assumed to be present or not present with B from necessity; but B is assumed to be alone present with C; for the proposi-

\* In this chapter, Aristotle discusses syllogisms in the first figure, in which one of the propositions is necessary, and the other *pure*. But in order to understand what is meant by a *pure* proposition, it is necessary to observe, that a categoric proposition is either *pure* or *modal*. A *pure* categoric proposition is that in which the predicate is purely affirmed or denied of the subject, as, *man is an animal*. A predicate also is *purely* affirmed or denied, which is simply said to be present with, or not present with, without expressing the mode of being or not being present with. But a *modal* categoric proposition, is that in which the *mode* of the disposition of the predicate with the subject is expressed as, *it is necessary that man should be an animal*.

† Theophrastus, however, and Eudemus were of opinion, that a necessary conclusion could never be collected, unless both the propositions were necessary. Vid. Alexandrum Aphr.

tions

tions being thus assumed, A will be present or will not be present from necessity with C. For since A is present or is not present with every B from necessity, but C is something belonging to B, it is evident, that C will be from \* necessity one of these. If, however, [the proposition] A B is not necessary, but B C is necessary, there will not be a necessary conclusion. For if there will be, it will happen that A is necessarily present with a certain B, [as may be demonstrated] as well in the first as in the third figure. But this is false; for it may happen that B may be a thing of that kind that A may not be present with any thing belonging to it. Farther still, from the terms also it is evident, that there will not be a necessary conclusion; as, for instance, if A is motion, B animal, and C man. For man is necessarily an animal; but neither animal, nor man, is necessarily moved. The like will also take place if A B is privative; for there is the same demonstration. But in particular syllogisms, if the universal assertion is necessary, the conclusion also will be necessary; but if the particular [is necessary] the conclusion will not be necessary; whether the universal proposition is privative, or categoric. In the first place, therefore, let the universal be necessary, and let A be necessarily present with every B, but let B be only present with a certain C. It is necessary, therefore, that A should be necessarily present with a certain C; for C is under B †, and A was present from necessity with every B. The like will also take place, if the syllogism is privative; for there will be the same demonstration. But if the particular is necessary; the conclusion will not be necessary; for nothing absurd will happen ‡, as neither in universal syllogisms. A similar consequence also will be the result in [particular] privative [syllogisms]. Let the terms be, motion, animal, white.

[Every animal is moved:

It is necessary that something white }  
should be an animal : }

Therefore, something white is moved.  
But not necessarily, because it is possible that it might not be moved.]

[No animal is moved:

It is necessary that something white }  
should not be an animal : }

Therefore, something white is not moved.  
But this is not necessary, because it may be moved.]

\* i. e. Will be, or will not be A. † i. e. C is united to B. ‡ i. e. Nothing absurd will happen, though we should say that the conclusion is not necessary.

## CHAPTER X.

IN the second figure, however, if the privative proposition is necessary, the conclusion also will be necessary; but if the categoric proposition [is necessary, the conclusion] will not be necessary. For, in the first place, let the privative proposition be necessary, and let it not be possible for A to be present with any B, but let it be present with C alone. Since, therefore, a privative proposition may be converted, neither can B be present with any A. But A is present with every C; so that B cannot be present with any C. For C is under A \*. In a similar manner also [the conclusion will be necessary] if negation is added to C. For if A cannot be present with any C, neither can C be present with any A. But A is present with every B; so that neither can C be present with any B. For again, the first figure will be produced. Hence neither can B be present with C; since it is in a similar manner converted. But if the categoric proposition is necessary, the conclusion will not be necessary. For let A be present with every B from necessity, and let it alone not be present with any C. The privative proposition, therefore, being converted, the first figure will be produced. But it was shown in the first figure, that when the major privative proposition is not necessary, neither will the conclusion be necessary. Hence neither in these will the conclusion be necessary. Again, if the conclusion is necessary, it will happen that C is necessarily not present with a certain A. For if B is necessarily present with no C, neither will C be necessarily present with any B. But B is necessarily present with a certain A, if A is present from necessity with every B. Hence it is necessary that C should not be present with a certain A. Nothing, however, hinders an A of that kind from being assumed, which may be present with every C. Farther still, it may also be shown from an

\* i.e. Is something belonging to A.

exposition

exposition of the terms, that the conclusion is not simply necessary, but that it necessarily is, these being posited. For instance, let A be animal, B, man, C, white, and let the propositions be similarly assumed. For it will happen that animal is present with nothing white. Neither, therefore, will man be present with any thing white; yet not from necessity. For it may happen that man may be white, yet not so long as animal is present with nothing white. Hence these things being admitted, the conclusion will be necessary, but will not be simply necessary. The like will also take place in particular syllogisms. For when the privative proposition is universal and necessary, the conclusion also will be necessary. But when the categoric proposition is universal and necessary, but the privative is particular and not necessary; the conclusion will not be necessary. In the first place, therefore, let the privative proposition be universal and necessary, and let it not be possible for A to be present with any B, but let it be present with a certain C. Since, therefore a privative proposition may be converted, B also cannot be present with any A. But A is present with a certain C. Hence B is necessarily not present with a certain C. Again, let the categoric proposition be universal and necessary, and let the categorical (i. e. affirmation) be added to B. If, therefore, A is necessarily present with every B, but is not present with a certain C; it is evident, that B is not present with a certain C; but not from necessity. For there will be the same terms in order to the demonstration, as were assumed in universal syllogismis. Neither will the conclusion be necessary, if the privative assertion is necessary when assumed in a part. For the demonstration may be made through the same terms.

## CHAPTER XI.

BUT in the last figure, when the terms are universally joined to the middle, and both the propositions are categoric, if either of them is necessary, the conclusion also will be necessary. If, however, one of the propositions is privative, but the other categoric; when the privative is necessary, the conclusion also will be necessary. But when the categoric proposition is necessary, [the conclusion] will not be necessary. For, in the first place, let both the propositions be necessary, and let A and B be present with every C; and let [the proposition] A C be necessary. Since, therefore, B is present with every C, C also will be present with a certain B, because a universal is converted into a particular proposition. Hence if A is necessarily present with every C, and C is present with a certain B, A also is necessarily present with a certain B; for B is under (i. e. is something belonging to) C. The first figure, therefore, will again be produced. In a similar manner it may be demonstrated if [the proposition] B C is necessary; for C is converted with a certain A. Hence if B is necessarily present with every C, but C is present with a certain A, B also will be necessarily present with a certain A. Again, let the proposition A C be privative, but the proposition B C affirmative; and let the privative proposition be necessary. Since, therefore, an affirmative proposition may be converted, C will be present with a certain B, but A will necessarily be present with no C, and also will necessarily not be present with a certain B; for B is under C. But if the categoric proposition is necessary, the conclusion will not be necessary. For let B C be a categoric and necessary proposition; but let the proposition A C be privative and not necessary. Since, therefore, an affirmative proposition may be converted, C also will necessarily be present with a certain B; so that if A is present with

no

no C, but C is present with a certain B, A also will not be present with a certain B; yet not from necessity. For it was demonstrated in the first figure (chap. 9.) that a privative proposition not being necessary, neither will the conclusion be necessary. Farther still, this will also be evident from the terms. For let A be good; B, animal; and C, horse. It may, therefore, happen that good may be present with no horse; but animal is necessarily present with every horse. It is not, however, necessary that a certain animal should not be good, since it may happen that every animal is good.

[No horse is good:  
It is necessary that every horse should be an animal:  
Therefore, Some animal is not good.]

Or, if this \* is not possible, another term must be posited, as to wake, or to sleep; for every animal is the recipient of these †.

<p>[No horse wakes: It is necessary that every horse should } be an animal: Therefore, Some animal does not wake.]</p>	<p>[No horse sleeps: It is necessary that every horse should } be an animal: Therefore, Some animal does not sleep.]</p>
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If, therefore, the terms are universally joined to the middle, it has been shown when the conclusion will be necessary. But if one of the terms is universally [predicated of the middle] and the other partially, both, indeed, being categoric; when the universal proposition becomes necessary, the conclusion also will be necessary. The demonstration, however, is the same as before; for a partial categoric proposition may also be converted. If, therefore, it is necessary that B should be present with every C, but A is under C, it is necessary that B should be present with a certain A. For [this proposition] may be converted. The like also will take place, if the proposition A C is necessary and universal; for B is under C. But if the partial proposition is necessary, the conclusion will not be necessary. For let the proposition B C be

\* Viz. That every animal is good. † i.e. Every animal can wake and sleep.

partial and necessary, and let A be present with every C, yet not from necessity. The proposition, therefore, B C being converted, the first figure will be produced : and the universal proposition is not necessary ; but the partial is necessary. When, however, the propositions thus subsist, the conclusion is not necessary (See chap. 6). Hence neither in the terms now posited [will the conclusion be necessary.]

[Every C is A :  
It is necessary that some C should be B :  
Therefore,  
Some B is A.]

[Every C is A :  
It is necessary that some B should be C :  
Therefore,  
Some B is A.]

Farther still, this also is evident from the terms. For let A be wakefulness ; B, be biped ; and C, animal. It is necessary, therefore, that B should be present with a certain C, but A may happen to be present with every C, and A is not necessarily present with B. For it is not necessary that a certain biped should sleep or wake.

[Every animal wakes :  
It is necessary that some animal should be biped :  
Therefore,  
Some biped wakes.]

In a similar manner also, the demonstration may be framed through the same terms, if the proposition A should be partial and necessary.

{It is necessary that some animal  
should be a biped : }  
Every animal wakes :  
Therefore,  
Something that wakes is a biped.]

{Every animal wakes :  
It is necessary that some biped should  
be an animal : }  
Therefore,  
Some biped wakes.]

But if one of the terms is categoric, and the other privative, when the universal proposition is privative and necessary, the conclusion also will be necessary. For if A is contingent to no C, but B is present with a certain C, it is necessary that A should not be present with a certain B. But when the affirmative proposition is necessary, whether it be universal or partial, or privative partial, the conclusion will not be necessary. For we may say that other things are the same, as we have mentioned

mentioned before \*. Let the terms, however, when the universal categoric proposition is necessary be, wakefulness, animal, man ; and the middle, man.

[Some man does not wake :  
It is necessary that every man should be an animal :  
Therefore,  
Some animal does not wake.]

But when the partial categoric proposition is necessary, let the terms be wakefulness, animal, white. For it is necessary that animal should be present with something white : but it happens that wakefulness is not present with any thing white ; and it is not necessary that wakefulness should not be present with a certain animal.

[Nothing white wakes :  
It is necessary that something white should be an animal :  
Therefore,  
Some animal does not wake.]

But when the privative partial proposition is necessary ; let the terms be, biped, motion, animal ; and the middle, animal.

[It is necessary that some animal should not be a biped :  
Every animal is moved :  
Therefore,  
Something which is moved is not a biped.]

## CHAPTER XII.

It is evident, therefore, that there is not a syllogism of the being present with, unless both propositions signify the being present

\* That is, we may use that demonstration which was employed before in this chapter ; because a reduction being made to the first figure, the minor proposition will be necessary, but the major will be pure : from which a necessary conclusion cannot be collected.

with ;

with \*; but that a necessary conclusion may be collected, though the other proposition alone is necessary. But in both †, the syllogisms being either affirmative or privative, it is necessary that one of the propositions should be similar to the conclusion. My meaning is with respect to the similar; [that if it is concluded] a thing is present with, [one of the propositions also signifies] the being present with. But if [it is concluded] that a thing is necessarily present, [one of the propositions is also] necessary. Hence it is evident, that there will not be a conclusion either necessary, or that a thing is present with, unless one of the propositions is assumed necessary, or signifying the being present with. Concerning the necessary, therefore, how it is produced, and what difference it has with respect to that which is present with, nearly what is sufficient has been said.

### CHAPTER XIII.

IN the next place let us speak about the contingent, when, and how, and through what [propositions] there will be a syllogism. But I call to be contingent, and the contingent, that which not being necessary, if it is admitted to exist, there will on this account be nothing impossible. For the necessary is said to be contingent homonymously. But that this is the contingent is evident from opposite negations and affirmations. For these assertions, it does not happen to exist, it is impossible to exist, and it is necessary not to exist, are either the same, or follow each other. Hence the opposites to these also, it happens to exist,

\* i. e. From a pure syllogism, an affirmative conclusion cannot be collected, unless both the propositions affirm.

† i. e. Whether the syllogism is of that which is present with, or of that which is necessarily present with.

it is not impossible to exist, and it is not necessary not to exist, will either be the same, or will follow each other; for of every thing there is either affirmation or negation. That which is contingent, therefore, will be not necessary; and that which is not necessary will be contingent. It happens, however, that all propositions of the contingent, may be converted into each other. I say [may be converted] not the affirmative into the negative, but such as have an affirmative figure according to opposition. For instance, this proposition, it happens to exist, [may be converted into this] it happens not to exist. This proposition also, it happens to every [may be converted into this] it happens to none, or not to every: and this, it happens to a certain thing, into this, it does not happen to every. After the same manner also conversion is effected in other propositions. For since that which is contingent is not necessary; and that which is not necessary may not exist; it is evident, that if it happens, A is present with B, it may also happen that it may not be present: and if it happens to be present with every B, it may also happen not to be present with every B. There is likewise a similar reasoning in partial affirmations; for there is the same demonstration. Such like propositions, however, are categoric, and not privative. For the verb *to be contingent* is arranged similarly to the verb *to be*, as we have before observed [in chap. 3].

These things being determined, we again say, that to be contingent is predicated in two ways; one, indeed, as that which takes place for the most part, and falls short of the necessary—(as, for instance, for a man to become hoary, or to be increased, or waste away, or, in short, that which is naturally adapted to exist; for this has not a continued necessity, because man does not always exist; but man existing, this\* is either from necessity, or for the most part). But in another way that is contingent which is indefinite, and which can subsist thus, and not thus; such as for an animal to walk, or while it is walking, for an earthquake

\* i. e. For a man to become hoary, or to be increased, &c.

to

to take place, or, in short, that which is casually produced. For nothing of this kind is more naturally adapted to subsist in this than in a contrary way. Each, therefore, of things contingent is converted according to opposite propositions; yet not after the same manner. But that which is naturally adapted to subsist, is converted into that which does not exist from necessity; for thus it may happen that a man may not become hoary. And that which is indefinite, is converted into that which cannot more subsist in this than in that way. Science, however, and demonstrative syllogism, are not of those things which are indefinite, because the middle is inordinate; but they are of those things which are naturally adapted to exist. And arguments and speculations are nearly conversant with things which are thus contingent; but of the indefinite contingent, a syllogism may, indeed, be formed, but it is not usually investigated. These things, however, will be more fully determined in what follows\*. Let us now show when, and how, and what will be a syllogism from contingent propositions. But the assertion it happens that *this* thing is present with *that*, may be assumed in a twofold respect. For it either signifies, that with which this thing is present, or that with which this thing may be present. Thus this assertion, A is contingent to that of which there is B, signifies one of these things, either that of which B is predicated, or that of which it may be predicated. But the assertions that A is contingent to that of which there is B, and that A may be present with every B, do not differ from each other. It is evident, therefore, that A may be said to be present with every B in two ways. Hence, in the first place, let us show if B is contingent to that of which there is C, and if A is contingent to that of which there is B, what, and what kind of syllogism there will be; for thus both propositions are assumed according to the contingent. But when A is contingent to that with which B is present, one proposition is of that which exists, but the other, of that which is

\* In the first book of the Posterior Analytics (chap. 8) Aristotle shows that science is of things which are eternal and perpetual.

contingent.

contingent. Hence we must begin from similars in figure\*, as we began elsewhere.

#### CHAPTER XIV.

WHEN, therefore, A is contingent to every B, and B to every C, there will be a perfect syllogism, [in which it may be collected] that A is contingent to every C. But this is evident from definition; for we thus assume the being contingent to every. In like manner also, if A is contingent to no B, but B is contingent to every C, [there will be a syllogism in which it may be collected] that A is contingent to no C. For to assert that A is contingent to nothing to which B is contingent, is to leave no one of the contingents which are under B. But when A is contingent to every B, but B is contingent to no C, from the assumed propositions no syllogism will be produced; but the proposition B C being converted, according to the being contingent †, the same syllogism will be produced as was produced before. For since it happens that B is present with no C, it may also happen to be present with every C; for this was shown before [chap. 13]. Hence, since B may happen to be present with every C, and A with every B, again, the same syllogism will be produced. The like will also take place, if negation together with the being contingent are added to both the propositions. I say, for instance, if A is contingent to no B, and B to no C; for through the assumed propositions, no syllogism will be produced. But the propositions being converted, there will again be the same syllogism, as was formed before. It is evident, therefore, that when negation is

\* i. e. From syllogisms each of the propositions of which are similar in figure, because each is contingent.

† i. e. If the minor proposition from denying is made to be affirming.

added

added to the less extreme, or to both the propositions, either a syllogism will not be produced, or it will be produced indeed, but will not be a perfect syllogism; for the necessity [of consecution] is effected from conversion. But if one of the propositions is universal, and the other is assumed in a part; the universal \* being posited at the greater extreme, there will be a perfect syllogism. For if A is contingent to every B, but B is contingent to a certain C, A also will be contingent to a certain C. This, however, is evident from the definition of being contingent to every [individual of a certain multitude]. Again, if A is contingent to no B, but B may happen to be present with a certain C, it is necessary that A should happen not to be present with a certain C. But the demonstration is the same. If, however, the proposition which is in a part is assumed privative, but the proposition which is universal is assumed affirmative, and retains the same position; as, for instance, if A may happen to be present with every B, but B may happen not to be present with a certain C;—if this be the case, from the assumed propositions, indeed, an evident syllogism will not be produced. But the particular proposition being converted, and it being admitted that B may happen to be present with a certain C, there will be the same conclusion as before, as in the former syllogisms †. If, however, the major proposition is assumed as particular, but the minor is universal, whether both are posited affirmative, or privative, or dissimilar in figure; or whether both are indefinite, or particular, there will by no means be a syllogism. For nothing hinders B from being more widely extended than A, and from not being equally predicated. But let that by which B is more widely extended than A, be assumed to be C; for to this (i. e. C) it will happen ‡ that A is present neither to every, nor to none, nor to a certain one, nor not to a certain one; since contingent propositions may be converted, and B may happen to be present with

\* i.e. If the major proposition is universal.

† i.e. In the universal imperfect syllogisms before-mentioned towards the beginning of this chapter.

‡ Because C is necessarily not present. But the necessary is distinguished from the contingent, more

more things than A. Farther still, this also is evident from the terms; for the propositions thus subsisting, the first will be contingent to the last and to none, and will necessarily be present with every individual. But let the common terms of all be these; of being present with, from necessity, animal, white, man; but of not happening to be present with, animal, white, garment.

[It happens that something white {is is not} an animal:

It happens that {every  
no  
some  
not every} man is white:

It is necessary that every man should be an animal.]

[It happens that something white {is is not} an animal:

It happens that {every  
no  
some  
not every} garment is white:

It is necessary that no garment should be an animal.]

It is evident, therefore, that when the terms subsist after this manner, no syllogism will be produced. For every syllogism is either of that which exists, or of that which exists from necessity, or of that which is contingent. But that [this syllogism] is neither of that which exists, nor of that which necessarily exists is evident; for the affirmative conclusion is subverted by the privative, and the privative by the affirmative. It remains, therefore, that it must be of that which is contingent. This, however, is impossible; for it has been shown, that when the terms thus subsist, the first is necessarily inherent in all the last, and will happen to be present with no individual. Hence there will not be a syllogism of the contingent; for that which is necessary is not contingent. It is evident, therefore, that when the terms are universally assumed in contingent propositions, there will always be a syllogism in the first figure, both when they are categoric, and when they are privative; except that when they are categoric, there will be a perfect syllogism; but when they are privative, an imperfect syllogism. It is

necessary, however, to assume the contingent, not in necessary propositions, but according to the definition mentioned [in the preceding chapter]. But sometimes a thing of this kind is latent.

## CHAPTER XV.

If, however, one of the propositions is assumed to exist, but the other to be contingent; when that which contains the greater extreme, signifies to be contingent, all the syllogisms will be perfect, and will be of the contingent, assumed according to the above-mentioned definition. But when the proposition in which the less extreme is contained, [signifies to be contingent], all the syllogisms will be imperfect; and the privative syllogisms will not be of the contingent assumed according to that definition, but of that which is necessarily present with no one, or not with every individual, for if it is necessarily present with no one, or not with every individual, we say that it happens to be present with no one, or not with every individual. For let A be contingent to every B, and let B be supposed to be present with every C. Because, therefore, C is under B, but A is contingent to every B, it is evident that A also is contingent to every C. A perfect syllogism, therefore, will be produced. In like manner also, if the proposition A B is privative, but the proposition B C affirmative, and if the proposition A B is assumed to be contingent, and the proposition B C to be present with; there will be a perfect syllogism, [in which it may be collected] that it will happen that A is present with no C. It is evident, therefore, that when the being present with is posited to the less extreme, perfect syllogisms will be produced. But that when it subsists in a contrary mode there will also be syllogisms, may be shown [by a deduction] to the impossible; though at the same time it will be evident that the syllogisms will be imperfect; for the demonstration will not be from the assumed propositions. In the first place, however, it must be shown, that if  
when

when A exists, it is necessary B should exist; and that if A is possible, B will necessarily be possible. For things thus subsisting, let A be possible, but B impossible. If, therefore, the possible, when it is possible to be should be produced; the impossible, because it is impossible, will not be produced. But if at the same time A is possible, and B impossible, it will happen that A may be produced without B; and if it is produced, that it exists. For that which is generated, when it is generated, is. It is necessary, however to consider the possible\* and impossible, not only in that which may be generated, but also in that which may be verified, and exists [in energy], and in whatever other ways the possible is said to be possible; for the reasoning is similar in all of them. Besides, [when we say] A is B, this ought not to be understood, as if A being one certain thing, B will be; for nothing necessarily follows from there being one thing, but from there being two things at least: for instance, when propositions subsist in syllogism, after the manner we have mentioned. For if C is predicated of D, but D of F, C also will necessarily be predicated of F. And if each proposition is possible, the conclusion also will be possible. Just, therefore, as if any one should place A as the propositions, but B the conclusion; it will not only happen that when A is necessary, at the same time also B is necessary; but, likewise, when the former is possible, the latter also will be possible..

But this being demonstrated, it is evident, that when the hypothesis is false and not impossible, that also which happens on account of the hypothesis will be false and not impossible. For instance, if A is false indeed, yet not impossible, but when A is, B is;—in this case, B also will be also indeed, yet not impossible. For since it has been shown that if A is, B also is; when A is possible, B also will be possible. But it was supposed that A is possible; B, therefore, will also be possible.

\* The possible is said to be, either that which may be when it is not, or that which is, or that which necessarily is. And in all these, the above-mentioned rule takes place. For if the antecedent *may be*, the consequent *may be*. If the antecedent *is*, the consequent also *is*. And if it is *necessary* that the antecedent should be, it is also *necessary* that the consequent should be.

For if it is impossible, the same thing will be at the same time possible and impossible. These things being determined, let A be present with every B, and let B be contingent to every C. It is necessary, therefore, that A should happen to be present with every C. For let it not happen to be present; and let B be admitted to be present with every C. This is false, indeed, but not impossible. If, therefore, A is not contingent to C, but B is present with every C; A will not be contingent to every B; for a syllogism will be produced in the third figure. But it was supposed that A is present with every B. It is necessary, therefore, that A should be contingent to every C. For that which is false\* being supposed, and not that which is impossible, that which thence happens is impossible.

[Every B is A :  
It happens that every C is B :  
Therefore,  
It happens that every C is A.]

[It is necessary that some C should not be A :  
Every C is B :  
Therefore,  
Not every B is A.]

A deduction also to the impossible may be made in the first figure, if B is supposed to be present with C. For if B is present with every C, but A is contingent to every B, A also will be contingent to every C. It was supposed, however, that it could not be present with every C.

[Every B is A :  
It happens that every C is B :  
Therefore,  
It happens that every C is A.]

[It happens that every B is A :  
Every C is B :  
Therefore,  
It happens that every C is A.]

It is necessary, however to assume the being present with every individual, not defined by time, as now, or at this time, but simply; for we also produce syllogisms through propositions of this kind †. For when a proposition is assumed according to the now, or the present time, there will not be a syllogism; since perhaps nothing hinders but that

\* i.e. That A is not contingent to every C.

† In the sciences propositions are assumed, the truth of which is universal and eternal, as Aristotle will show in the first book of his Posterior Analytics.

man sometime or other may be present with every thing that is moved ; viz. if nothing else is moved. But that which is moved may be contingent to every horse ; and man is contingent to no horse. Farther still, let the first term be animal ; the middle that which is moved ; and the last term, man. The propositions, therefore, will subsist similarly ; but the conclusion will be necessary, and not contingent. For man is necessarily an animal.

[Whatever is moved is a man :  
It happens that every horse is moved :  
It is necessary that no horse should }  
be a man.]

[Whatever is moved is an animal :  
It happens that every man is moved :  
It is necessary that every man should }  
be an animal.]

It is evident, therefore, that the universal should be assumed simply, and not defined by time. Again, let the proposition A B be universal privative, and let A be assumed to be present with no B, but let it happen that B is present with every C. These things, therefore, being admitted, it is necessary that A should happen to be present with no C. For let it not so happen ; and let B be supposed to be present with C as before. Hence it is necessary that A should be present with some B. For a syllogism will be formed in the third figure. This, however, is impossible. Hence A will be contingent to no C; for the false, and not the impossible being supposed, that which is impossible will happen.

[No B is A :  
It happens that every C is B :  
Therefore,  
It happens that no C is A.]

[It is necessary that some C should be A :  
Every C is B :  
Therefore,  
Some B is A.]

This syllogism, therefore, is not of that contingent which is according to the definition [above given], but of that which is necessarily present with no individual. For this is a contradiction of the given hypothesis ; because it was supposed that A is necessarily present with some C. But the syllogism which is through the impossible is of an opposite contradiction. Again, it is also evident from the terms, that the conclusion is not contingent. For let A be a crow ; B, that which is intelligent ; and C, man. A, therefore, is present with no B; for nothing intelligent

intelligent is a crow. But B is contingent to every C ; for it happens to every man to be intelligent. A, however, is necessarily present with no C. The conclusion, therefore is not contingent.

[Nothing intelligent is a crow :  
It happens that every man is intelligent :  
It is necessary that no man should be a crow.]

The conclusion, however, is not always necessary. For let A be that which is moved ; B, science ; and C, man. A, therefore, will be present with no B ; but B is contingent to every C ; and the conclusion will not be necessary. For it is not necessary that no man should be moved, but it also is not necessary, that a certain man should be moved. It is evident, therefore, that the conclusion is of that which is necessarily present with no individual. Hence the terms must be assumed in a better manner \*. But if the privative is joined to the less extreme, and signifies to be contingent ; from the assumed propositions, indeed, there will be no syllogism ; but the contingent proposition being converted there will be a syllogism, as in the former instances. For let A be present with every B, but let B be contingent to no C. The terms, therefore, thus subsisting, nothing necessary will be collected. But if the proposition B C is converted, and B is assumed to be contingent to every C, a syllogism will be produced as before. For the terms will have a similar position. The like will also take place when both the intervals are privative, if the interval A B signifies the not being present with, but B C signifies the being contingent to no individual. For through the assumed propositions nothing necessary will be collected ; but the contingent proposition being converted, there will be a syllogism. For let it be assumed that A is present with no B, and let B be contingent to no C. Through these, therefore, nothing necessary will be collected. But if it is assumed that B is contingent to every C, which is

\* i.e. Instead of the term science, which was assumed in the abstract, something which is scientifically knowing must be assumed ; because science so happens to man, that it may happen man is scientifically knowing, but it cannot happen that he is science.

true,

true, and the proposition A B subsists similarly ; again there will be the same syllogism. If, however, it is assumed that B is not present with C, but not that it happens not to be present with it ; there will by no means be a syllogism, neither when the proposition A B is privative, nor when it is affirmative. But let the common terms of being present with from necessity be, white, animal, snow ; and of not being contingent, white, animal, pitch.

[It happens that {every }  
no animal is white :      [It happens that {every }  
no animal is white :  
No snow is an animal :      No pitch is an animal :  
It is necessary that all snow should be white.]      It is necessary that no pitch should be white.]

It is evident, therefore, that when the terms are universal, and one of the propositions is assumed to exist, (i.e. is assumed pure), but the other contingent ; when the proposition which contains the less extreme is assumed to be contingent, a syllogism will always be produced ; except that it will sometimes be produced from the propositions themselves, and sometimes from the proposition being converted. When, however, each of these takes place, and from what cause we have already shown. But if one of the intervals is assumed to be universal, and the other partial ; when, indeed, a universal contingent is joined to the greater extreme, whether it be affirmative or negative ; but the partial interval is affirmative and pure, there will be a perfect syllogism, just as when the terms are universal. The demonstration, however, is the same as before. But when the interval in which the greater extreme is contained, is pure and not contingent ; but the other is partial and contingent ; whether both the propositions are posited affirmative or negative ; or whether the one is affirmative, but the other negative, there will entirely be an imperfect syllogism. Some, however, will be confirmed through the impossible ; but others, through a conversion of the contingent proposition, as in the former syllogisms. But there will be a syllogism through conversion, and when the universal proposition being joined to the greater extreme signifies the being present with, or  
the

the not being present with; but the partial proposition being privative assumes the contingent: as, for instance, if A is present indeed, or is not present with every B, but B happens not to be present with a certain C; for the proposition BC being converted according to the being contingent, a syllogism will be produced. But when the particular proposition assumes the not being present with, there will not be a syllogism. Let the terms of being present with be, white, animal, snow; but of not being present with, white, animal, pitch. For the demonstration is to be assumed through the indefinite.

[It happens that {every } no } animal is white :	[It happens that {every } no } animal is white :
Some snow is not an animal :	Some pitch is not an animal :
It is necessary that all snow should be white.]	It is necessary that no pitch should be white.]

But if universal is joined to the less extreme, and particular to the greater; whether privative, or affirmative, contingent, or pure, there will by no means be a syllogism. Nor will there then be a syllogism, when the propositions are posited in a part, or indefinite; whether they assume the being contingent, or the being present with, or whether the one is contingent, but the other present with. But the demonstration is the same as in the former syllogisms. Let, however, the common terms of being present with from necessity be, animal, white, man; but of not being contingent, animal, white, garment.

[It happens that {something  
not every thing} white is an animal :  
 {Every  
No  
Some  
Not every } man is white:

It is necessary that every man should be an animal.]

[It happens that {something  
not every thing} white is an animal :  
 {Every  
No  
Some  
Not every } garment is white:

It is necessary that no garment should be an animal.]

something

[Something  
Not every thing } white is an animal :

It happens that {  
every  
no  
some  
not every } man is white :

It is necessary that every man should be an animal.]

[Something  
Not every thing } white is an animal :

It happens that {  
every  
no  
some  
not every } garment is white :

It is necessary that no garment should be an animal.]

It is evident, therefore, that if the major proposition is posited universal, a syllogism will always be produced: but if the minor, that nothing can ever thence be collected.

## CHAPTER XVI.

WHEN, however, one proposition signifies the being present with, or not being present with, from necessity, but the other signifies the being contingent, there will be a syllogism, the terms subsisting after the same manner; and it will be perfect, when the necessary is joined to the less extreme. But the conclusion, when the terms are categoric, will be of the contingent, and not of that which exists, whether the terms are universally, or not universally posited. But if one [interval] is affirmative, and the other privative; when the affirmative, indeed, is necessary, [the conclusion will in like manner signify] the being contingent, and not the not existing, or being present with. And when the privative is necessary, the conclusion will be of the happening not to be present with, and of the not being present with, whether the terms are universal, or not universal. The being contingent also in

the conclusion is to be assumed after the same manner as in the former syllogisms. But there will not be a syllogism, in which the not being present with will be necessarily inferred; for it is one thing to be present with not necessarily, and another not to be present with necessarily. It is evident, therefore, that when the terms are affirmative, a necessary conclusion will not be produced. For let A be necessarily present with every B, but let B be contingent to every C. There will, therefore, be an imperfect syllogism, in which it may be collected that A happens to be present with every C. But that it is imperfect is evident from demonstration; for this may be demonstrated after the same manner as in the former syllogisms. Again, let A be contingent to every B, but let B be necessarily present with every C. There will, therefore, be a syllogism, [in which it may be collected] that A *happens* to be present with every C, but not that it is [*simply*] present with every C. The syllogism also will be perfect and not imperfect; for it will be immediately completed through the propositions assumed from the first. But if the propositions are not similar in figure; in the first place, let the privative proposition be necessary, and let A necessarily be contingent to no B, but let B be contingent to every C. It is necessary, therefore, that A should be present with no C. For let it be supposed to be present either with every individual, or with a certain individual; but it was supposed to be contingent to no B. Since, therefore, a privative proposition may be converted, neither will B be contingent to any A. But A was posited to be present with every or with some C. Hence B will happen to be present with no, or not with every C. It was supposed, however, from the first to be present with every C.

[It is necessary that no B should be A:      It is necessary that no A should be B:

It happens that every C is B:

Some C is A:

Therefore,

Therefore,

No C is A.]

It is necessary that some C should not be B.]

But it is evident, that there will also be a syllogism of the not happening to be present with, since there is a syllogism of the not being present with. Again, let the affirmative proposition be necessary, and let

it

it happen that A is present with no B, but that B is necessarily present with every C. The syllogism, therefore, will be perfect, yet not of the not being present with, but of the happening not to be present with; for the proposition was thus assumed from the greater extreme; and there cannot be a deduction to the impossible. For if A is supposed to be present with a certain C, and it is admitted that A happens to be present with no B, nothing impossible will thence happen. But if privation is joined to the less extreme, when it signifies to be contingent, there will be a syllogism through conversion, as in the former syllogisms. When, however, it signifies not to be contingent, there will not be a syllogism. Nor will there be a syllogism when both [the intervals] are privative, unless the contingent is joined to the less extreme. But let the terms be the same; viz. of being present with, white, animal, snow; but of not being present with, white, animal, pitch.

[It happens that {every} animal is white:  
It is necessary that no snow should be an animal:  
It is necessary that all snow should be white.]

[It happens that {no} animal is white:  
It is necessary that no pitch should be an animal:  
It is necessary that no pitch should be white.]

The like also will take place in partial syllogisms. For when the privative [interval] is necessary, the conclusion will be of the not being present with. Thus, if A happens to be present with no B, but B happens to be present with a certain C, it is necessary that A should not be present with a certain C. For if it is present with every C, but is contingent to no B, neither will B happen to be present with any A. Hence, if A is present with every C, B will be contingent to no C. But it was supposed to be contingent to a certain C. But when the partial affirmative in a privative syllogism, as, for instance, B C, is necessary; or the universal [affirming] in a categoric syllogism, as, for instance, A B, there will not be a syllogism of the being present with. But the demonstration is the same as in the former syllogisms. If, however,

universal is joined to the less extreme, either affirmative, or privative and contingent; but the partial necessary is joined to the greater extreme, there will not be a syllogism. But let the terms of being present with from necessity be, animal, white, man; and not being contingent, animal, white, garment.

[It is necessary that something white should {<sup>be</sup>  
<sub>not be</sub>} an animal:

It happens that {<sup>every</sup>  
<sub>no</sub>} man is white:

It is necessary that every man should be an animal.]

[It is necessary that something white should {<sup>be</sup>  
<sub>not be</sub>} an animal:

It happens that {<sup>every</sup>  
<sub>no</sub>} garment is white:

It is necessary that no garment should be an animal.]

But when the universal is necessary, and the partial contingent; the universal being privative, let the terms of being present with be, animal, white, crow; but of not being present with, animal, white, pitch.

[It happens that something white {<sup>is</sup>  
<sub>is not</sub>} an animal:

It is necessary that no crow should be white:

It is necessary that every crow should be an animal.]

[It happens that something white {<sup>is</sup>  
<sub>is not</sub>} an animal:

It is necessary that no pitch should be white:

It is necessary that no pitch should be an animal.]

But when [the universal] affirms, let the terms of being present with be, animal, white, swan; but of not being contingent, animal, white, snow.

[It happens that something white {<sup>is</sup>  
<sub>is not</sub>} an animal:

It is necessary that every swan should be white:

It is necessary that every swan should be an animal.]

[It happens that something white {<sup>is</sup>  
<sub>is not</sub>} an animal:

It is necessary that all snow should be white:

It is necessary that no snow should be an animal.]

Nor

Nor will there then be a syllogism, when the propositions are assumed indefinite, or both, according to a part. But let the common terms of being present with be, animal, white, man; and of not being present with, animal, white, inanimate. For animal is necessarily present with, and does not happen to be present with, something white, and whiteness also is necessarily present with, and does not happen to be present with, something inanimate. And the like takes place in the contingent. Hence these terms are useful to all the modes.

[It happens that something white {is  
is not} an animal:

It is necessary that some man should {be  
not be} white:

It is necessary that every man should be an animal.]

[It happens that something white {is  
is not} an animal:

It is necessary that something inanimate should {be  
not be} white:

It is necessary that nothing inanimate should be an animal.]

[It is necessary that something white should {be  
not be} an animal:

It happens that some man {is  
is not} white:

It is necessary that every man should be an animal.]

[It is necessary that something white should {be  
not be} an animal:

It happens that every thing inanimate is white:

It is necessary that nothing inanimate should be an animal.]

From what has been said, therefore, it is evident, that when the terms subsist similarly in that which is present with, and in necessary propositions, a syllogism will, and will not be formed. There is this exception, however, that if the privative proposition is posited according to existing, or being present with, the syllogism will be of the happening [not to be present with]. But if the privative proposition is necessary, the syllogism will be of the happening not to be present with, and of the not being present with. It is also evident, that all the syllogisms.

syllogisms\* are imperfect, and that they are perfected through the above-mentioned figures.

## CHAPTER XVII.

IN the second figure, however, when both the propositions are assumed contingent, there will be no syllogism, neither when they are categoric, nor when they are privative, neither when they are universal, nor when they are partial. But when one proposition signifies the being present with, and the other the being contingent; if the affirmative signifies the being present with; there will never be a syllogism; but if the privative universal [signifies the being present with], there will always be a syllogism. The like will also take place when one of the propositions is assumed necessary, but the other contingent. It is necessary, however, in these syllogisms so to assume the contingent in the conclusions, as it was assumed in the former syllogisms. In the first place, therefore, it must be shown that a contingent privative is not convertible. Thus, if A is contingent to no B, it is not necessary that B also should be contingent to no A. For let this be posited, and let B happen to be present with no A. Since, therefore, contingent affirmations, as well those that are contrary, as those that are opposite, are converted into negations, but B happens to be present with no A, it is evident, that it may also happen that B may be present with every A. This, however, is false. For it does not follow that if this thing may happen to all of that, it is necessary that that thing should happen to this; so that a contingent privative cannot be converted. Again, no-

\* Viz. Syllogisms of which the minor proposition is contingent, but the major is necessary, or pure.

thing

thing hinders, but that A may be contingent to no B, and yet B may not be necessarily present with a certain A. Thus, for instance, whiteness may happen not to be present with every man, because it may also happen to be present. But it is not true to say that man *happens* to be present with nothing white; for he is *necessarily* not present with many things [that are white]. And the necessary is not the contingent. Neither can its convertibility be shown from the impossible; as if any one should think, since it is false, that B is contingent to no A, that it is true that it is not contingent to none (for these are affirmation and negation). But if this is true, B is necessarily present with a certain A; so that A also is necessarily present with a certain B; but this is impossible. For it does not follow that if B is not contingent to no A, it is necessarily present with a certain A. For not to be contingent to no individual is predicated in a twofold respect; in one, indeed, if a thing is necessarily present with something; and in another, if it necessarily is not present with something. For that which necessarily is not present with a certain A, cannot be truly said to happen not to be present with every A; as neither can that which is necessarily present with a certain thing, be truly said to happen to be present with every thing. If, therefore, any one thinks that because C does not happen to be present with every D, it necessarily is not present with a certain D, he thinks falsely; for it may happen to be present with every D. But because a thing is necessarily present with certain things, on this account we say that it is not contingent to every individual. Hence the being present with a certain thing from necessity, and the not being present with a certain thing from necessity, are opposed to the happening to be present with every individual. There is also a similar opposition to the being contingent to no individual. It is evident, therefore, that when the contingent, and the not contingent, are assumed in the manner we have defined in the beginning, not only the being present with a certain thing from necessity, but also the not being present with a certain thing from necessity, ought to be assumed. But this being assumed  
nothing

nothing impossible will happen; so that a syllogism will not be produced. From what has been said, therefore, it is evident, that a contingent privative cannot be converted.

But this being demonstrated, let it be admitted that A is contingent to no B, but is contingent to every C. There will not, therefore, be a syllogism through conversion; for it has been shown that a proposition of this kind is not convertible. Neither will there be a syllogism, through a deduction to the impossible. For B being posited to be contingently present with every C, nothing false will happen; for it may happen that A may be present with every, and with no C.

[It happens that no B is A :  
It happens that every C is A :  
Therefore,  
It happens that no C is B.]

[It happens that no B is A :  
It is necessary that every or some C should be B :  
Therefore,  
It happens that every or some C is not A.]

In short, if there is a syllogism, it is evident it will be of that which is contingent (because neither of the propositions is assumed of that which exists, or is present with) and this, either affirmative, or privative. It is not possible, however, in either way. For if it is posited affirmative, it may be shown through the terms, that it will not happen to be present with. But if it is posited negative, it may be shown that the conclusion is not contingent, but necessary. For let A be white; B, man; and C, horse. A, therefore, that is whiteness, may happen to be present with every individual of the one, and with no individual of the other. But it neither *happens* to B to be present, nor yet not to be present with C. That it does not happen to be present indeed, is evident; for no horse is a man. But neither does it *happen* not to be present; for it is necessary that no horse should be a man. But the necessary is not contingent. A syllogism, therefore, will not be produced.

[It happens that no man is white :  
It happens that every horse is white :  
It is necessary that no horse should be a man.]

This may also be similarly shown, if the privative should be placed in an inverse

inverse order\*, or if both the propositions are assumed affirmative, or both privative; for there will be a demonstration through the same terms.

[It happens that {every  
no} man is white;  
It happens that {every  
no} horse is white;  
It is necessary that no horse should be a man.]

And when one proposition is universal, but the other partial; or when both are partial, or indefinite; or in any other way in which it may be possible to change the propositions; for the demonstration will always be through the same terms.

[It happens that {every  
no} man is white;  
It happens that some horse {is  
is not} white;  
It is necessary that no horse should be a man.]

[It happens that some man {is  
is not} white;  
It happens that {every  
no} horse is white;  
It is necessary that no horse should be a man.]

[It happens that some man {is  
is not} white;  
It happens that some horse {is  
is not} white;  
It is necessary that no horse should be a man.]

\* If the major proposition affirms, and the minor denies.

## CHAPTER XVIII.

BUT if one proposition signifies the existing or being present with, and the other, the being contingent; when the categoric proposition signifies the being present with, but the privative, the being contingent, there will never be a syllogism, neither when the terms are assumed universally, nor when they are assumed partially. The demonstration, however, is the same, and through the same terms. But when the affirmative signifies the being contingent, but the privative the being present with, there will be a syllogism. For let it be assumed that A is present with no B, but is contingent to every C. The privative [interval], therefore, being converted, B will be present with no A. But A was contingent to every C. A syllogism, therefore, will be produced, in the first figure, in which it may be collected that B is contingent to no C. In like manner also, a syllogism will be formed, if the privative is added to C. But if both the propositions are privative and the one signifies the not being present with, but the other the happening not to be present with; through the assumed propositions, indeed, nothing necessary will happen. If the contingent\* proposition, however, is converted, there will be a syllogism, in which it may be collected, that B happens to be present with no C, as in the former syllogisms; for again, there will be the first figure. But if both the propositions are posited categoric, there will not be a syllogism. Let the terms of being present with be, health, animal, man; but of not being present with, health, horse, man.

[It happens that every animal is well:

Every man is well:

It is necessary that every man should  
be an animal.]

[It happens that every horse is well:

Every man is well:

It is necessary that no man should  
be a horse.]

\* i.e. If the negative contingent proposition, is converted into an affirmative.

[Every

[Every animal is well :  
 It happens that every man is well :  
 It is necessary that every man should }  
 be an animal.] }

[Every horse is well :  
 It happens that every man is well :  
 It is necessary that no man should }  
 be a horse.] }

The like will also take place in partial syllogisms. For when the affirmative proposition is pure, whether it be assumed universally, or partially, there will be no syllogism. But this may be demonstrated similarly, and through the same terms as before.

[It happens that no animal is well :  
 Some man is well :  
 It is necessary that every man should }  
 be an animal.] }

[It happens that no horse is well :  
 Some man is well :  
 It is necessary that no man should }  
 be a horse.] }

[Every animal is well :  
 It happens that some man is not well :  
 It is necessary that every man should }  
 be an animal.] }

[Every horse is well :  
 It happens that some man is not well :  
 It is necessary that no man should }  
 be a horse.] }

But when the privative is pure, there will be a syllogism through conversion, as in the former syllogisms. Again, if both intervals are assumed privative, and [that which signifies] the not being present with is universal; from these propositions, indeed, there will not be the necessary. But when the contingent is converted, as before, there will be a syllogism. If, however, the privative interval is, indeed, pure, but is assumed in part, there will not be a syllogism, whether the other proposition be affirmative or privative. Nor will there then be a syllogism, when both the propositions are assumed indefinite, whether affirming, or denying, or partial. But the demonstration is the same, and through the same terms.

[Some animal } is } not } well :  
 It happens that some man } is } not } well :  
 It is necessary that every man should }  
 be an animal.] }

[Some horse } is } not } well :  
 It happens that some man } is } not } well :  
 It is necessary that no man should }  
 be a horse.] }

[It happens that some animal { is      } well: is not      } Some man      { is      } well: is not      } It is necessary that every man should be an animal.]      {	[It happens that some horse { is      } well: is not      } Some man      { is      } well: is not      } It is necessary that no man should be a horse.]      {
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## CHAPTER XIX.

If, however, one of the propositions signifies [the being present with, or not being present with] from necessity, but the other signifies the being contingent; when the privative is necessary, there will be a syllogism, in which not only the *happening* not to be present with will be collected, but also the not being present. But when the affirmative [is necessary], there will not be a syllogism. For let it be posited that A is necessarily present with no B, and that it is contingent to every C. The privative proposition, therefore, being converted, neither will B be present with any A. But A was contingent to every C. Again, therefore, a syllogism will be produced in the first figure, in which it may be collected that B *happens* to be present with no C. At the same time also it is evident, that neither is B present with any C. For let it be admitted that it is. If, therefore, A is contingent to no B, but B is present with a certain C, A will not be contingent to a certain C. But it was supposed to be contingent to every C. It will likewise be demonstrated after the same manner, if the privative is joined to C. Again, let the categoric [interval] be necessary, but the other, privative and contingent; and let A be contingent to no B, but necessarily present with every C. The terms, therefore, thus subsisting, there will be no syllogism; for it may happen that B is necessarily not present with C. For let A be white; B, man; C, a swan. Whiteness, therefore, is necessarily

cessarily present with a swan, but is contingent to no man ; and man is necessarily present with no swan. That there will not, therefore, be a syllogism of the contingent is evident ; for that which is from necessity is not contingent.

[It happens that no man is white :  
It is necessary that every swan should be white :  
It is necessary that no swan should be a man.]

Neither will there be a syllogism of the necessary. For the necessary is either inferred from both the necessary propositions, or from the privative\*. Farther still, these things being admitted, it may be possible that B may be present with C. For nothing hinders but that C may be under B ; and that A may be contingent to every B, and may be necessarily present with C ; as if C is awake † ; B, animal ; and A, motion. For motion is necessarily present with every thing that is awake ; but is contingent to every animal : and every thing which is awake is an animal.

[It happens that no animal is moved :  
It is necessary that every thing awake should be moved :  
Every thing awake is an animal.]

It is evident, therefore, that neither is the not being present with collected : since [the terms] thus subsisting, the being present with is necessary ; nor are the opposite affirmations collected ‡. Hence there will be no syllogism. There will also be a similar demonstration if the affirmative proposition is posited vice versa. But if the propositions are similar in figure, being privative indeed, a syllogism will always be

\* i. e. When both the propositions are necessary, or, at least, the denying proposition is necessary.

† Alexander Aphrodisiensis observes, that the example would be clearer, if *walking* were assumed instead of *awake* ; because it is more obviously necessary that a thing which walks should be moved, than a thing which is awake.

‡ i. e. Neither a contingent, nor necessary pure affirmation is collected ; because sometimes it is necessary not to be present with.

formed.

formed, when the contingent proposition is converted, as in the former syllogisms. For let it be assumed that A is *necessarily* not present with B, and that it *happens* not to be present with C. The propositions, therefore, being converted, B will be present with no A, and A will be present with every C. The first figure, therefore, will be produced. The like will also take place if the privative is joined to C. But if [both the propositions] are posited categoric there will not be a syllogism. For it is evident, that there will not be a syllogism of the not being present with, or of the not being present with from necessity, because a privative proposition is not assumed, neither in the being present with, nor in the being present with from necessity. But neither will there be a syllogism of the not happening to be present with. For the terms being thus posited from necessity, B will not be present with C; as, for instance, if A is posited white; B, a swan; and C, man. Neither will there be a syllogism of the opposite affirmations; because it has been shown that B is necessarily not present with C. A syllogism, therefore, in short, will not be produced.

[It is necessary that every swan should be white:  
 It happens that every man is white:  
 It is necessary that no man should be a swan.]

The like will also take place in partial syllogisms. For when the privative is universal and necessary, there will always be a syllogism of the contingent, and of the not being present with. But the demonstration will be through conversion. When, however, the affirmative [is necessary] there will never be a syllogism. But this may be demonstrated in the same manner as in the universal modes, and through the same terms.

[It happens that no man is white:  
 It is necessary that some swan should be white:  
 It is necessary that no swan should be a man.]  
 [It happens that no animal is moved:  
 It is necessary that something awake should be moved:  
 It is necessary that every thing awake should be an animal.]

¶

[It is necessary that every swan should be white :  
 It happens that some man is not white :  
 It is necessary that no man should be a swan.]

Nor will there then be a syllogism, when both the propositions are assumed affirmative; for of this there is the same demonstration as before.

[It is necessary that every swan should be white :  
 It happens that some man is a swan :  
 It is necessary that no man should be a swan.]

[It happens that every man is white :  
 It is necessary that some swan should be white :  
 It is necessary that no swan should be a man.]

[It is necessary that some swan should be white :  
 It happens that every man is white :  
 It is necessary that no man should be a swan.]

[It happens that some man is white :  
 It is necessary that every swan should be white :  
 It is necessary that no swan should be a man.]

But when both the propositions are assumed privative, and that which signifies the not being present with, is universal and necessary; through the propositions, indeed, there will not be the necessary; but the contingent proposition being converted, there will be a syllogism, as before. If, however, both the propositions are posited indefinite, or in a part, there will not be a syllogism. But the demonstration is the same, and through the same terms,

[It happens that some animal {is not} white :  
 It is necessary that some man should {be not be} white :  
 It is necessary that every man should be an animal.]

[It happens that some animal {is not} white :  
 It is necessary that something inanimate should {be not be} white :  
 It is necessary that nothing inanimate should be an animal.]

[It is necessary that some animal should {be  
not be } white:

It happens that some man {is  
is not } white:

It is necessary that every man should be an animal.]

[It is necessary that some animal should {be  
not be } white:

It happens that something inanimate {is  
is not } white:

It is necessary that nothing inanimate should be an animal.]

It is evident, therefore, from what has been said, that when the privative proposition is posited universal and necessary, a syllogism will always be produced, not only of the happening not to be present with, but also of the not being present with. But there will never be a syllogism when the affirmative [is posited necessary]. It is also evident, that when the terms subsist after the same manner, in necessary and pure propositions, there will be, and there will not be, a syllogism. And it is likewise manifest, that all these syllogisms are imperfect, and that they are perfected through the above-mentioned figures \*.

## CHAPTER XX.

BUT in the last figure, when both the propositions are contingent, and when one only is contingent, there will be a syllogism. When, therefore, the propositions signify the being contingent, the conclusion also will be contingent; and when the one signifies the being contingent, but the other the being present with. But when one of the propositions is posited necessary; if, indeed, it is affirmative, there will

\* All imperfect syllogisms are perfected through the first figure; but some are after a manner perfected also through another figure: as when a useless mode in the second figure is made useful, by changing the affirming contingent proposition into the denying.

not

not be a conclusion, neither necessary nor pure. But if it is privative, there will be a syllogism of the not being present with, as before. In these, however, the contingent must be similarly assumed in the conclusions. In the first place, therefore, let [both the propositions] be contingent, and let A and B happen to be present with every C. Since then an affirmative proposition may be partially converted, but B is contingent to every C, C also will be contingent to a certain B. Hence if A is contingent to every C, but C is contingent to a certain B, it is also necessary that A should be contingent to a certain B. For the first figure will be produced. And if A happens to be present with no C, but B is present with every C, it is also necessary that A should happen not to be present with a certain B; for again, there will be the first figure through conversion\*. But if both the propositions are posited privative; from the assumed propositions, indeed, there will not be the necessary (i. e. a necessity of concluding). The propositions, however, being converted, there will be a syllogism, as before. For if A and B happen not to be present with C, if the happening not to be present with is changed, there will again be the first figure through conversion. But if one of the terms is universal, and the other partial; when the terms subsist in the same manner, as in that which is present with, there will be, and there will not be a syllogism. For let A be contingent to every C, but let B be present with a certain C; again, there will be the first figure, the partial proposition being converted. For if A is contingent to every C, and C is contingent to a certain B, A also will be contingent to a certain B. The like will also take place, if the universal is joined to the proposition B C. And this in a similar manner will be effected, if the proposition A C is privative, but B C affirmative; for again there will be the first figure through conversion. But if both are posited privative, the one universal, and the other partial; through the things assumed, indeed, there will not be a syllogism; but there will be when they are converted, as before. When, however, both

\* i. e. Through a conversion of the minor proposition.

are assumed indefinite, or partial, there will not be a syllogism. For it is necessary that A should be present with every, and with no B. Let the terms then of being present with be, animal, man, white; but of not being present with, horse, man, white; and let the middle be white.

[It happens that something white {<sup>is</sup>  
<sup>is not</sup>} an animal:  
It happens that something white {<sup>is</sup>  
<sup>is not</sup>} a man:  
It is necessary that every man should be an animal.]

[It happens that something white {<sup>is</sup>  
<sup>is not</sup>} a horse:  
It happens that something white {<sup>is</sup>  
<sup>is not</sup>} a man :  
It is necessary that no man should be a horse.]

## CHAPTER XXI.

If, however, one of the propositions signifies the being present with, but the other the being contingent; the conclusion will be, that a thing is contingent, and not that it is present with. But there will be a syllogism, the terms subsisting in the same manner as before. For in the first place, let them be categoric; and let A be present with every C, but let B *happen* to be present with every C. The proposition, therefore, B C being converted, there will be the first figure; and the conclusion will be, that A happens to be present with a certain B. For when one of the propositions in the first figure signifies the being contingent, the conclusion also is contingent. In a similar manner, if the proposition B C signifies the being present with, but the proposition A C the being contingent; and if A C is privative, but B C categoric, and either of them is pure; for in both ways the conclusion will be contingent, since again, the first figure will be produced. But it has been shown

shown, that when one of the propositions in that figure, signifies the being contingent, the conclusion also will be contingent. If, however, a contingent privative is joined to the less extreme, or both [the intervals] are assumed privative; through the things posited, indeed, there will not be a syllogism; but when they are converted \*, there will be a syllogism, as before. But if one of the propositions is universal, and the other partial; both, indeed, being categoric; or the universal being privative, but the partial affirmative; there will be the same mode of syllogisms; for all of them will be completed through the first figure. Hence it is evident, that there will be a syllogism in which the contingent, and not the being present with, will be collected. But if the affirmative proposition is universal, and the privative partial, the demonstration will be through the impossible. For let B be present with every C, and let A happen not to be present with a certain C. It is necessary, therefore, that A should happen not to be present with a certain B. For if A is necessarily present with every B, but B is posited to be present with every C, A is necessarily present with every C. For this was demonstrated before. But it was supposed that A happens not to be present with a certain C. But when both the propositions are assumed indefinite, or partial, there will not be a syllogism. But the demonstration is the same as that which was in universals †, and through the same terms.

[Something white {is  
is not} an animal :

It happens that something white {is, is not} a man:

**It is necessary that every man should be an animal.]**

[Something white    {is  
                is not} a horse:

It happens that something white {is  
is not} a man:

**It is necessary that no man should be a horse.]**

\* i. e. The contingent denying, being changed into affirming propositions.

<sup>†</sup> Some emendation is here requisite. Alexander Aphrodisiensis thinks that instead of  $\hat{\eta} \kappa\alpha \tau\pi$  τη<sup>ς</sup> κα<sup>τ</sup>ελευ<sup>τ</sup>, we should read,  $\hat{\eta} \kappa\alpha \tau\pi$  τω<sup>ν</sup> εξ αμρο<sup>τ</sup>εσθων εὐδι<sup>κ</sup>χομεσθων, i. e. which was in syllogisms, both the propositions of which are contingent.

[It happens that something white {is  
is not } an animal:

Something white {is  
is not } a man :

It is necessary that every man should be an animal.]

[It happens that some animal {is  
is not } a horse :

Something white {is  
is not } a man :

It is necessary that no man should be a horse.]

## CHAPTER XXII.

BUT if one of the propositions is necessary, and the other contingent, the terms, indeed, being categoric, there will always be a syllogism of the contingent. When, however, one [interval] is categoric, but the other privative; if, indeed, the affirmative is necessary, there will be a syllogism of the happening not to be present with. But if [the interval] is privative, there will be a syllogism of the happening not to be present with, and of the not being present with. There will not, however, be a syllogism of the not being present with from necessity, as neither in the other figures. In the first place, therefore, let the terms be categoric, and let A be present from necessity with every C, but let B happen to be present with every C. Because, therefore, A is necessarily present with every C, but C is contingent to a certain B, A also will be contingent to, and will not be [necessarily] present with a certain B ; for such will be the conclusion in the first figure. A similar demonstration will take place, if the proposition B C is posited necessary, and the proposition A C contingent.

[It happens that every man is white :

It is necessary that every man should be an animal :

Therefore,

It happens that some animal is white.]

[It

[It happens that every man is white;  
It is necessary that some animal should be a man;  
Therefore,  
It happens that some animal is white.]

Again, let the one proposition be categoric, but the other privative; and let the categoric be necessary. Let also A happen to be present with no C, but let B necessarily be present with every C. Again, therefore, there will be the first figure; and the conclusion will be contingent, but not pure; for the privative proposition signifies the being contingent. It is evident, therefore, that the conclusion will be contingent; for when the propositions thus subsisted in the first figure, the conclusion was contingent. But if the privative proposition should be necessary, the conclusion will be, that the not being present with a certain thing is contingent, and that it is not present with it. For let it be supposed that A is necessarily not present with C, but is contingent to every B. The affirmative proposition, therefore, B C being converted, there will be the first figure, and the privative proposition will be necessary. But when the propositions thus subsist, it will follow that A *happens* not to be present with a certain C, and that it is not present with it. Hence it is also necessary that A should not be present with a certain B. When, however, the privative is joined to the less extreme, if that is contingent there will be a syllogism, the proposition being converted, as in the former syllogisms. But if it is necessary, there will not be a syllogism, because it is necessary to be present with every individual, and to happen to be present with no individual. Let the terms then of being present with every individual be, sleep, a sleeping horse, and man, but of being present with no individual, sleep, a waking horse, and man.

[It happens that every man sleeps;  
It is necessary that no man should be a sleeping horse;  
It is necessary that every sleeping horse should sleep.].

[It happens that every man sleeps;  
It is necessary that no man should be a waking horse;  
It is necessary that no waking horse should sleep.].

The

The like will also take place, if one of the terms is joined to the middle universally, but the other partially. For both being categoric, there will be a syllogism of the being contingent, and not of the being present with; and also, when the one [interval] is assumed privative, but the other affirmative; and the affirmative is necessary. But when the privative is necessary, the conclusion also will be of the not being present with. For there will be the same mode of demonstration, whether the terms are universal, or not universal; since it is necessary that the syllogisms should be completed through the first figure. Hence it is necessary that there should be the same conclusion in these \*, as in those †. But when the privative universally assumed is joined to the less extreme, if, indeed, it is contingent there will be a syllogism through conversion. If, however, it is necessary, there will not be a syllogism. But this may be demonstrated after the same manner as in universals, and through the same terms.

[It happens that some man sleeps:  
It is necessary that no man should be a sleeping horse:  
It is necessary that every sleeping horse should sleep.]

[It happens that some man sleeps:  
It is necessary that no man should be a waking horse:  
It is necessary that no waking horse should be asleep.]

In this figure, therefore, it is also evident, when, and how there will be a syllogism ‡; and when there will be a syllogism of the contingent; and when of the being present with. It is likewise evident, that all these syllogisms are imperfect, and that they are perfected through the first figure.

\* i.e. In the syllogisms of the first figure.

† i.e. In syllogisms of the third figure.

‡ i.e. There will be a syllogism from both the propositions being contingent, or from one being pure, and the other contingent, or from the one being necessary, and the other contingent.

## CHAPTER XXIII.

THAT the syllogisms, therefore, in these figures, are perfected through the universal syllogisms in the first figure, and are reduced to these, is evident from what has been said. But, in short, that every syllogism thus subsists, will now be evident, when it shall be demonstrated that every syllogism is produced through some one of these figures. It is necessary, therefore, that every demonstration, and every syllogism should show either that something is present with, or is not present with [a certain thing]; and this, either universally, or partially; and farther still, either ostensively, or from hypothesis. But a part of that which is from hypothesis is that which is produced through the impossible. In the first place, therefore, let us speak concerning ostensive syllogisms; for these being exhibited, it will also be evident in syllogisms leading to the impossible, and, in short, in syllogisms which are from hypothesis. If, therefore, it were requisite to syllogize A of B, either as present with, or as not present with, it would be necessary to assume something of something. If then A, indeed, were assumed of B, that will be assumed which [was proposed] from the first [to be proved]\*. But if A were assumed of C, but C of nothing, nor any thing else of it, nor any thing else of A, there will be no syllogism; for from the assuming one thing of one, nothing necessary will happen. Another proposition, therefore, must be assumed. If then A is assumed of something else, or something else of A, or something else of C, nothing hinders but there may be a syllogism. It will not, however, pertain to B †, from the things which are assumed. Nor will there be a syllogism of A with reference to B, when C is predicated of something

\* This fault is commonly called *begging the question*.

† A will not be concluded of B which was to be proved, but something else.

else,

else<sup>1</sup>, and that of something else<sup>2</sup>, and this something else of another<sup>3</sup>, if no one of these is conjoined with B. For, in short, we have said, that there will never be a syllogism of one thing of another, unless a certain medium is assumed, which in a certain respect is referred to each [extreme] by predication. For a syllogism is simply from propositions; but the syllogism which pertains to this particular thing, is from propositions pertaining to this thing. And the syllogism of this thing referred to that\*, is from propositions, in which this is referred to that†. But it is impossible to assume a proposition pertaining to B, if nothing is either predicated, or denied of it; or again, [to assume a proposition] of A pertaining to B, if nothing common is assumed, but certain peculiar things are predicated or denied of each. Hence a certain middle of both is to be assumed, which may conjoin the predication, if there will be a syllogism of this thing with reference to that. If, therefore, it is necessary to assume something which is common to both; and this happens in a threefold respect; for we either predicate A of C, and C of B‡, or C of both||, or both§ of C; but these are the before-mentioned figures;—if this be the case, it is evident, that every syllogism is necessarily produced through some one of these figures. For there is the same reasoning if A is conjoined with B through many media; since there will be the same figure in many media, [as in one medium]. That all ostensive syllogisms, therefore, are perfected through the above-mentioned figures is evident. That those also which lead to the impossible [are perfected through the same] will be manifest through these things. For all those syllogisms which conclude through the impossible, collect the false; but they show from hypothesis, that which was proposed from the first, when any thing impossible happens, contradiction being admitted; such, for instance, as

\* i.e. of D.    \* i.e. D of E.    \* i.e. E of F.

\* i.e. Of this attribute of that subject.

† i.e. In which the middle term is conjoined with each extreme.

‡ This is the first figure, whether A is directly concluded of C, or C indirectly of A.

|| i.e. Of both the extremes A and B. This is the second figure.

§ i.e. Both the extremes A and B. This is the third figure.

that

that the diameter of a square is incommensurable with the side, because a common measure being given, the odd would be equal to the even. They syllogistically collect, therefore, that the odd would become equal to the even, but they show from hypothesis, that the diameter is incommensurable, since something false happens to take place, from contradiction. For this it is to syllogize through the impossible, viz. to show something impossible, through the hypothesis admitted from the first. Hence, since by those reasonings which lead to the impossible, the false is proved in an ostensive syllogism; but that which [was proposed] from the first, is shown from hypothesis; and since we have before observed, that ostensive syllogisms are perfected through these figures;—it is evident, that the syllogisms also which are produced through the impossible, will be formed through the same figures. And after the same manner also, all others will be produced which reason from hypothesis; for in all of them a syllogism will be formed of that which is assumed \*; but that which [was proposed] from the first, is proved through confession, or some other hypothesis. But if this is true, it is necessary that every demonstration, and every syllogism, should be produced through the three before-mentioned figures. And this being demonstrated, it is evident, that every syllogism is perfected through the first figure, and is reduced in this figure to universal syllogisms.

## CHAPTER XXIV.

FARTHER still, in all syllogisms it is necessary that there should be a certain term which is categoric, and a certain term which is univer-

\* For instance, let there be an hypothetic syllogism: If the soul is moved by itself, it is immortal: But the soul is moved by itself: Therefore, it is immortal. The assumption is, that the soul is moved by itself. Again, either it is day, or it is night: But it is not day: Therefore, it is night. The assumption is, it is not day.

sal; for without the universal, either there will not be a syllogism, or it will not pertain to the thing proposed, or that will become the subject of petition, which was investigated from the first. For let it be proposed [to be demonstrated] that the pleasure arising from harmony is a worthy pleasure. If, therefore, any one should require it to be granted to him that pleasure is worthy, not adding all pleasure, there will not be a syllogism. But if [he contends] that a certain pleasure is good ; if, indeed, it is different [from that] arising from harmony, it will be foreign from the thing proposed ; and if it is this very pleasure, he assumes that which [he investigated] from the first. This, however, will become more manifest in diagrams. For instance, [let it be proposed to demonstrate] that the angles at the base of an isosceles triangle are equal \*. Let the lines A, B, be drawn to the centre of a circle. If, therefore, he assumes that the angle A C is equal to the angle B D, not, in short, requiring it to be granted that the angles of semicircles [are equal], and again [assumes that the angle] C [is equal to the angle] D, not assuming [that the angle of one] section [in a circle, is equal to another angle of the same section]; and if, besides, he assumes, that equal [parts] being taken away from equal whole angles, the remaining angles E F are equal ;—he will demand that which was [proposed to be investigated] from the first, unless he assumes, that if equal things are taken away from equal things, equal things will remain. It is evident, therefore, that in all syllogisms, it is necessary there should be the universal. It is likewise manifest, that the universal is shown from all universal terms ; but that the partial is shown as, well in this, as in that way. Hence, if the conclusion is universal, it is also necessary that the terms should be universal. But if the terms are universal, it may happen that the conclusion is not universal. It is also evident, that in every syllogism, either both propositions, or one proposition, is necessarily similar to the conclusion. But I say [simi-

\* This proposition is demonstrated in one way by Euclid, and in another by Pappus. See what is said by Proclus on this proposition, in my translation of his admirable Commentary on the first book of Euclid's Elements.

lar], not only because it is affirmative or privative; but also because it is necessary, or pure, or contingent. It is also necessary to consider other modes\* of predication. It is likewise simply † manifest, when there will be, and when there will not be a syllogism; when it is possible ‡, and when perfect; and that when there is a syllogism, it is necessary it should have terms according to some one of the before-mentioned modes.

## CHAPTER XXV.

It is also manifest, that every demonstration § will be through three terms, and not through more than three; unless the same conclusion should be produced through different arguments; as, for instance, E<sup>1</sup> through A B<sup>2</sup>, and D through C<sup>3</sup>; or through A B, A C, and B C. For nothing prevents there being many media of the same [conclusions]. But these being [many] there is not one syllogism, but there are many syllogisms. Or again, [demonstration is not through three, but through more than three terms], when each of the propositions A, B, is assumed through syllogism; as, for instance, A through D E<sup>11</sup>, and again, B through

\* Such as the impossible, probable, &c. For there are many modes of enunciations and propositions.

† i. e. Without regarding whether it is perfect, or imperfect.

‡ Aristotle calls an imperfect, a *possible* syllogism, because it may be perfected.

§ Aristotle here assumes the word demonstration in an extended sense, for every syllogism.

¶ i. e. The conclusion.

<sup>2</sup> A is the major, B the minor proposition.

<sup>3</sup> C is here the major, D, the minor proposition.

|| A signifies the major proposition of the pro-syllogism in which the major proposition of the principal syllogism is proved; and E signifies the minor proposition of the same pro-syllogism. And though, in the first part, E signifies the conclusion of the principal syllogism, yet this conclusion at present is called C.

F G\*. Or when the one is by induction, but the other by syllogism. But thus also there are many syllogisms; for there are many conclusions; as, for instance, A<sup>1</sup>, B<sup>2</sup>, and C<sup>3</sup>. And if there are not many syllogisms, but one syllogism, thus, indeed, through many syllogisms, the same conclusion may be produced. In order, however, that C may be proved through A B, it is impossible [there should be more than three terms]. For let the conclusion be E, which is collected from A B C D<sup>4</sup>. It is necessary, therefore, that some one of these should be assumed with reference to something else as a whole, but another as a part. For this was demonstrated before, that when there is a syllogism, it is necessary that some of the terms should thus subsist. Let A, therefore, thus subsist with reference to B. Hence, from these there is a certain conclusion; which, therefore, is either E, or C, or D, or some other different from these. And if, indeed, E is concluded, the syllogism will be from A B alone. But if C and D so subsist, that the one is as a whole, and the other as a part; something also will be collected from them; and this will either be E, or A, or B, or something else different from these. And if E is collected, or A, or B, either there will be many syllogisms, or in the manner in which we have said it is possible, it will happen that the same thing will be concluded through many terms. But if any thing else different from these is collected, there will be many syllogisms unconnected with each other. If, however, C does not so subsist with reference to D, as to produce a syllogism, they will be assumed in vain, unless [they were assumed] for the sake of induction, or concealment<sup>5</sup>, or something else<sup>6</sup> of this kind.

\* F is the major proposition of the pro-syllogism, in which the minor proposition of the principal syllogism is proved. G is the minor proposition of the same pro-syllogism.

<sup>1</sup> This is the conclusion of the first pro-syllogism, which afterwards becomes the major proposition of the principal syllogism.

<sup>2</sup> This is the conclusion of the second pro-syllogism, which afterwards becomes the minor proposition of the principal syllogism.

<sup>3</sup> This is the conclusion of the principal syllogism.

<sup>4</sup> The several letters here signify several propositions.

<sup>5</sup> In order that the opponent with whom we dispute, may not perceive the force of our argument.

<sup>6</sup> As for the sake of ornament, or perspicuity.

But

But if from A B not E but some other conclusion is produced; and from C D, either one of these is collected, or something different from these, many syllogisms will be produced, yet not syllogisms of the subject, or thing proposed. For it was supposed that the syllogism is of E. If, however, no conclusion is produced from C D, it will happen that they are assumed in vain, and the syllogism will not be of that which was investigated from the first<sup>1</sup>. Hence it is evident, that every demonstration and every [simple] syllogism, will subsist through three terms alone. But this being apparent, it is also evident, that a syllogism consists of two propositions, and not of more than two. For three terms are two propositions, unless something is assumed<sup>2</sup>, as we observed in the beginning, to the perfection of the syllogism<sup>3</sup>. It is evident, therefore, that in the syllogistic discourse, in which the propositions through which the principal conclusion is produced, are not even (for it is necessary that some of the former conclusions should be propositions)—[it is evident in this case] that this discourse, either collects nothing, or interrogates more than is necessary to the thesis<sup>4</sup>. The syllogisms, therefore, being assumed according to the principal propositions, every syllogism will consist, indeed, of propositions which are even, but from terms which are odd. For the terms are more than the propositions by one. But the conclusions will be the half part of the propositions<sup>5</sup>. When, however, the conclusion is through pro-syllogisms, or through many continued<sup>6</sup> media (as A B through C, and through D) the multitude of terms, indeed, will, in a similar manner, surpass the propositions by one; for the term will be inserted, either

<sup>1</sup> i. e. Of the problem E.

<sup>2</sup> Through a conversion of the propositions, or through a deduction to the impossible.

<sup>3</sup> i. e. Of the second, or third figure. But sometimes syllogisms of the first figure are perfected when they are indirect, or not pure.

<sup>4</sup> Aristotle calls a problem which is proposed to be proved, a thesis..

<sup>5</sup> For there is one conclusion to two propositions.

<sup>6</sup> i. e. When there is one syllogism composed from many continued propositions, as in the following example: Body is an essence, a living thing is a body, an animal is a living thing, man is an animal, therefore, man is an essence.

externally,

externally, or in the middle; but in both ways, it will happen that the intervals are fewer than the terms by one. But the propositions are equal to the intervals. These, however, will not always be even, and those odd; but alternately, when the propositions are even, the terms will be odd; and when the terms are even, the propositions will be odd. For together with the term, one proposition is added, wherever the term is added<sup>7</sup>. Hence, since the propositions were even, but the terms odd, it is necessary there should be a commutation, the same addition being made. The conclusions, however, will no longer have the same order, neither with respect to the terms, nor with respect to the propositions. For one term being added, conclusions are added, less by one than the pre-subsisting terms; because to the last term alone a conclusion is not made, but is made to all the rest. Thus, for instance, if D is added to A B C, two conclusions are immediately added, the one to A, and the other to B. The like also takes place in others. If the term also is inserted in the middle place<sup>8</sup>, there will be the same reasoning; for to one term alone, a syllogism will not be produced. Hence the conclusions will be far more than the terms, and the propositions.

## CHAPTER XXVI.

SINCE, however, we have the particulars with which syllogisms are conversant, the quality [of the problems] in each figure, and in how many ways they are demonstrated; it is also evident to us, what kind of problem is difficult, and what kind is easy to be proved. For that which is concluded in many figures, and through many cases is more

<sup>7</sup> i.e. Whether in the beginning, or in the end, or in the middle.

<sup>8</sup> i.e. Between A and B, or between B and C.

easy;

easy ; but that which is concluded in fewer figures, and through fewer cases, is more difficult to be proved. A universal affirmative problem [therefore] is proved through the first figure alone, and through this in one way only. But a privative problem, is proved through the first, and through the middle figure ; and through the first, indeed, in one way only ; but through the middle in two ways. A partial affirmative problem, however, is proved through the first, and through the last figure ; in one way, indeed, through the first, but in a triple way through the last figure. And a partial privative problem, is proved in all the figures ; except that in the first figure, indeed, it is proved in one way ; but in the middle in a twofold ; and in the last in a threefold way. It is evident, therefore, that it is most difficult to construct a universal categoric [problem], but that it may be most easily subverted ; and, in short, that universal may be more easily subverted than partial [problems] : because universal problems are subverted whether a thing is present with nothing, or is not present with a certain thing ; of which the one, viz. the not being present with a certain thing is proved in all the figures ; and the other, viz. the being present with nothing, is proved in two figures. There is the same mode also in privative problems. For whether a thing is present with every, or with a certain individual, that which was proposed from the first is subverted. But in partial problems, [the confutation takes place] in one way, viz. if a thing is proved to be present with every, or with no individual. Partial problems, however, are more easily constructed ; for they are constructed in more figures, and through more modes [than universal problems]. In short, it is not proper to be ignorant that universal are mutually confuted through partial problems, and these through universal problems. Universal, however, cannot be constructed through partial problems, but the latter may through the former. At the same time also it is evident, that it is easier to subvert than to construct [a problem]. In what manner, therefore, every syllogism is produced, and through how many terms and propositions, and how they subsist with reference to each other ; farther.

farther still, what kind of problem may be proved in each figure, what kind in many, and what kind in fewer [modes] is manifest from what has been said.

## CHAPTER XXVII.

LET us now show how we may possess an abundance of syllogisms for a proposed [question], and through what way we may assume principles about every [problem]. For perhaps it is not only necessary to survey the generation of syllogisms, but also to possess the power of forming them. Of all beings, therefore, some are of such a kind as not to be in reality universally predicated of any thing else; such, for instance, as Cleon, and Callias, that which is particular, and that which is sensible; but other things are predicated of these; for each of these is man and animal. But other beings are, indeed, predicated of other things, yet other things are not previously predicated of these. And other beings, are themselves predicated of other things, and other things are predicated of them; as, for instance, man is predicated of Callias, and animal of man. That some things, therefore, are naturally adapted to be predicated of nothing is evident; for of sensibles, each nearly is a thing of such a kind, as not to be predicated of any thing except from accident. For we sometimes say, that that white thing is Socrates, and that he who approaches is Callias. But that in a progression upward, we must sometime or other stop, we shall again show\*. At present, however, let this be admitted. Of these things †, therefore, it is not possible to demonstrate another predicate, except according to opinion ‡; but these may be predicated of other things.

\* In the 19th and following chapters of the first book of the Posterior Analytics.

† i. e. The highest predicates.

‡ i. e. Probably, from the opinion of him with whom we discourse.

Nor

Nor can particulars be predicated of other things, but others things of these. But it is evident, that those which are intermediate, may in both ways, [fall under demonstration]; for they may be predicated of other things, and other things of them. And nearly arguments and speculations are conversant with these. But it is necessary thus to assume the propositions pertaining to each thing, in the first place, admitting as an hypothesis that which is the subject of discussion, together with definitions, and such things as are the peculiarities of that thing; and, in the next place, such things as are consequent\* to the thing, and such as cannot not be present with it. But those things with which the thing cannot be present, are not to be assumed, because a privative assertion may be converted. A division also must be made of things consequent, [that we may understand], what things belong to the question, *what a thing is*, what are as peculiarities, and what are predicated as accidents; and of these, what are predicated according to opinion, and what according to truth. For the greater abundance any one possesses of these, the more expeditiously will he obtain the conclusion; and the more true they are, the more will he demonstrate. It is necessary however to select not those things which are consequent to a certain thing, but such as are consequent to a whole thing; for instance, not what is consequent to a certain man, but what is consequent to every man. For a syllogism subsists through universal propositions. A proposition, therefore, being indefinite, it is immanifest whether it is universal; but when it is definite, this is manifest. In a similar manner also, those things are to be selected, to the whole of which a thing is consequent, and this for the before-mentioned cause. The whole consequent, however, must not be assumed to follow. I say, for instance, it must not be assumed, that every animal is consequent to man, or every science to music; but only, that they are sim-

\* Attributes, or predicates are said to be consequent, but subjects to be antecedent; because, if man, for example, is an animal, man being posited, animal is *consequently* posited; but on the contrary, animal being posited, it is not necessary that man should be posited, since it may be another species of animal, as horse, or lion.

ply consequent, just as we also propose\*. For the other<sup>1</sup> is useless and impossible; as, that every man is every animal: or that justice is every thing good. But to that<sup>2</sup> to which something else is consequent, the mark *every* must be added. When the subject, however, is comprehended by a certain thing<sup>3</sup>, to which it is necessary to assume consequents, those, indeed, which follow, or which do not follow the universal, are not to be selected in these; for they were assumed in those. For such things as are consequent to animal, are also consequent to man: and in a similar manner with respect to such things as are not present with. But the peculiarities about each thing are to be assumed. For there are certain things peculiar to species, not common to genus; since it is necessary that certain peculiarities should be present with different species. Nor are those things to be selected, as if [anteced-ing] the universal, to which the things contained under them are consequent. Thus those things to which man is consequent, ought not to be assumed, as if they were the antecedents of animal. For if animal is consequent to man, it is likewise consequent to all these<sup>4</sup>. But these<sup>5</sup> more appropriately pertain<sup>6</sup> to the selection of [the antecedents] of man. Those things also are to be assumed, which are for the most part consequent or antecedent. For of problems which happen for the most part, the syllogism also is from propositions, all, or some of which are for the most part [true]. For the conclusion of every syllogism is similar to its principles<sup>7</sup>. Farther still, things consequent to all things, are not to be selected; for from them there will not be a syllogism; but through what cause will be manifest from what follows.

\* i. e. Just as we form propositions. For we say that every man is an animal, not that every man is every animal.

<sup>1</sup> That is the predicate with a universal mark..

<sup>2</sup> i. e. To the subject.

<sup>3</sup> i. e. By a universal predicate.

<sup>4</sup> Viz. It is consequent to all those things which man follows, i. e. of which man is predicated.

<sup>5</sup> i. e. The subjects to man.

<sup>6</sup> That is, they ought then to be chosen and assumed, when we investigate the subjects to man.

<sup>7</sup> i. e. To the propositions from which it is composed.

## CHAPTER XXVIII.

HE, therefore, who wishes to confirm any thing of a certain whole, should look to the subjects of that which is confirmed, of which that is predicated<sup>1</sup>; but of that which ought to be predicated, he should consider such things as are consequent to this. For if any thing of these is the same, it is necessary that the one should be present with the other. But if [it is to be proved], that a thing is not present with every, but with a certain individual, those things are to be considered which each follows<sup>2</sup>. For if any one of these is the same, the being present with a certain thing is necessary. But when the being present with nothing is necessary<sup>3</sup>; [so far as pertains to that] with which it is not necessary to be present<sup>4</sup>, regard must be had to the consequents; but so far as pertains to that which ought not to be present with<sup>5</sup>, regard must be had to those things which cannot be present with it. Or on the contrary, [on the part of that] with which it is necessary not to be present, [regard must be had] to those things which cannot be present with it; but [on the part of that] which ought not to be present with, to the consequents. For whichever of these are the same, it will happen that the one is present with no other; because at one time, a syllogism will be produced in the first figure, and at another, in the middle figure. If, however, the not being present with a certain thing [is to be proved], [the antecedents] of that with which it ought not to be present, and to which it is consequent, are to be regarded; but of that which ought not to be present with, those things are to be regarded

<sup>1</sup> i. e. To the antecedents of the predicate.

<sup>2</sup> The antecedents of the attribute and subject.

<sup>3</sup> i. e. When a universal denying problem is to be proved.

<sup>4</sup> i. e. To the subject of the problem.

<sup>5</sup> i. e. To the attribute, or predicate of the problem.

which cannot be present with it. For if any thing of these is the same, the not being present with a certain thing is necessary. Perhaps, however, what has been said will be more evident as follows : Let the consequents to A be B ; but let the things to which it is consequent be C ; and let the things which cannot be present with it be D. Again, let the things which are present with E be F ; but the things to which it is consequent be G. And let the things which cannot be present with it, be H. If, therefore, a certain C and a certain F are the same, it is necessary that A should be present with every E, for F is present with every E, and A with every C ; so that A is present with every E. But if C and G are the same, it is necessary that A should be present with a certain E ; for A is consequent to every C, and every G to E. If, however, F and D are the same, A will be present with no E, and this, from a pro-syllogism<sup>1</sup>. For since a privative assertion may be converted, and F is the same with D, A will be present with no F ; but F is present with every E. Again, if B and H are the same, A will be present with no E. For B is present with every A, but with no E. For B and H are the same, and H is present with no E. But if D and G are the same, A will not be present with a certain E. For A will not be present with G, since it is not present with D. But G is under E ; so that it will not be present with a certain E. If, however, G and B are the same, the syllogism will be inverse. For G will be present with every A (since B is present with A) and E will be present with B ; (for B is the same with G), but it is not necessary that A should be present with every E, but it is necessary that it should be present with a certain E, because a universal predication may be converted into a particular predication. It is evident, therefore, that regard must be had to what has been said, from each part<sup>2</sup> of every problem ; for through these all syllogisms are formed. But it is necessary in consequents, and the antecedents of each thing, to look to things first, and which are

<sup>1</sup> In which the major proposition of the principal syllogism is proved.

<sup>2</sup> i.e. As well on the part of the attribute, as on the part of the subject.

especially

especially universal. For instance on the part of **E**, more regard is to be paid to **K F**, than to **F** only<sup>3</sup>; but on the part of **A**, more regard must be paid to **K C**, than to **C** only<sup>4</sup>. For if **A** is present with **K C**, it is also present with **F**, and with **E**<sup>5</sup>. But if it is not consequent to this, yet it may be consequent to **F**, to which the thing itself is consequent. For if it [follows] the first things, it also follows those things which are placed under these. But if it does not follow these, nevertheless, it may follow those things which are [arranged] under these<sup>1</sup>. It is also evident, that this speculation subsists through three terms, and two propositions; and that through the before-mentioned figures, all syllogisms are [constructed]. For it is shown that **A** is present with every **E**, when of **C**, and of **F**, something which is the same is assumed. But this<sup>2</sup> will be the middle; and the extremes are **A** and **E**<sup>3</sup>. The first figure, therefore, is produced. But [it is shown to be present with] a certain thing, when **C** and **G** are assumed to be the same. But this is the last figure; for **G** becomes the middle. And [it is proved to be present with] no individual, when **D** and **F** are the same. But thus also the first figure, and the middle are produced. The first, indeed, because **A** is present with no **F**; (since a privative assertion may be converted), but **F** is present with every **E**. And it produces the middle figure, because **D** is present with no **A**, but is present with every **E**. It is also proved, not to be present with a certain individual, when **D** and **G** are the same. But this is the last figure. For **A** will be present with no **G**, and **E** will be present with every **G**. It is evident, therefore, that all syllogisms are produced through the before-mentioned figures. It is likewise manifest, that those things are not to be selected which are consequent to all things, because no syllo-

<sup>3</sup> **K F** is the genus of **K** and of **F**.

<sup>4</sup> **K C** is the genus of **K C** and of **C**.

<sup>5</sup> Because **F** is contained under **K**, and **E** under **F**.

<sup>1</sup> Thus if *living* follows *animal*, it also follows *man*. But though it does not follow *body*, yet it follows that which is under *body*.

<sup>2</sup> Viz. **C F**.

<sup>3</sup> The greater extreme is **A**; the less **E**.

gism will be produced from these. For, in short, a syllogism cannot be constructed from consequents ; but privation cannot be proved through those things which are consequent to all things<sup>4</sup>. For it is necessary to be present with the one, and not to be present with the other. It is also evident, that other modes of selection are useless to the construction of syllogisms ; as, for instance, if the consequents to each<sup>5</sup> are the same, or if those things to which A is consequent, and those which cannot be present with E ; or again such as cannot be present with either<sup>6</sup> ; for a syllogism will not be produced through these. For if the consequents should be the same, as, for instance, B and F, the middle figure will be produced, having both the propositions categoric. But if those things are the same to which A is consequent, and which cannot be present with E, as, for instance, C, and H, the first figure will be produced, having the minor proposition privative. But if those are the same which cannot be present with either, as, for instance, D and G, both propositions will be privative, either in the first, or in the middle figure. Thus, however, there will by no means be a syllogism. It is also evident, that certain things are to be assumed in this speculation which are the same, and not certain things which are different or contrary. In the first place, indeed, because this inspection is for the sake of the middle ; but it is necessary to assume the middle not different, but the same. In the next place, in those things in which a syllogism happens to be produced, in consequence of contraries being assumed, or things which cannot be present with the same thing ; all are reduced to the before-mentioned modes. Thus, if B and F are contraries, or cannot be present with the same thing ; these being assumed, there will be a syllogism, that A is present with no E. This, however, is not effected from these assumptions, but from the before-mentioned mode. For B is present with every A, and with no E. Hence it is necessary

<sup>4</sup> For thus both propositions will be affirmative.

<sup>5</sup> Viz. To A and to E.

<sup>6</sup> That is, D and H.

that

that B should be the same with a certain H. Again, if B and G cannot be present with the same thing, [it may be concluded] that A is not present with a certain E; for thus there will be the middle figure. For B is present, indeed, with every A, and with no G. Hence it is necessary that B should be the same with some H. For the impossibility of B and G being present with the same thing, does not differ from B being the same with a certain H; since in H every thing is assumed, which cannot be present with E. It is evident, therefore, from these very inspections that no syllogism will be produced. But if B and F are contraries, it is necessary that B should be the same with a certain H; and that a syllogism should be produced through these. It happens, however, to those who thus inspect, that they look to a way different from the necessary, because they are sometimes ignorant that B and H are the same.

## CHAPTER XXIX.

SYLLOGISMS also leading to the impossible, will subsist after the same manner as ostensive syllogisms. For these likewise are produced through consequents, and those things<sup>1</sup>, which each<sup>2</sup> follows; and there is the same inspection in both. For that which is demonstrated ostensively, may also be syllogistically collected through the impossible, and through the same terms: and that which is demonstrated through the impossible, may also be demonstrated ostensively. Thus, for instance, it may be demonstrated that A is present with no E. For let it be supposed to be present with a certain E. Since, therefore, B is present with every A, and A is present with a certain E; B will be

<sup>1</sup> i.e. Antecedents.

<sup>2</sup> i.e. The attribute of the problem, and the subject of the problem.

present.

present with a certain E. But it was present with no E. Again, it may be demonstrated that A is present with a certain E. For if A is present with no E, but E is present with every H, A will be present with no H, but it was supposed to be present with every H. The like will also take place in other problems. For always, and in all things, the demonstration through the impossible will be from things consequent, and those things which each follows. And in every problem there is the same consideration, whether any one wishes to syllogize ostensively, or to lead to the impossible; for both demonstrations consist from the same terms. Thus, for instance, if it should be demonstrated that A is present with no E, because it happens that B is present with a certain E, which is impossible; if it is assumed that B is present with no E, and is present with every A, it is evident, that A will be present with no E. Again, if it should be concluded ostensively that A is present with no E, to those who suppose that it is present with a certain E, it may be shown through the impossible, that it is present with no E. The like will also take place in others. For in all [problems] it is necessary to assume a common term, different from the subject terms, to which the syllogism concluding the false will be referred. Hence this<sup>1</sup> proposition being converted, but the other remaining the same, there will be an ostensive syllogism through the same terms. But an ostensive syllogism differs from that which leads to the impossible, because in the ostensive, both propositions are posited according to truth<sup>2</sup>; but in that which leads to the impossible, one is posited falsely<sup>3</sup>. These things, however, will be more evident through what follows, when we shall speak about the impossible. But now let thus much be manifest to us, that those who wish to syllogize ostensively, and those who wish to lead to the impossible, must look to these things. In other syllogisms, however, which are from

<sup>1</sup> That is, the proposition being assumed contradicting the conclusion of the syllogism leading to the impossible.

<sup>2</sup> i. e. They are posited as if true, though they are sometimes false.

<sup>3</sup> i. e. As if false; and to be confuted from the absurdity of the conclusion.

hypothesis,

hypothesis, such as those which are according to transmutation, or according to quality<sup>4</sup>, the consideration consists in the subject terms ; not in those assumed from the first, but in those which are changed. But the mode of inspection is the same. It is also necessary to consider, and unfold by division, in how many modes syllogisms from hypothesis are produced. Thus, therefore, each problem is demonstrated. It is also possible syllogistically to collect some of these after another manner ; as, for instance, universals through the inspection of particulars, and this from hypothesis. For if C and H are the same, and if E is assumed to be present with H alone, A will be present with every E. And again, if D and H are the same, and E is predicated of H alone, [it may be concluded] that A is present with no E. It is evident, therefore, that the inspection must be after this manner. The like must also take place in things necessary and contingent. For there is the same consideration ; and the syllogism of the being contingent, and of the being present with, will be through terms disposed in the same order. But in contingents, things which are not present with, but which may be present with are to be assumed ; for it has been shown that through these a syllogism of the contingent is produced. There is also a similar reasoning in other predication. It is evident, therefore, from what has been said, that not only all syllogisms may be formed in this way, but that they cannot be formed in any other way. For it has been shown that every syllogism is produced through some one of the before-mentioned figures ; but these cannot be constituted through any thing else than the consequents and antecedents of a thing. For from these propositions consist, and the middle term is assumed. Hence, through other things a syllogism cannot be produced.

## CHAP.

<sup>4</sup> Of hypothetical syllogisms there are two kinds. For they are either altogether hypothetical, or mixt : and these either according to transumption, (*καλα μετωνυμι*) or according to assumption (*καλα τραπεζην*). Syllogisms altogether hypothetical, are those the conclusion and all the propositions of which are conditional: as, If there is man, there is animal : If there is animal, there is living : Therefore, if there is man, there is living. But mixt hypothetical syllogisms are those

## CHAPTER XXX.

Of all [problems], therefore, there is the same way, as well in philosophy, as in every art and discipline. For it is necessary to collect about each of them, those things which are present with, and the subjects with which they are present, and to have of these a great abundance. It is also necessary to consider these through three terms, subverting, indeed, in this way, but constructing in that; and according to truth, to reason from those things, which are truly described to be present with; but on account of dialectic syllogisms, to reason from probable propositions. With respect, indeed, to the universal principles of syllogisms, we have shown how they subsist, and in what manner it is necessary to investigate them; that we may not direct our attention to all that has been said, nor to constructing and subverting the

those, which have an hypothetical proposition, and a categoric, i. e. pure, proposition; as, If there is man, there is animal: But there is man: Therefore, there is animal. Those, however, are called hypothetical syllogisms, which have one proposition hypothetical and the other categorical; because every syllogism derives its name from the worse part. Thus the syllogism is called partial, or denying, of which one proposition is partial, or denying; since such a conclusion also follows, viz. partial, or denying. A syllogism *according to transumption* is, when in the categoric proposition some new term is not posited, but the term is derived from the hypothetical proposition; so that what in the hypothetical was posited conditionally, is posited purely in the categorical proposition; as *man* in the instance just proposed. But an hypothetical syllogism *according to assumption*, is when a new term is assumed in the categoric proposition, which was not posited in the hypothetical proposition. As if any one should reason as follows: Where Socrates is, there Plato is: But Socrates is at Athens: Therefore, Plato is at Athens. Again, syllogisms *according to transumption*, are either conjunctive, or disjunctive. The conjunctive are, such as: If it is day, it is not night: But it is day: Therefore, it is not night. The disjunctive are, such as: Either it is day, or it is night: But it is day: Therefore, it is not night. These syllogisms *according to transumption*, Aristotle now calls *according to quality*, because they are formed from the comparison of quality, i. e. of accident; for sometimes an accident is signified by the appellation of quality.

same,

same, nor forming a construction of every, or a certain individual, and subverting wholly, or partially; but that we may look to things fewer and definite. In particulars, however, it is necessary to make a selection, as of good, or science. But the peculiar principles in every science are many. And hence it is the province of experience to deliver the principles of every thing. I say, for instance, that astrological experience delivers the principles of the astrological science; for the phenomena being sufficiently assumed, astrological demonstrations are thus invented. The like also takes place in every other art and science. Hence, if those things are assumed which exist or are present about each individual, it will now be our province readily to exhibit demonstrations. For if nothing which pertains to history\* is omitted of what is truly present with things, we shall be furnished with the means about every thing of which there is demonstration, of discovering and demonstrating this; and we shall be able to make that apparent, which is naturally incapable of being demonstrated. Universally, therefore, we have nearly shown how propositions ought to be selected; but we have accurately discussed this affair, in the treatise<sup>1</sup> On Dialectic.

## CHAPTER XXXI.

THAT the division, however, through genera<sup>2</sup>, is a certain small portion of the above-mentioned method, it is easy to see. For division is

\* History properly is a knowledge obtained without proof. Hence Aristotle inscribes one of his treatises *A History of Animals*, because he proves nothing there, but relates every thing historically.

<sup>1</sup> i. e. In the Topics.

<sup>2</sup> i. e. By which genera are divided into species, through opposite differences. This is the most excellent of all divisions; for there are also other kinds of divisions, as of the whole into its parts, and of a word into various homonymous significations.

as it were an imbecile syllogism ; for it begs what ought to be demonstrated, and always syllogistically infers something of things superior\*. And, in the first place, all those who use it are ignorant of this ; and endeavour to persuade [themselves and others] that it is possible there may be demonstration about essence, and the very nature of a thing. Hence, neither do they perceive that those who divide syllogize, nor that it is possible in the way we have mentioned. In demonstrations, therefore, when it is requisite syllogistically to infer that something is present with, it is necessary that the medium through which the syllogism is produced, should always be less than the first extreme, and should not be universally predicated of it. On the contrary, division assumes the universal for the middle term. For let animal be A, mortal, B, immortal, C, and man of whom the definition ought to be assumed D. Division, therefore, assumes that every animal is either mortal or immortal ; but this is, that the whole of whatever is A, is either B or C. Again, he who divides, always admits that man is an animal ; so that he assumes that A is predicated of D. The syllogism, therefore, is, that every D is either B or C. Hence it is necessary to assume, that man is either mortal or immortal ; for it is necessary that an animal should be either mortal or immortal. It is not, however, necessary that it should be mortal, but this is desired to be granted ; though this is that which ought to be syllogistically inferred.

[Every animal is either mortal or immortal :  
Every man is an animal : Therefore,  
Every man is mortal or immortal'.]

Again, placing A for mortal animal : B, for pedestrian ; C, for without feet ; and D, for man, it assumes in a similar manner. For it assumes

\* i. e. Of things more universal.

<sup>a</sup> In this syllogism it is concluded, that every man is either mortal or immortal. This, however, was not to be concluded, but especially, that every man is mortal. But he who divides does not prove this, but desires it may be granted him. Hence, he begs the thing sought, if we regard that which he ought to prove ; yet he makes a right syllogism, so far as he proves something more universal, i. e. that man is mortal or immortal.

that

that A is either in B or in C (for every mortal animal is either pedestrious, or without feet), and it assumes that A is predicated of D ; (for it assumes that man is a mortal animal) so that it is necessary that man should be either a pedestrious or biped animal. That he is pedestrious, however, is not necessary, but is assumed. But this is that which again ought to be proved.

[Every mortal animal is pedestrious, or without feet :  
Every man is a mortal animal : Therefore,  
Every man is pedestrious, or without feet.]

And after this manner, it always happens to those who divide, that they assume a universal medium, and the extremes, viz. that<sup>1</sup> of which it is necessary to exhibit, and the differences<sup>2</sup>. But in the last place, they assert nothing clearly, why it is necessary that this should be a man, or any thing else which is the subject of investigation. For they pursue every other way, not apprehending that there are those copious supplies which may be obtained. But it is evident, that by this [divisive] method, it is not possible to subvert, nor to conclude any thing syllogistically of accident or peculiarity, nor of genus, nor of those things of which we are ignorant whether they subsist in *this*, or in *that* way ; as, whether the diameter of a square is commensurable, or incommensurable with the side. For if it should assume that every length is either commensurable or incommensurable, but the diameter of a square is a length, it will collect that the diameter is either commensurable or incommensurable. But if it should assume that the diameter is incommensurable, it will assume that which ought to be syllogistically collected.. Hence, that cannot be demonstrated which was to be demonstrated. For this is the way ; and through this, it cannot be proved. Let, however, the commensurable or incommensurable be A ; length, B ; and the diameter C.

[Every length is or is not commensurable :  
Every diameter is a length : Therefore,  
Every diameter is or is not commensurable.]

<sup>1</sup> i. e. The less extreme.    <sup>2</sup> i. e. The greater extreme.

It is evident, therefore, that this mode of investigation is neither adapted to every speculation, nor is useful in those things in which it especially appears to be appropriate. Hence, from what demonstration is produced, and how, and what is to be regarded in every problem, is manifest from what has been said.

## CHAPTER XXXII.

IN the next place, we must show, how we may reduce syllogisms to the before-mentioned figures ; for this is what still remains of the [proposed] speculation. For if we have surveyed the generation of syllogisms, and possess the power of inventing them, and if besides this we shall have analysed them when formed, into the before-mentioned figures, the design which we proposed from the first, will have received its completion. At the same time also it will happen, that what has been before said, will be confirmed, and it will be more evident, that they thus subsist from what will now be said. For it is necessary that every thing which is true should itself accord with itself in every respect. In the first place, therefore, it is necessary to endeavour to select the two propositions of a syllogism ; for it is easier to divide into greater than into less parts<sup>1</sup>; and composites are greater than the things from which they are composed<sup>2</sup>. In the next place, it is necessary to consider whether it is in a whole, or in a part. And if both propositions should not be assumed, one of them is to be posited. For those who write or interrogate, sometimes proposing the universal<sup>3</sup>, do not

<sup>1</sup> As into propositions than into terms.

<sup>2</sup> As propositions which are composed for terms, are greater than the terms.

<sup>3</sup> i.e. The major proposition, which in the first figure is always universal.

receive

receive the other<sup>4</sup> which is contained in the universal; or they propose these<sup>5</sup>, indeed, but omit those<sup>6</sup> through which these are concluded; and in vain interrogate other things. It must be considered, therefore, whether any thing superfluous is assumed, and whether any thing necessary is omitted. And this, indeed, is to be posited, but that to be taken away, until we arrive at two propositions; for without these<sup>7</sup> the sentences which are thus the subject of interrogations cannot be reduced<sup>8</sup>. In some [sentences], therefore, it is easy to see what is wanting; but some are latent, and appear to be syllogisms<sup>1</sup>, because something necessarily happens from the things which are posited; as, if it should be assumed, that essence not being subverted<sup>2</sup>, essence is not subverted; but those things being subverted from which a thing consists, that also which is composed from these is subverted. For these things being posited, it is necessary, indeed, that a part of essence should be essence, yet this is not syllogistically concluded through the things assumed, but the propositions are wanting. Again, if man-

<sup>4</sup> i. e. The minor proposition, which is contained under the major, as the partial under the universal.

<sup>5</sup> i. e. The propositions of the principal syllogism.

<sup>6</sup> i. e. The propositions of the pro-syllogism.

<sup>7</sup> i. e. Unless these precepts are preserved.

<sup>8</sup> i. e. Cannot be reduced to figure and mode.

<sup>1</sup> They appear to be syllogisms in energy, when nevertheless they are only syllogisms in capacity.

<sup>2</sup> Aristotle proposes two propositions which do not constitute a syllogism in energy, because the syllogistic form is not present. They possess, however, a power of proving, because syllogistic propositions are collected from them, and there will be a syllogism in the first figure, thus constructed. All those things by which whén subverted essence is subverted, are essences. The parts of essence being subverted, essence is subverted: The parts of essence, therefore, are essences. Each proposition is omitted in the context; but in the place of the major proposition, an equivalent proposition is expressed, viz. that essence not being subverted, essence is not subverted. And in the place of the minor proposition, the major proposition of the pro-syllogism proving that minor, is added. This major proposition, however, is not added without mutation, but is made more universal. For the pro-syllogism is thus constructed: Those things from which essence consists being subverted, essence is subverted: But essence consists from the parts of essence: Therefore, the parts of essence being subverted, essence is subverted.

existing,

existing, it is necessary there should be animal; and animal existing, that there should be essence; [then] man existing, it is necessary there should be essence. This, however, is not yet syllogistically<sup>3</sup> collected, for the propositions do not subsist as we have said they should<sup>4</sup>. But we are deceived in these, because something necessary happens from the things posited, and a syllogism also is a thing attended with necessity. The necessary, however, is more extended than syllogism; for every syllogism is necessary; but not every thing necessary is a syllogism. Hence if certain things being posited, any thing happens, reduction must not be immediately attempted, but two propositions must first be assumed. Afterwards a division must thus be made into terms. But that term which is said to be in both the propositions, must be posited as the middle term; for it is necessary that the middle should exist in both terms, in all the figures. If, therefore, the middle predicates and is predicated; or if it, indeed, predicates, but something else is denied of it; there will be the first figure. But if it predicates and is denied by something, there will be the middle figure. And if other things are predicated of it; or one thing is denied, but another is predicated, there will be the last figure. For thus the middle will subsist in each figure. The like will also take place if the propositions should not be universal: for there is the same definition of the middle<sup>5</sup>. It is evident, therefore, that in discourse, when the same thing is not frequently asserted, a syllogism will not be formed; for the middle is not assumed. But since we know<sup>6</sup> what kind of problem is concluded in each figure, and in which figure universal is concluded, and in which particular, it is evident that we must not direct our attention to all the figures, but to that which is adapted to each problem. Such things,

<sup>3</sup> i. e. The syllogism is not categoric, but hypothetic.

<sup>4</sup> i. e. They neither affirm, nor deny, as being hypothetical.

<sup>5</sup> For a universal proposition, and a particular proposition, do not differ by reason of the middle term, but by reason of that mark which the Greeks call *προσδιεπίστης*, or a circumscription and determination of words. For this is at one time universal, as *every, none*; and at another particular, as *some one, not every one*.

<sup>6</sup> We know this from what is explained in chap. 26.

however,

however, as are concluded in many figures, we may know the figure of, by the position of the middle.

## CHAPTER XXXIII.

It frequently, therefore, happens that we are deceived about syllogisms, in consequence of the necessity [of concluding] as we have before observed. But we are sometimes deceived through the similitude<sup>1</sup> of the position of the terms, of which we ought not to be ignorant. Thus if A is predicated of B, and B of C, it would seem that the terms thus subsisting there will be a syllogism. Neither, however, is any thing necessary produced, nor a syllogism. For let A be that which always is; B, Aristomenes as the object of intellection; and C, Aristomenes. It is true, therefore, that A is present with B; for Aristomenes is always the object of intellection. It is also true that B is present with C; for Aristomenes is Aristomenes the object of intellection. But A is not present with C; for Aristomenes is corruptible. For a syllogism will not be formed, when the terms thus subsist; but it is necessary that a universal proposition A B<sup>2</sup> should be assumed. But this is false<sup>3</sup>,

<sup>1</sup> Because the terms when indefinitely assumed do not seem to differ from universals.

<sup>2</sup> i. e. The major proposition.

<sup>3</sup> For the particle *every* which they call distributive, shows that any particular is assumed. Thus, if every man is an animal any particular man is an animal. As particulars, therefore, are not eternal, the expression *to exist always*, cannot be predicated of every particular. Thus also, it may be truly said, that motion always exists; but it cannot be truly said that every motion always exists. Thus also Aristomenes, the object of intellection, always exists, because Aristomenes can always be an object of intellection; yet it does not follow that every Aristomenes who is the object of intellection always exists, otherwise this Aristomenes would always exist. For when we say that Aristomenes the object of intellection always exists, we signify, that Aristomenes may always be an object of intellection. But when we say that every Aristomenes who is the object of intellection always exists, we then say, that every Aristomenes who happens to be an object of intellection always exists.

viz. to think that every Aristomenes, who is the object of intellection, always exists. Again, let C, be Miccalus ; B, Miccalus the musician ; A, to die to-morrow. B, therefore, is truly predicated of C ; for Miccalus is Miccalus the musician ; and A is truly predicated of B ; for the musician Miccalus may die to-morrow ; but A is falsely predicated of C. This instance, therefore, does not differ from the former ; for it is not universally true that Miccalus the musician will die to-morrow. But this not being assumed, there was not a syllogism<sup>1</sup>. This deception, therefore, is produced in a small [difference]. For we make a concession, as if there were no difference between saying that *this* thing is present with *that*, and *this* thing is present with every individual of *that*.

## CHAPTER XXXIV.

It also frequently happens that we are deceived, because the terms which are [arranged] in the proposition, are not well expounded<sup>2</sup>, as if A should be health ; B, disease ; and C, man. For it is true to say, that A cannot be present with any B ; (for health is present with no disease) and again, it is true that B is present with every C ; (for every man is receptive of disease) whence it would seem to happen [as a consequence] that health can be present with no man. But the cause of this is, that the terms are not rightly expounded according to the dictio. For the words significant of habits being transmuted, there will not be

<sup>1</sup> The instance here adduced by Aristotle must be conceived to be as follows : Miccalus the musician will die to-morrow ; but Miccalus the object of intellection, is Miccalus the musician ; therefore, Miccalus the object of intellection will die to-morrow. This reasoning appears to be a syllogism, yet is not, because the major is not universal. For it is not said that every Miccalus a musician will die to-morrow.

<sup>2</sup> i. e. They are enunciated, not rightly conceived ; because when a concrete word ought to be assumed, as *sane*, an abstract word is assumed, as *health*.

a syllogism ;

a syllogism; as if the word *well* is posited instead of *health*, and the word *ill* instead of disease. For it is not true to say, that to be well cannot be present with him who is ill. But this not being assumed, a syllogism will not be produced, unless of that which is contingent<sup>3</sup>; and this is not impossible. For it may happen that health is present with no man. Again, there will in a similar manner be the false, in the middle figure. For health happens to be present with no disease, and may happen to be present with every man; and, therefore, disease will not be present with any man<sup>4</sup>. But the false happens to take place in the third figure, according to the being contingent. For it may happen that health and disease, science and ignorance, and, in short, contraries, may be present with every individual of the same thing; but it is impossible that they should be present with each other. This, however, does not accord with what has been before said<sup>1</sup>. For when it happens that many things are present with the same thing, it will also happen that they are present with each other. It is evident, therefore, that in all these, deception is produced from the exposition of the terms. For the words being changed<sup>2</sup> by which the habits are signified, nothing false will be collected. Hence it is manifest, that in such like propositions, that which is according to habit<sup>3</sup>, is always to be assumed, and posited for a term, instead of habit<sup>4</sup>.

<sup>3</sup> For it may happen that to be well may not hereafter be present with any man who is now ill; that to be ill is present with every man; and, therefore, that to be well is present with no man.

<sup>4</sup> This is a false conclusion, if that ought to be called a conclusion, which in reality is not collected from propositions; and which if it were thence collected would be entirely true. For the false cannot be concluded from the true, as Aristotle will teach us in chap. 9 of the following book.

<sup>1</sup> In chap. 20.

<sup>2</sup> i. e. The abstract being changed into concrete words, as *health* into the word *well*.

<sup>3</sup> i. e. The concrete word, as *well*.

<sup>4</sup> i. e. Instead of an abstract word, as *health*.

## CHAPTER XXXV.

IT is not requisite, however, always to investigate a name<sup>5</sup> for the purpose of expounding terms; for there will frequently be sentences in which a name is not posited. Hence it is difficult to reduce syllogisms of this kind. But it also sometimes happens that we are deceived through such an investigation<sup>6</sup> as this; as, for instance, because a syllogism is of things immediate<sup>7</sup>. For let A be two right angles<sup>8</sup>; B, a triangle; C, an isosceles triangle. A, therefore, is present with C, through B; but it is present with B no longer through any thing else; for a triangle has essentially two right angles. Hence there will not be a middle<sup>9</sup> of the proposition A B which is demonstrable. It is evident, therefore, that the middle is not always to be so assumed, as if it were a particular definite thing<sup>1</sup>, (*ως τοδε τι*) but that sometimes a sentence is to be assumed, which happens to be the case in the instance just adduced.

## CHAPTER XXXVI.

BUT for the<sup>2</sup> first to be present with the middle and this with the extreme, ought not to be assumed, as if the first, of the middle, and

<sup>5</sup> i.e. One word.

<sup>6</sup> Because we investigate one word, when sometimes there is not one.

<sup>7</sup> i.e. Between which there is no middle thing. They may, however, be proved, as, for instance, through a definition of the subject, as will be shown in the Posterior Analytics.

<sup>8</sup> i.e. Three angles equal to two right.

<sup>9</sup> i.e. A certain middle thing which can be signified by one word.

<sup>1</sup> i.e. One certain thing, which may be signified by one word.

<sup>2</sup> i.e. The greater extreme,

this,

this, of the extreme, were always similarly<sup>3</sup> predicated of each other. And the like must also be said of the not being present with. In as many ways, however, as to be is predicated, and any thing is truly asserted, in so many ways, it is requisite to think, the being present with, and the not being present with are signified ; as, for instance, that of contraries there is one science. For let A be, there is one science ; and B, things contrary to each other. A, therefore, is present with B, not as if contraries are one science ; but because it is true to say of them, that there is one science of them. But it sometimes happens that the first<sup>1</sup> is predicated of the middle, but that the middle is not predicated of the third<sup>2</sup>. For instance, if wisdom is science, but wisdom is of good, the conclusion is, that science is of good. Hence good is not wisdom ; but wisdom is science. But sometimes the middle is predicated of the third ; and the first is not predicated of the middle. For instance, if there is a science of every quality and of every contrary ; but good is contrary [to evil] and is a quality ; the conclusion is that there is a science of good. Neither good, however, nor quality, nor contrary, is science ; but good is these<sup>3</sup>. Sometimes also, neither the first is predicated of the middle, nor this of the third ; the first being sometimes, indeed, predicated of the middle, and sometimes not. For instance, of that of which there is science, there is a genus ; but there is a science of good ; and the conclusion is, that there is a genus of good. But [of these] no one is predicated of no one<sup>4</sup>. If, however, of that of which there is science, this is genus ; but there is a science of good ; the conclusion is, that good is a genus. Of the extreme, therefore, the first is predicated, but they are not predicated of each other<sup>5</sup>. An as-

<sup>3</sup> i.e. In the same case.

<sup>1</sup> i.e. In the major proposition, the greater extreme is placed in an upright case.

<sup>2</sup> i.e. In the minor proposition, the middle term is not placed in an upright, but in an oblique case.

<sup>3</sup> i.e. Good is quality, and is contrary ; and on this account the minor proposition is conceived in an upright case.

<sup>4</sup> That is, neither the propositions, nor the conclusion are conceived in an upright case.

<sup>5</sup> i.e. The conclusion is conceived in an upright case, but the propositions in oblique cases.

sumption

sumption must be made after the same manner in the not being present with. For this thing not being present with this, does not always signify that this thing is not this, but sometimes that this is not of this, or that this is not with this. Thus, for instance, there is not a motion of motion, or a generation of generation ; but there is [a motion and generation] of pleasure ; pleasure, therefore, is not generation or motion. Again, of laughter there is a sign ; but there is not a sign of a sign ; so that laughter is not a sign. The like will also take place in other things, in which the problem is subverted, in consequence of genus<sup>1</sup> being in a certain<sup>2</sup> respect referred to its<sup>3</sup>. Again, occasion is not opportune time ; for with divinity there is occasion, but there is not opportune time, because nothing is useful to divinity<sup>4</sup>. For it is necessary to place as terms, occasion, opportune time, and divinity ; but the proposition must be assumed according to the case of the noun. For, in short, we assert this universally, that terms are always to be posited according to the appellations of nouns<sup>5</sup> ; as, for instance, man, or good, or contraries ; not *of* man, or *of* good, or *of* contraries. But propositions are to be assumed according to the cases of each word. For they are either to be assumed to this, as the equal ; or of this as the double ; or

<sup>1</sup> Aristotle calls the middle term in the second figure genus, because as genus is predicated, thus also the middle term in the second figure is predicated. In other respects, however, there is a great difference between the two. For genus is always predicated of species affirmatively ; but the middle term in the second figure is partly predicated affirmatively, and partly negatively ; since the one proposition ought to affirm, and the other deny. Besides, the middle term may be affirmed of the extreme, not as if genus, but as if another attribute ; for instance, as peculiarity, or accident.

<sup>2</sup> i. e. Either in an upright, or in an oblique case.

<sup>3</sup> To the problem, i. e. to the terms of the problem, of which it is predicated.

<sup>4</sup> This syllogism is in the third figure. There is no opportune time with divinity : There is occasion with divinity : Therefore, occasion is not opportune time.

<sup>5</sup> Aristotle distinguishes *κληρον* and *πλευρα*. *κληρον*, are upright nouns, by which things are called : *πλευρα*, i. e. cases, are oblique. Hence the case of a noun, was separated from a noun, in the second chapter of the treatise On Interpretation. The Stoics, however, whom almost all the grammarians follow, call some cases upright, and others oblique. For a line also is said to fall upon a line, whether it falls perpendicularly, or obliquely.

this

this thing, as striking, or seeing; or this one, as man, animal; or if a noun falls in any other way, according to a proposition.

### CHAPTER XXXVII.

For this thing, however, to be present with this, and for this to be truly asserted of this, must be assumed in as many ways, as predications are divided. These<sup>6</sup> also must be assumed, either in a certain respect<sup>7</sup>, or simply<sup>8</sup>; and farther still, either simple<sup>9</sup>, or connected<sup>1</sup>. The like also must be assumed, in the not being present with. These things, however, must be better considered and defined.

### CHAPTER XXXVIII.

THAT, however, which is repeated<sup>2</sup> in propositions, must be joined to the first extreme, and not to the middle [term]. I say, for instance, if there should be a syllogism, [in which it is collected] that there is a

<sup>6</sup> i. e. Predications.

<sup>7</sup> As an *A*ethiopian has white teeth.

<sup>8</sup> As snow is white.

<sup>9</sup> As a swan is an animal.

<sup>1</sup> As a swan is a white animal.

<sup>2</sup> *το επαναπλουμενον*, i. e. *that which is iterated or repeated*, is species: but *το επικαλυπομενον*, i. e. *that which is adpredicated* is genus. Iteration is, such as good is knowable so far as good; and the same is also adpredication, because to the predication knowable, it adds, *so far as good*. Adpredication, however, is not iteration, as, justice is knowable, so far as good; because the word justice is not repeated; but a new word *good* is added. In these modes, a syllogism is said to be produced *μετα προσθηνες*, *with addition*, because something is added to the attribute.

science of justice, because it is good ; the expression, because it is good, or so far as it is good, must be joined to the first extreme. For let A be science, that it is good ; B, good ; and C, justice. A, therefore, is truly predicated of B ; for of good there is science that it is good. B also is truly predicated of C ; for justice is that which is good. Thus, therefore, the analysis is produced.

[Of good there is science that it is good :  
Justice is good : Therefore,  
Of justice there is science that it is good.]

But if to B there is added, *that it is good*, it will not be true. For A, indeed, will be truly predicated of B ; but that B is predicated of C will not be true. For to predicate of justice good that it is good, is false, and not intelligible<sup>3</sup>. In a similar manner also it may be shown, that the salubrious is an object of science so far as it is good<sup>4</sup> ; or that hircocervus, or an animal formed from the union of a goat and a stag, is an object of opinion, so far as it is a non-entity<sup>5</sup> ; or that man is corruptible, so far as he is sensible<sup>6</sup>. For in all things which are added to an attribute, repetition must be added to the [greater] extreme. There is not, however, the same position of the terms, when any thing is simply syllogistically collected, or this particular thing, or in a certain respect, or after a certain manner. I say, as, for instance, when good is shown to be an object of science, and when a thing is shown to be an object of science because it is good. But if good is simply shown to be an object of science, being must be constituted as the middle term.

<sup>3</sup> That addition, *which is good*, or *that it is good*, signifies to be good. For thus Aristotle says that there is science of justice that it is good ; i. e. we know that justice is good. This sentence, therefore, is foolish, *justice is good that it is good*.

<sup>4</sup> Construct this syllogism as follows : Good is an object of science, so far as it is good : The salubrious is good : Therefore, the salubrious is an object of science so far as good.

<sup>5</sup> Thus construct this syllogism : Non-being is an object of opinion so far as non-being : a hircocervus is a non-being. Therefore, a hircocervus is an object of opinion, so far as non-being.

<sup>6</sup> This syllogism is constructed as follows : That which is sensible is corruptible, so far as it is sensible ; Man is sensible : Therefore, man is corruptible so far as sensible.

[Every being is an object of science :  
 Good is being : Therefore,  
 Good is an object of science.]

If, however, [it should be proved that it may be scientifically known] to be good, a certain being, [must be assumed for the middle term]. For let A be science that it is a certain being ; B, a certain being ; and C, good. A, therefore, is truly predicated of B ; for there is science of a certain being that it is a certain being. But B also is predicated of C ; because C is a certain being<sup>1</sup>. Hence A will be predicated of C. There will, therefore, be science of good that it is good. For the expression *a certain being*, is the sign of peculiar or proper essence. But if being is posited as the middle term, and being simply is added to the extreme, and not a certain being, there will not be a syllogism, that there is science of good that it is good, but that it is being. For instance, let A be science that it is being ; B, being ; and C, good.

[Of being there is science that it is being :  
 Good is being : Therefore,  
 Of good there is science that it is being.]

It is evident, therefore, that in those syllogisms [which conclude] from a part<sup>2</sup>, the terms must be thus assumed.

### CHAPTER XXXIX.

IT is also necessary to assume things which are capable of effecting the same thing, viz. nouns for nouns, and sentences for sentences, and always to assume a noun for a sentence ; for thus the exposition of the

<sup>1</sup> i. e. Good.

<sup>2</sup> That is not simply but with a certain addition. A syllogism is otherwise assumed in a part, when it is opposed to a universal syllogism.

terms will be easier. For instance, if it is of no consequence, whether it is said that which may be apprehended is not the genus of that which may be opined, or that which may be opined, is not any thing which may be apprehended ; for that which is signified is the same in each ;— in this case, instead of the before-mentioned sentence, that which may be apprehended, and that which may be opined, must be posited as terms.

#### CHAPTER XL.

SINCE, however, it is not the same thing, for pleasure to be *good*, and for pleasure to be *the good*; the terms must not be similarly posited. But if, indeed, there is a syllogism that pleasure is *the good*, *the good* must be posited as a term ; and if that pleasure is *good*, *good* must be posited as a term. The same method must also be adopted in other things.

#### CHAPTER XLI.

IT is not, however, the same thing, neither in reality nor in words to assert that with which B is present, with every individual of this A is present ; and to say that with every individual of that with which B is present, A also is present. For nothing hinders but that B may be present with C, yet not with every C<sup>1</sup>. For instance, let B be something

<sup>1</sup> It is not, therefore, the same thing to say that with which B is present, and that with every individual of which B is present.

beautiful ;

beautiful; and C, something white. If, therefore, something beautiful is present with something white, it is true to say that beauty is present with that which is white, yet not perhaps with every thing white. If, therefore, A is present with B, but not with every thing of which B is predicated; neither if B is present with every C, nor if it is alone present with a certain C, it is not only not necessary that A should be present with every C, but that it should not, indeed, be present with a certain C. But if with that of which B is truly predicated, with every individual of this, A is present, it will happen that A will be predicated of every individual of that, of every individual of which B is predicated. If, however, A is predicated of that, of every individual of which B is predicated, nothing will hinder B from being present with C, with not every, or with no individual of which A is present. In three terms, therefore, it is evident that the assertion, that of which B is predicated, A also is predicated of every individual of this, signifies that of those things of which B is predicated, of all these, A also is predicated. And if B is predicated of every individual, A also will thus be predicated. But if it is not predicated of every individual, it is not necessary that A should be predicated of every individual. It is not requisite, however, to think, that a certain absurdity will happen from the exposition of the terms. For we do not in proving employ the assertion that this is a particular definite thing<sup>1</sup>, but we adduce it, just as a geometrician says that this line is a foot in length, is a right line, and is without breadth, though it is not so. The geometrician, however, does not so use these, as if he syllogized from these. For, in short, unless there is that which is as a whole to a part, and something else which is to this, as a part to a whole, he who demonstrates, demonstrates from nothing of this kind; for neither is a syllogism produced from these. But we use exposition, in the same manner as we use sense, when we speak to a learner. For we do not use it, as if it were not possible to demonstrate without these, as [we use propositions] from which a syllogism is composed.

<sup>1</sup> i.e. Examples are not adduced in order to prove, but in order to declare, and render a thing more evident.

## CHAPTER XLII.

Nor ought we to be ignorant that in the same syllogism, not all the conclusions are produced through one figure, but through different figures. It is evident, therefore, that analyzations also should thus be made<sup>2</sup>. Since, however, not every problem is proved in every figure<sup>3</sup>, but certain problems are proved in each; it is evident from the conclusion, in what figure the investigation is to be made<sup>4</sup>.

## CHAPTER XLIII.

With respect, however, to the arguments urged against definitions, by which one certain thing posited in the definition is reprehended, that term must be posited which is reprehended, and not the whole definition; for it will happen that we shall be less disturbed on account of prolixity. Thus if it is to be shown that water is potable, and humid, potable and water must be posited as terms.

## CHAPTER XLIV.

FARTHER still, we must not endeavour to reduce syllogisms which are from hypothesis. For they cannot be reduced from the things which

<sup>2</sup> The several simple syllogisms ought to be recalled to their own figures.

<sup>3</sup> Not every problem is proved in every figure, because neither affirmation is proved in the second, nor universal in the third figure.

<sup>4</sup> The mode to which a syllogism may be reduced ought to be investigated.

are

are posited; because they do not prove through syllogism, but all of them being assented to demonstrate through compact. Thus, if any one supposing that unless there is one certain power of contraries, neither will there be one science of them, afterwards should dialectically show, that there is not one power of contraries, as, for instance, of the salubrious and the insalubrious; for the salubrious and the insalubrious subsist at one and the same time;—in this case it will be demonstrated, that there is not one power of all contraries, but it is not demonstrated that there is not one science of contraries; though it is necessary to acknowledge that there is, yet not from syllogism but from hypothesis. This syllogism, therefore, cannot be reduced. But that syllogism [in which it is proved] that there is not one power of contraries may be reduced; for this perhaps is a syllogism, but that is hypothesis<sup>s</sup>. The like also takes place in syllogisms which conclude through the impossible; for neither is it possible to analyze these; but a deduction to the impossible may be analyzed, for it is demonstrated by syllogism. But the other cannot be analyzed; for it is concluded from hypothesis. They differ, however, from the before-mentioned [syllogisms from hypothesis], because in them, indeed, it is necessary that something should have been previously acknowledged, in order that afterwards there may be a consent; as if it should be shown that if there is one power of contraries, there is also the same science of them; but here what was before not acknowledged, is after the demonstration admitted, because the falsity is evident; as if admitting that the diameter of a square is commensurable with the side, odd things should be equal to such as are even. Many other things also are concluded from hypothesis, which it is necessary to consider and clearly explain. What, therefore, the differences are of these, and in how many ways syllogisms from hypothesis are produced, we shall afterwards show.<sup>6</sup> Let only thus much be now manifest for us, that such like syllogisms cannot be resolved into figures; and from what cause we have shown.

<sup>s</sup> An hypothetic syllogism, is rather an hypothesis than a syllogism; nor is it said to be a syllogism simply and absolutely, but with this addition, *from hypothesis*.

## CHAPTER XLV.

Such problems, however, as are proved in many figures, if they are proved in one syllogism, may be referred to another. Thus a privative syllogism in the first figure, may be referred to the second figure; and that syllogism which is in the middle may be referred to the first figure. Not all, however, but some only [can be thus analyzed]. But this will be evident in what follows. For if A is present with no B, but B is present with every C, A will be present with no C. Thus, therefore, the first figure is produced. But if a privative assertion is converted, there will be the middle figure. For B will be present with no A, and with every C. The like will also take place if the syllogism is not universal but partial. As if A is present with no B, but B is present with a certain C; for the privative proposition being converted, there will be the middle figure. Of the syllogisms, however, which are in the middle figure, the universal, indeed, are referred to the first figure; but of the partial one alone is referred<sup>1</sup>. For let A be present with no B, but with every C. The privative assertion, therefore, being converted, there will be the first figure. For B will be present with no A, but A will be present with every C. But if affirmation is joined to B, and privation to C, C must be posited as the first term. For this is present with no A; and A is present with every B. Hence C will be present with no B. Neither, therefore, will B be present with any C. For a privative assertion may be converted. But if the syllogism is partial, when privation is joined to the greater extreme, the syllogism may be resolved into the first figure; as if A is present with no B, and with a certain C. For the privative assertion being converted, there will be the first figure.

<sup>1</sup> This, however, is not shown in any of the logical works of Aristotle now extant.

<sup>2</sup> i.e. Festino and not Baroco.

For B will be present with no A, and A will be present with a certain C. When, however, affirmation [is joined to the greater extreme] the syllogism cannot be resolved ; as, if A is present with every B, but not with every C. For the proposition A B does not admit conversion<sup>8</sup>; nor when a conversion is made will there be a syllogism. Again, not all the syllogisms which are in the third, can be resolved into the first<sup>9</sup> figure; but all<sup>1</sup> those which are in the first, may be resolved into the third figure. For let A be present with every B, and B be present with a certain C. Since, therefore, a partial categoric assertion may be converted, C also will be present with a certain B. But A was present with every B; so that the third figure will be produced. The like will also take place if the syllogism is privative; for a categoric proposition may be converted in part. Hence A will be present with no B, but will be present with a certain C. But of the syllogisms which are in the last figure (i. e. the third) one<sup>2</sup> only is not resolved into the first, when the privative assertion is not posited universal; all the rest are resolved. For let A be predicated of every C, and also B. C, therefore, may be converted partially to each extreme. Hence it will be present with a certain B; so that there will be the first figure, if A, indeed, is present with every C, but C is present with a certain B. And if A is present with every C, but B is present with a certain C, there is the same reasoning; for B is reciprocated with C. But if B is present with every C, and A is present with a certain C, B must be posited as the first term. For B is present with every C, and C is present with a certain A; so that B is present with a certain A. But since that which is in a part may be converted, A also will be present with a certain B. And if the syllogism is privative, when the terms are universal, a simi-

<sup>8</sup> i. e. It does not admit a simple conversion. For since this is a universal affirming proposition, it cannot be simply converted, but in part.

<sup>9</sup> For Brocardo must be excepted.

<sup>1</sup> i. e. The particular syllogisms Darii and Ferio; because universal syllogisms cannot be reduced to the third figure, in which the conclusion is always particular.

<sup>2</sup> i. e. Brocardo.

lar assumption must be made. For let B be present with every C, but A with no C. Hence C will be present with a certain B. But A is present with no C; so that the middle will be C. The like will also take place if the privative assertion is universal, and the categoric partial. For A is present with no C, but C is present with a certain B. If, however, the privative proposition is assumed in part, there will not be an analysis; as if B is present with every C, but A is not present with a certain C; for the proposition B C being converted, both propositions will be according to a part. But it is evident, that in order for these figures<sup>3</sup> to be analyzed into each other, the proposition which contains the less extreme, must be converted in each figure; for this being transposed<sup>4</sup>, a transition<sup>5</sup> will be effected. Of the syllogisms<sup>6</sup>, however, which are in the middle figure, one<sup>7</sup> is resolved, and another<sup>8</sup> is not resolved into the third figure. For when the universal proposition is privative, an analysis is effected. For if A is present, indeed, with no B, but is present with a certain C, both [extremes] similarly reciprocate with A. Hence B is present with no A, but C is present with a certain A. The middle, therefore, is A. But when A is present with every B, and is not present with a certain C, an analysis will not be produced. For neither of the propositions from the conversion will be universal. The syllogisms also of the third may be resolved into the middle figure, when the privative assertion is universal. As if A is present with no C, but B is present with some, or with every C; for C will be present with no A, but will be present with a certain B. But if the privative assertion is partial, there will not be an analysis; for a partial negative does

<sup>3</sup> i.e. The first and the third. But if the first is compared with the second, the analysis will be through the conversion of the major proposition: if the second with the third, through a conversion of both the propositions.

<sup>4</sup> That is being inverted.

<sup>5</sup> i.e. An analysis.

<sup>6</sup> Particular syllogisms must here be understood, because universal is never concluded in the third figure.

<sup>7</sup> i.e. Festino.

<sup>8</sup> i.e. Baroco.

not admit of conversion. It is evident, therefore, that the same syllogisms<sup>9</sup> are not analyzed in these figures<sup>1</sup>, which neither are analyzed into the first figure; and that when syllogisms are reduced to the first figure, these alone are confirmed through [a deduction to] the impossible. In what manner, therefore, it is necessary to reduce syllogisms, and that figures may be resolved into each other, is evident from what has been said.

## CHAPTER XLVI.

It makes some difference, however, in constructing or subverting a problem, to be of opinion that these expressions *not to be this particular thing*, and *to be not this particular thing*, signify the same or a different thing; as, for instance, not to be white, and to be not white. For they do not signify the same thing; nor of the expression *to be white*, is this the negation, *to be not white*, but, *not to be white*. But the reason of this is as follows: The expression, he is able to walk, subsists similarly with the expression, he is able not to walk; the expression, it is white, with the expression, it is not white; and he knows good, with the expression, he knows that which is not good. For this expression, he knows good, and the expression, he has a knowledge of good, do not at all differ from each other; nor is there any difference between these expressions, he is able to walk, and he has the power of walking. Hence the opposites also, he is not able to walk, and he has not the power of walking, do not differ from each other. If<sup>2</sup>, therefore, the expression,

<sup>9</sup> i. e. Baroco and Brocardo.

<sup>1</sup> i. e. In the second and third figures.

<sup>2</sup> Aristotle in these examples proves the difference between infinite affirmation and finite negation, by an hypothetic syllogism leading to an absurdity. For if these expressions signify the same

is evident, that there will in a certain respect be affirmation. But of every affirmation there is negation; and hence of this affirmation [it is not good] the negation is, it is not not good. They have this order, however, with respect to each other: Let to be good be A; not to be good, B; to be not good C, under B; not to be not good D, under A. With every individual, therefore, either A or B will be present, and [each] with nothing which is the same. And with whatever C is present, it is also necessary that B should be present. For if it is true to say that a thing *is* not white, it is also true to say that *not it* is white. For it is impossible that at one and the same time a thing should be white and not white; or that it should be wood not white, and be white wood. Hence, unless affirmation is present, negation will be present. But C is not always [consequent] to B. For that, in short, which is not wood, will not be white wood. On the contrary, therefore, with whatever A is present, D also is present; for either C or D is present. Since, however, it is not possible that to be not white<sup>5</sup>, and to be white<sup>6</sup>, should subsist together at one and the same time, D will be present. For of that which is white, it is true to say, that it is not not white. But A is not predicated of every D; for of that, in short, which is not wood, it is not true to predicate A, viz. to assert that it is white wood. Hence D will be true; and A will not be true, viz. that it is white wood. It is also evident that A is present with nothing which is the same, though B and D may be present with something which is the same. Privations also subsist similarly to this position with respect to attributions<sup>7</sup>. For let equal be A; not equal, B; unequal, C; not unequal, D. In many things also with some of which the same thing is present, and with others not, the negation may be similarly true, that not all things are white, or that not each thing is white; but that each thing is not white, or that all things are not white, is false. In like manner also, of this affirmation, every animal is white, the negation is not, every

<sup>5</sup> i.e. C. <sup>6</sup> i.e. A.

<sup>7</sup> i.e. Habits. But this word *habit* must be understood as opposed to privation, and not as a certain species of quality, as it is considered in the Categories, chap. 8.

animal is not white; for both are false; but this, not every animal is white. Since, however, it is evident, that the assertions, is not white, and not is white, have different significations, and that the one is affirmation, but the other negation; it is evident, it is manifest that there is not the same mode of demonstrating each. For instance, [there is not the same mode of demonstrating the following assertions]: Whatever<sup>8</sup> is an animal is not white, or it happens<sup>9</sup> not to be white; and that it is true<sup>1</sup> to say it is not white; for this is to be not white. But of the assertion, it is true<sup>2</sup> to say it is white, or not<sup>3</sup> white, there is the same mode [of demonstrating]. For both are constructively demonstrated through the first figure; since the word *true* is similarly arranged with the verb *is*. For of the assertion, it is true to say it is white, the negation is not, it is true to say it is not white, but, it is not true to say it is white. But if it is true<sup>4</sup> to say that whatever is a man is a musician, or is not a<sup>5</sup> musician; it must be assumed that whatever<sup>6</sup> is an animal, is a musician, or is not a musician, and it will be demonstrated<sup>7</sup>. But that whatever<sup>8</sup> is a man is not a musician, will be demonstrated by refuting, according to the before-mentioned three<sup>9</sup> modes. In short, when A and B so subsist, that they cannot be present at the same time with the same thing, but from necessity one of them is present with every individual; and again, C and D after a similar manner; but A is consequent to C, and does not reciprocate; then also D will be consequent to B, and will not reciprocate. And A, indeed, and D, may be pre-

<sup>8</sup> A pure finite negation.

<sup>9</sup> A finite contingent negation.

<sup>1</sup> An infinite affirmation.

<sup>2</sup> A finite affirmation.

<sup>3</sup> An infinite affirmation.

<sup>4</sup> This is a universal finite affirmation.

<sup>5</sup> This is a universal infinite affirmation.

<sup>6</sup> This is the major proposition, to which if the minor, every man is an animal, is added, the syllogism will be in Barbara.

<sup>7</sup> In Barbara.

<sup>8</sup> A universal finite negation.

<sup>9</sup> Celarent, Cesare, Camestres.

sent with the same thing, but B and C cannot. In the first place, therefore, it hence appears that D is consequent to B. For since one of C D is necessarily present with every individual, but with that with which B is present, C cannot be present, because it co-introduces with itself A, but A and B cannot be present with the same thing ; it is evident, that D is a consequent. Again, since C does not reciprocate with A, but C or D is present with every individual, it will happen that A and D will be present with the same thing. But B and C cannot be present with the same thing, because A is consequent to C ; for something impossible would happen<sup>1</sup>. It is evident, therefore, that neither does B reciprocate with D, because it would happen that A is present together with D<sup>2</sup>. It sometimes also happens that we are deceived in such an arrangement of the terms as this, because opposites are not rightly assumed, one of which must necessarily be present with every individual. As if A and B should not happen to be present at the same time with the same thing, but it is necessary that with that with which one is not present, the other should be present ; and again, C and D subsist similarly ; but A is consequent to every C ; for it will happen that B is necessarily present with that with which D is present, which is false. For let the negation of A B be assumed, and let it be F, and again, the negation of C D, and let it be H. It is necessary, therefore, that either A or F should be present with every individual ; for either affirmation or negation must be present. And again, either C or H must be present ; for they are affirmation and negation. And it was supposed that A is present with every thing with which C is present ; so that with whatever F is present, H also will be present. Again, because of F B, one is present with every individual, and in a similar manner one of H D, but H is consequent to F, B also will be consequent to D ; for this we know. If, therefore, A is consequent to C, B also will be consequent to D. But

<sup>1</sup> i.e. That A and B would subsist together.

<sup>2</sup> Because A cannot be present with B.

this is false; for the consecution was vice versa in things which thus subsist. For it is not perhaps necessary that either A or F should be present with every individual; nor either F or B; for F is not the negation of A. For of good, the negation is, not good. These assertions, however, it is not good, and it is neither good, nor evil, are not the same. The like also takes place in C D; for the negations which are assumed are two.

**BOOK II.**

**T H E**

**P R I O R A N A L Y T I C S.**

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**BOOK II.**

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**CHAPTER I.**

WE have now, therefore, explained, in how many figures, through what kind, and what number of propositions, and when and how a syllogism is produced. We have likewise shown to what kind of things he should direct his attention, who subverts or constructs a syllogism, and in what manner it is necessary to investigate about a proposed subject, according to every method; and farther still, in what way we should assume the principles of every question. But since of syllogisms some are universal, and others partial; all the universal, indeed, always conclude a greater number of things. And of those that are partial, the categoric conclude many things, but the negative collect one conclusion only. For other propositions are converted; but a partial privative proposition is not converted. But the conclusion is [a sentence signifying] something of something. Hence other syllogisms conclude a greater number of things. Thus, if it is shown that A is present with every, or with a certain B, it is also necessary that B should  
be

be present with a certain A. And if it is shown that A is present with no B, B also will be present with no A. But this [conclusion] is different from the former. If, however, A is not present with a certain B, it is not necessary that B also should not be present with a certain A; for it may be present with every A<sup>1</sup>. This, therefore, is the common cause of all [syllogisms], as well universal as partial. It is possible, however, to speak otherwise of universals. For of all those things which are under the middle, or under the conclusion, there will be the same<sup>2</sup> syllogism, if some are posited in the middle, but others in the conclusion. Thus if A B is a conclusion through C, it is necessary that A should be predicated of all those things, which are under B, or under C. For if D is in the whole of B, but B is in the whole of A, D also will be in the whole of A. Again, if E is in the whole of C, and C is in A; E also will be in the whole of A. The like also will take place if the syllogism is privative. But in the second figure, it will be only possible to form a syllogism of that which is under the conclusion. As if A is present with no B, but is present with every C, the conclusion will be that B is present with no C. If, therefore, D is under C, it is evident that B is not present with it. But that it is not present with those things which are under A, is not evident through syllogism; though it will not be present with E, if it is under A. That B, however, is present with no C, was demonstrated through syllogism; but that it is not present with A, was assumed without demonstration<sup>3</sup>. Hence, it will not happen through syllogism<sup>4</sup>, that B is not present with E. In partial syllogisms, however, of those things which are under the conclusion there will not be

<sup>1</sup> Thus let man be A; a *certain* animal a *certain* B; and animal B. Though man, therefore, is not present with a certain animal, i. e. man is not a certain animal, for instance, a lion, yet animal is present with every man.

<sup>2</sup> The meaning of Aristotle is, that three conclusions may be collected from the same syllogism, one of the minor extreme, another of that which is under the minor, and a third of that which is subjected to the middle term.

<sup>3</sup> While A was assumed of no B, B was after a manner assumed of no A, because a universal negative proposition reciprocates.

<sup>4</sup> i. e. Through the same syllogism by which B was proved of no C, B is not proved of no E, any

any necessity ; for a syllogism is not produced<sup>5</sup>, when this [proposition] is assumed in part ; but there will be of all those which are un-  
middle, yet not through [that] syllogism : as, for instance, if A  
sent with every B, but B is present with a certain C. For there  
be a syllogism of that which is posited under C ; but there will  
that which is under B ; yet not through the antecedent syllogism  
like also takes place in other figures ; for there will not be a con-  
of that which is under the conclusion ; but there will be of the  
yet not through that syllogism ; as well as in universal [syllogism]  
an undemonstrated proposition, those things which are under t-  
ticle are demonstrated. Hence, either there will not be a con-  
there<sup>6</sup> ; or there will also be a conclusion in these<sup>7</sup>.

## CHAPTER II.

It is therefore possible that the propositions may be true,  
which a syllogism is produced ; it is also possible that they  
false ; and it is possible that the one may be true, but the other  
The conclusion, however, is necessarily true or false. From true  
sitions, therefore, the false cannot be concluded ; but from false  
tions that which is true may be inferred, except that not w/  
merely *that*<sup>2</sup> [a thing is true may be collected.] For there is  
syllogism of the *why* from false propositions ; the cause of wh-

<sup>5</sup> Both propositions affirm in the second figure, and, therefore, nothing is concluded.

<sup>6</sup> i. e. The major proposition in the first figure.

<sup>7</sup> i. e. In universal syllogisms.

<sup>8</sup> i. e. In partial syllogisms.

<sup>9</sup> i. e. The demonstration will not be through cause.

<sup>10</sup> Indeed, it will not be proved *that* it is simply, but to him only who admits the positions. For he who admits the propositions cannot deny the conclusion.

be unfolded in what follows<sup>3</sup>. In the first place, therefore, that it is not possible the false can be collected from true propositions, is from hence manifest. For if when A is, it is necessary that B should exist; when B is not, it is necessary that A should not exist. Hence, if A is true, it is also necessary that B should be true; or it would happen that the same<sup>4</sup> thing, at the same time is<sup>5</sup>, and is not<sup>6</sup>; which is impossible. Nor must it be conceived that because one term A is posited, it will happen that one certain thing existing, something will happen from necessity; since this is not possible. For that which happens from necessity is the conclusion; but the fewest things through which this is produced, are three terms, but two intervals and propositions. If, therefore, it is true that with whatever B is present, A also is present; and that with whatever C is present, B also is present; it is necessary that with whatever C is present, A also is present; nor can this be false. For at the same time the same thing would exist and not exist. A, therefore, is posited as one thing, two propositions being co-assumed. The like also takes place in privative propositions; for it is not possible from such as are true to show the false. But from false<sup>7</sup> propositions that which is true may be collected, when both the propositions are false, and when one only is false; and this not when either indifferently, but when the second<sup>8</sup> is false, if we assume the whole<sup>9</sup>

to

<sup>3</sup> i. e. In Chap. ii. of the 1st Book of the Posterior Analytics.

<sup>4</sup> i. e. A.

<sup>5</sup> Because it was supposed to be true.

<sup>6</sup> Because it is denied that B is true: and unless B is true, A is not true.

<sup>7</sup> Aristotle now summarily proposes a thing, which he will afterwards accurately explain by parts. But the meaning is, that a true conclusion may always be collected in the first figure, unless the major proposition is totally false, and the minor true.

<sup>8</sup> i. e. The minor proposition.

<sup>9</sup> By the whole being false, Aristotle means, as he will explain farther on, a universal proposition contrary to one which is true, as no man is an animal; for we know that every man is an animal. A universal which contradicts a true proposition is said to be false in part. Thus, for instance, this proposition is true, a certain man is just; but this is false in part, no man is just. Again, this is true, a certain man is not just; but this is false in part, every man is just. In short,

to be false. If, however, not the whole is assumed to be false, that which is true may be collected, which ever proposition [is assumed to be false]. For let A be present with the whole of C, but with no B, nor let B be present with C. For this may happen to be the case. Thus, animal is present with no stone, neither is a stone present with any man. if, therefore, it is assumed that A is present with every B, and B with every C; A will be present with every C. Hence, from both the propositions being false, the conclusion will be true; for every man is an animal.

[Every stone is an animal:  
Every man is a stone: Therefore  
Every man is an animal.]

In a similar manner also a privative conclusion may be formed. For let neither A nor B be present with any C, but let A be present with every B; as for instance, if the same terms being assumed, man should be posited as the middle term. For neither animal nor man is present with any stone, but animal is present with every man. Hence, if with that<sup>1</sup> with which *every*<sup>2</sup> is present, we assume that *none*<sup>3</sup> is present; but assume that a thing is present with every individual of that with which it is not<sup>4</sup> present; from both the propositions which are false, the conclusion will be true.

[No man is an animal:  
Every stone is a man: Therefore  
No stone is an animal.]

The like<sup>5</sup> may also be shewn, if each proposition is assumed false in

short, a proposition is said to be false in part, when that which is true in part, and false in part, is affirmed or denied universally. This distinction, however, which takes places in universal is not adopted in partial propositions; because these are either entirely true, or entirely false.

<sup>1</sup> i. e. Man.

<sup>2</sup> i. e. Animal.

<sup>3</sup> In the major proposition.

<sup>4</sup> i. e. If we assume that every stone is a man, in the minor proposition.

<sup>5</sup> i. e. That a true conclusion may be collected from false propositions.

part. But if one proposition only is posited false; if the first<sup>6</sup> indeed is wholly false, as A B, the conclusion will not be true. But if the proposition B C<sup>7</sup> [is wholly false,] the conclusion will be true. I call, however, the proposition wholly false which is contrary to the true; as, if a thing should be assumed to be present with every individual, which is present with none, or if that which is present with every individual, should be assumed to be present with none. For let A be present with no B, and B be present with every C. If, therefore, we assume that the proposition B C is true, but that the whole of the proposition A B is false, and that A is present with every B; it is impossible that the conclusion should be true; for it was present with no C; since with no individual of that with which B is present, A was present; but B was present with every C.

B            A  
[Every animal is a stone:  
    C            B  
Every man is an animal: Therefore.  
    C            A  
Every man is a stone.]

In like manner, also, [the conclusion will not be true] if A is present with every B, and B with every C; and the proposition B C is assumed to be true; but the proposition A B wholly false, and that A is present with no individual with which B is present. For A was present with every C; since with whatever B was present, A also was present, but B was present with every C. It is evident, therefore, that when the first proposition is assumed wholly false, whether it be affirmative or privative, but the other proposition is true, a true conclusion will not be produced. If, however, the whole is not assumed to be false, there will be [a true conclusion.] For if A is present with every C, but with a certain B, and B is present with every C; as for instance, animal with every swan, but with a certain whiteness, and whiteness with every swan; if it is assumed that A is present with every B, and B with every

\* i.e. The major proposition.

? i.e. The minor proposition.

C, A also will truly be present with every C; for every swan is an animal.

B                    A  
[Every thing white is an animal :  
C                B  
Every swan is white : Therefore  
C                A  
Every swan is an animal.]

In a similar manner also, [the conclusion wil be true] if the proposition A B is privative. For A may be present with a certain B, but with no C, and B may be present with every C. Thus, animal may be present with something white, but with no snow; and whiteness may be present with all snow. If, therefore, it were assumed that A is present with no B, but that B is present with every C; A will be present with no C.

B                    A  
[Nothing white is an animal :  
C                B  
All snow is white : Therefore  
C                A  
No snow is an animal.]

But if the proposition A B were assumed wholly true; but the proposition B C wholly false; there will be a true syllogism<sup>8</sup>. For nothing hinders A from being present with every B and every C, and yet B may be present with no C; as is the case with species of the same genus; but which are not subaltern. For animal is present both with horse and man; but horse is present with no man. If, therefore, it is assumed that A is present with every B, and B with every C, the conclusion will be true, though the whole proposition B C is false:

<sup>8</sup> That is, there will be a true conclusion. Observe, that syllogism is an homonymous word; which at one time is assumed for two propositions having the power of causing the conclusion; at another for the conclusion; at another for the illation of the conclusion; and at another for the composite from the propositions and the conclusion.

B            A  
 [Every horse is an animal:  
 C            B  
 Every man is a horse: Therefore  
 C            A  
 Every man is an animal.]

The like will also take place, if the proposition A B is privative. For it will happen that A will be present neither with any B, nor with any C, and that B will be present with no C; as for instance, another genus with species which are from another genus. For animal is neither present with music, nor with medicine, nor is music present with medicine. If, therefore, it should be assumed that A is present with no B, but that B is present with every C, the conclusion will be true.

B            A  
 [No music is an animal:  
 C            B  
 All medicine is music: Therefore  
 C            A  
 No medicine is an animal.]

And if the proposition B C is not wholly but partially false, thus also the conclusion will be true. For nothing hinders A from being present with the whole of B and the whole of C, and B may be present with a certain C; as for instance, genus, with species and difference. For animal is present with every man, and with every thing pedestrious; but man is present with something, and not with every thing, pedestrious. If, therefore, A were assumed to be present with every B, and B with every C; A also will be present with every C; which is true.

B            A  
 [Every man is an animal:  
 C            B  
 Every thing pedestrious is a man: Therefore  
 C            A  
 Every thing pedestrious is an animal.]

The like will also take place if the proposition A B is privative. For it may happen that A is neither present with any B, nor with any C, and

and yet B may be present with a certain C; as genus with the species and difference which are from another genus. For animal is neither present with any prudence, nor with any thing contemplative; but prudence is present with something contemplative. If, therefore, it were assumed that A is present with no B, and that B is present with every C; A will be present with no C. But this is true.

B            A  
[No prudence is an animal:  
            C        B  
All contemplative knowledge is prudence: Therefore  
            C        A  
No contemplative knowledge is an animal.]

In partial syllogisms, however, when the whole of the first proposition is false, but the other is true, the conclusion may be true; likewise, when the proposition A B is partly false, but the proposition B C is wholly true; and when the proposition A B is true, but the partial proposition is false; and when both are false. For nothing hinders but that A may be present with no B, but may be present with a certain C, and also that B may be present with a certain C. Thus, animal is present with no snow, but is present with something white, and snow also is present with something white. If, therefore, snow is posited as the middle [term,] and animal as the first term; and if A is assumed to be present with the whole of B, and B with a certain C; the proposition A B will be wholly false; but the proposition B C will be true; and the conclusion will be true.

B            A  
[All snow is an animal:  
            C        B  
Something white is snow: Therefore  
            C        A  
Something white is an animal.]

The like will also take place, if the proposition A B is privative.

i. e. As the greater extreme.

For

For A may be present with the whole of B, and not be present with a certain C; but B may be present with a certain C. Thus, animal is present with every man, but is not consequent to something white; but man is present with something white. Hence, if man is posited as the middle term, and A is assumed to be present with no B, but B is assumed to be present with a certain C, the conclusion will be true, though the whole proposition A B is false.

B	A
[No man is an animal:	
C	B
Something white is a man: Therefore	
C	A
Something white is not an animal.]	

And if the proposition A B is partly false, when the proposition B C is true, the conclusion will be true. For nothing hinders but that A may be present with B, and with a certain C, and that B also may be present with a certain C. Thus, animal may be present with something beautiful, and with something great, and beauty also may be present with something great. If, therefore, it is assumed that A is present with every B, and B with a certain C; the proposition A B indeed, will be partly false; but the proposition B C will be true; and the conclusion will be true.

B	A
[Every thing beautiful is an animal:	
C	B
Something great is beautiful: Therefore,	
C	A
Something great is an animal.]	

The like will also take place if the proposition A B is privative. For there will be the same terms, and they will be posited after the same manner, in order to the demonstration<sup>2</sup>.

<sup>2</sup> i. e. In order that a true conclusion may be proved from propositions, one of which is partly false, and the other true.

[Nothing]

B            A  
 [Nothing beautiful is an animal :  
   C        B  
 Something great is beautiful : Therefore,  
   C        A  
 Something great is not an animal.]

Again, if the proposition A B, indeed, is true, but the proposition B C false ; the conclusion will be true. For nothing hinders but that A may be present with the whole of B, and with a certain C, and that B may be present with no C. Thus, animal is present with every swan, and with something black, but a swan is present with nothing black. Hence, if it is assumed that A is present with every B, and B with a certain C ; the conclusion will be true, though the proposition B C is false.

B            A  
 [Every swan is an animal :  
   C        B  
 Something black is a swan : Therefore,  
   C        A  
 Something black is an animal.]

The like will also take place, if the proposition A B is assumed to be privative. For A may be present with no B, and may not be present with a certain C, but B may be present with no C. Thus genus may be present with species which is from another genus, and with that which is an accident to its own species. For animal, indeed, is present with no number, and is present with something white, but number is present with nothing white. If, therefore, number is posited as the middle [term] and it is assumed that A is present with no B, but that B is present with a certain C ; A will not be present with a certain C, which is true : and the proposition A B is true, but the proposition B C false.

B            A  
 [No number is an animal :  
   C        B  
 Something white is number : Therefore,  
   C        A  
 Something white is not an animal.]

And if the proposition A B is partly false, and if the proposition B C is

2 T also

also false; the conclusion will be true. For nothing hinders but that A may be present with a certain B, and also with a certain C, but B with no C; as, if B should be contrary to C, but both should happen to the same genus. For animal is present with a certain something white, and with a certain something black, but white is present with nothing black. If, therefore, it is assumed that A is present with every B, and B with a certain C, the conclusion will be true.

B            A  
[Every thing white is an animal:  
C            B  
Something black is white: Therefore,  
C            A  
Something black is an animal.]

In a similar manner also, if the proposition A B is assumed to be primitive. For the same terms may be assumed, and they may be posited in the same way, in order to the demonstration<sup>3</sup>.

B            A  
[Nothing white is an animal:  
C            B  
Something black is white: Therefore,  
C            A  
Something black is not an animal.]

If also both the propositions are false [in the whole], the conclusion will be true. For A may be present with no B, but may be present with a certain C, and B may be present with no C. Thus genus may be present with the species which is from another genus, and with that which happens to its own species. For animal is present with no number, but is present with something white, and number is present with nothing white. If, therefore, it is assumed that A is present with every B, and that B is present with a certain C; the conclusion, indeed, will be true, but both the propositions will be false.

B            A  
[Every number is an animal:  
C            B  
Something white is number: Therefore,  
C            A  
Something white is an animal.]

<sup>3</sup> i.e. In order to prove that a true conclusion may be made from false propositions.

The like also will take place if the proposition A B is privative. For nothing hinders but that A may be present with the whole of B, but may not be present with a certain C, and that B may be present with no C. Thus animal is present with every swan, but is not present with something which is black; and swan is present with nothing black. Hence, if it is assumed that A is present with no B, but that B is present with a certain C; A will not be present with a certain C. The conclusion, therefore, will be true, but the propositions false.

B      A  
 [No swan is an animal:  
 C      B  
 Something black is a swan: Therefore,  
 C      A.  
 Something black is not an animal.]

### CHAPTER III.

IN the middle figure also, it is perfectly possible to deduce a true conclusion from false [propositions]; whether both the propositions are assumed wholly false; or one of them partly false; or one is true, but the other wholly false, whichever of them may be posited false; or whether both are partly false; or one is simply true, but the other partly false; or one is wholly false, but the other partly true, and that as well in universal as in partial syllogisms. For if A is present with no B, but with every C; as, animal is present with no stone, and is present with every horse; if the propositions are posited in a contrary way, and it is assumed that A is present with every B, but with no C; from propositions which are wholly false, the conclusion will be true.

B      A  
 [Every stone is an animal:  
 C      A  
 No horse is an animal: Therefore,  
 C      B  
 No horse is a stone.]

The like will also take place, if A is present, indeed, with every B, but with no C; for there will be the same<sup>4</sup> syllogism.

B      A  
[No horse is an animal :  
C      A  
Every stone is an animal : Therefore,  
C      B  
No stone is a horse.]

Again, if the one is wholly false, but the other wholly true. For nothing hinders but that A may be present with every B and with every C, and that B may be present with no C; as genus with species which are not subaltern. For animal is present with every horse and every man; and no man is a horse. If, therefore, it is assumed, that animal is present with every individual of the one, but with no individual of the other; the one proposition, indeed, will be wholly false, but the other wholly true; and the conclusion will be true, to whichever proposition negation is added<sup>5</sup>.

B      A  
[Every horse is an animal :  
C      A  
No man is an animal : Therefore  
C      B  
No man is a horse.]

B      A  
[No horse is an animal :  
C      A  
Every man is an animal : Therefore,  
C      B  
No man is a horse.]

Likewise, if the one is partly false; but the other wholly true. For it is possible that A may be present with a certain B, and with every C, and that B may be present with no C. Thus animal is present with something white, but with every crow, and whiteness is present with

\* There is not entirely the same syllogism; because this is in Cesare, but the former is in Camestres. After a manner, however, there is the same. For each is produced from the same terms; each proves what is true from false propositions; and there is almost the same conclusion of each, since the one proves that no horse is a stone, and the other that no stone is a horse, which conclusions reciprocate.

<sup>s i.e.</sup> Whether the major, or the minor proposition denies.

no crow. If, therefore, it is assumed that A is present with no B, but is present with the whole of C; the proposition A B, indeed, will be partly false; but the proposition A C will be wholly true: and the conclusion will be true.

B            A  
[Nothing white is an animal:  
    C            A  
    Every crow is an animal: Therefore,  
    C        B  
    No crow is white.]

And also when the privative is transposed<sup>6</sup>; for the demonstration will be through the same terms.

B            A  
[Every crow is an animal:  
    C            A  
    Nothing white is an animal: Therefore,  
    C        B  
    Nothing white is a crow.]

Likewise, if the affirmative proposition is partly false, but the privative wholly true. For nothing hinders but that A may be present with a certain B, but may not be present with the whole of C, and that B may present with no C. Thus animal is present with something white, but with no pitch, and whiteness is present with no pitch. Hence, if it is assumed that A is present with the whole of B, but with no C; the proposition A B will be partly false; but the proposition A C will be wholly true; and the conclusion will be true.

B            A  
[Every thing white is an animal:  
    C            A  
    No pitch is an animal: Therefore,  
    C        B  
    No pitch is white<sup>7</sup>.]

<sup>6</sup> i.e. If the minor proposition denies; for in the former example the major denies.

<sup>7</sup> To this may be added the following example in Cesare.

No pitch is an animal:  
Every thing white is an animal: Therefore,  
Nothing white is pitch.

And

And if both the propositions are partly false, the conclusion will be true. For A may be present with a certain B, and also with a certain C, but B may be present with no C. Thus animal may be present with something white, and with something black; but whiteness is present with nothing black. If, therefore, it is assumed that A is present with every B, but with no C, both the propositions will be partly false, but the conclusion will be true.

<b>B</b>	<b>A</b>
[Every thing white is an animal :]	
<b>C</b>	<b>A</b>
Nothing black is an animal : Therefore,	
<b>C</b>	<b>B</b>
Nothing black is white.]	

In like manner [there will be a demonstration] through the same terms, if the privative proposition is transposed.

<b>B</b>	<b>A</b>
[Nothing white is an animal :]	
<b>C</b>	<b>A</b>
Every thing black is an animal : Therefore,	
<b>C</b>	<b>B</b>
Nothing black is white.]	

It is also evident, that this may take place in partial syllogisms. For nothing hinders but that A may be present with every B, and with a certain C, and that B may not be present with a certain C. Thus animal is present, indeed, with every man, and with something white, but man may not be present with something white. If, therefore, it is posited that A is present, indeed, with no B, but is present with a certain C; the universal proposition will be wholly false; but the partial proposition will be true; and the conclusion will be true.

<b>B</b>	<b>A</b>
[No man is an animal :]	
<b>C</b>	<b>A</b>
Something white is an animal : Therefore,	
<b>C</b>	<b>B</b>
Something white is not a man.]	

The like will also take place if the proposition A B is assumed affirmative

tive. For A may be present with no B, and may not be present with a certain C. Thus animal is present with nothing inanimate, and is not present with something white; and the inanimate also is not present with something white. If, therefore, it is posited that A is present with every B, and is not present with a certain C; the universal proposition A B will be wholly false; but the proposition A C will be true; and the conclusion will be true.

B              A  
[Every thing inanimate is an animal :  
C              A  
Something white is not an animal : Therefore,  
C              B  
Something white is not inanimate.]

Likewise, if the universal proposition is posited true, and the partial proposition false. For nothing hinders but that A may neither be consequent to any B, nor to any C, and that B may not be present with a certain C. Thus animal is consequent to no number, and to nothing inanimate, and number is not consequent to a certain thing which is inanimate. If, therefore, it is posited that A is present with no B, and with a certain C; the conclusion will, indeed, be true; and the universal proposition will be true; but the partial proposition will be false.

C              A  
[No number is an animal :  
C              A  
Something inanimate is an animal: Therefore,  
C              B  
Something inanimate is not number.]

And in a similar manner, if the universal proposition is posited affirmative. For A may be present with the whole of B, and with the whole of C, and yet B may not be consequent to a certain C; as genus is present with the whole of species and difference. For animal is consequent to every man, and to the whole of that which is pedestrian; but man is not consequent to every thing pedestrian. Hence, if it is assumed that A is present with the whole of B, and is not present with a certain C; the universal proposition, indeed, will be true, but the partial proposition will be false; and the conclusion will be true.

[Every

B            A  
 [Every man is an animal :  
     C            A  
     Something pedestrian is not an animal: Therefore,  
     C            B  
     Something pedestrian is not a man.]

It is also evident, that from both propositions when false, the conclusion will be true; if it happens that A is present with the whole of B, and the whole C, but B is not consequent to a certain C. For if it is assumed that A is present with no B, but is present with a certain C; both the propositions, indeed, will be false; but the conclusion will be true. In a similar manner also, if the universal proposition is categoric, but the partial proposition privative. For A may be consequent to no B, and to every C, and B may not be present with a certain C. Thus animal is consequent to no science, but is consequent to every man; and science is not consequent to every man. If, therefore, it is assumed that A is present with the whole of B, and is not consequent to a certain C; the propositions will be false; but the conclusion will be true.

B            A  
 [Every science is an animal :  
     C            A  
     A certain man is not an animal: Therefore,  
     C            B  
     A certain man is not science.]

#### CHAPTER IV.

In the last figure also a true conclusion may be deduced from false propositions, when both the propositions are wholly false; or when each is partly false; or when the one is wholly true, but the other false; or when the one is partly false, but the other wholly true; or the contrary; and in as many other ways as it is possible to change the propositions.

sitions. For nothing hinders but that neither A nor B may be present with any C, and yet B may be present with a certain C. Thus, neither man nor pedestrian is consequent to any thing inanimate, and yet man is present with something pedestrian. If, therefore, it is assumed that A and B are present with every C, the propositions, indeed, will be wholly false, but the conclusion will be true.

C	A
[Every thing inanimate is a man :	
C	B
Every thing inanimate is pedestrian : Therefore,	
B	C
Something pedestrian is a man.]	

In like manner also, if the one proposition is privative, but the other affirmative. For B may be present with no C, but A may be present with every [C], and A may not be present with a certain B. Thus blackness is present with no swan, but animal is present with every [swan], and animal is not present with every thing black. Hence, if it is assumed that B is present with every C, but that A is present with no C, A will not be present with a certain B; and the conclusions will be true, but the propositions false.

C	A
[No swan is an animal :	
C	B
Every swan is black : Therefore,	
B	C
Something black is not an animal.]	

And if each proposition is partly false, the conclusion will be true. For nothing hinders but that A and B may be present with a certain C, and that A may be present with a certain B. Thus whiteness and beauty may be present with a certain animal, and whiteness may be present with something beautiful. If, therefore, it is posited that A and B, are present with every C; the propositions, indeed, will be partly false, but the conclusion will be true.

C      A  
 [Every animal is white :  
 C      B  
 Every animal is beautiful : Therefore,  
 B      A  
 Something beautiful is white.]

And in a similar manner, if the proposition A C is posited privative. For nothing hinders but that A may not be present with a certain C, that B may be present with a certain C, and that A may not be present with every B. Thus whiteness is not present with a certain animal, but beauty is present with a certain animal, and whiteness is not present with every thing beautiful. Hence, if it is assumed that A is present with no C, but that B is present with every [C] ; both the propositions will be partly false, but the conclusion will be true.

C      A  
 [No animal is white :  
 C      B  
 No animal is beautiful : Therefore,  
 B      A  
 Something beautiful is not white.]

The like will also take place, if the one proposition is assumed to be wholly false, but the other wholly true. For both A and B may be consequent to every C, but A may not be present with a certain C. Thus animal and whiteness are consequent to every swan, but animal is not present with every thing white. These terms, therefore, being posited, if it is assumed that B is present with the whole of C, but that A is not present with the whole of [C] ; the proposition B C will be wholly true; but the proposition A C will be wholly false ; and the conclusion will be true.

C      A  
 [No swan is an animal :  
 C      B  
 Every swan is white : Therefore,  
 B      A  
 Something white is not an animal.]

In a similar manner also, if B C is false, but A C true ; for those terms, black,

black, swan, inanimate, may be assumed in order to the demonstration<sup>8</sup>.

[No swan is black :  
Every swan is inanimate : Therefore,  
Something inanimate is not black.]

This will likewise be the case if both the propositions are assumed affirmative. For nothing hinders but that B may be consequent to every C, but A may not be present with the whole of [C], and A may be present with a certain B. Thus animal is present with every swan, but blackness is present with no swan, and blackness is present with a certain animal. Hence, if it is assumed that A and B are present with every C; the proposition B C will be wholly true, but the proposition A C will be wholly false; and the conclusion will be true.

C      A  
[Every swan is black :  
C      B  
Every swan is an animal : Therefore,  
B      C  
Some animal is black.]

The like will also take place, if the proposition A C is assumed; for the demonstration will be through the same terms.

C      A  
[Every swan is an animal :  
C      B  
Every swan is black : Therefore,  
B      A  
Something black is an animal.]

Again, this will be the case, if the one proposition is wholly true, but the other partly false. For B may be present with every C, but A may be present with a certain C, and A may also be present with a certain B. Thus biped is present with every man, but beauty is not present with every man, and beauty is present with a certain biped. If, therefore, it is assumed that A and B are present with the whole of C, the

<sup>8</sup> i.e. In order that a true conclusion may be deduced from false propositions.

proposition B C will be wholly true ; but the proposition A C will be partly false ; and the conclusion will be true.

C            A  
[Every man is beautiful :  
            C        B  
Every man is a biped : Therefore,  
            B            A  
Some biped is beautiful.]

In a similar manner also, if the proposition A C is true, and the proposition B C, is assumed partly false. For the same terms being transposed<sup>9</sup>, there will be a demonstration<sup>1</sup>.

[Every man is a biped :  
Every man is beautiful : Therefore,  
Something beautiful is a biped.]

And if the one proposition is privative, but the other affirmative. For since it is possible that B may be present with the whole of C, but A with a certain [C only], when the terms thus subsist, A will not be present with every B. If, therefore, it is assumed that B is present with the whole of C, but A with no [C] ; the privative proposition will be partly false, but the other will be wholly true ; and the conclusion will be true. Again, since it has been shown, that A being present with no C, but B being present with a certain [C], it is possible that A may not be present with a certain B ; it is evident, that when the proposition A C is wholly true, and the proposition B C is partly false, it is possible that the conclusion may be true. For if it is assumed that A is present with no C, but that B is present with every [C] ; the proposition A C will be wholly true ; but the proposition B C partly false. But it is evident that in partial<sup>2</sup> syllogisms also, there will entirely be a true [conclusion] through false propositions. For the same terms are to be assumed, which were assumed when the propositions were universal ; viz. in cate-

<sup>9</sup> In the former syllogism, beauty was the greater extreme, and biped the less ; but here, on the contrary, beauty is the less, and biped the greater extreme.

<sup>1</sup> i.e. A true conclusion will be deduced from false propositions.

<sup>2</sup> i.e. In syllogisms which consist of one universal, and one partial proposition.

gorical propositions categorical terms, but in privative propositions privative terms. For it is of no consequence<sup>3</sup>, whether when a thing is present with no individual, it is assumed to be present with every<sup>4</sup> individual; or whether, when it is present with a certain individual, universally assumed [to be present with, or not present with<sup>5</sup>], so far as pertains to the exposition of the terms<sup>6</sup>. The like also takes place in privative<sup>7</sup> propositions. It appears, therefore, that when the conclusion is false, it is necessary that those things from which the reasoning consists, should either all, or some of them be false. But when the conclusion is true, it is not necessary either that a certain thing, or all things should be true; but it is possible, that when nothing is true in a syllogism, the conclusion may be similarly true, and yet not from necessity. The cause, however, of this is, that when two<sup>8</sup> things so subsist in reference to each other, that when the one<sup>9</sup> is, the other<sup>10</sup> also necessarily is; if this<sup>2</sup> is not, neither will the other<sup>3</sup> be<sup>4</sup>; but if it<sup>5</sup> exists

<sup>3</sup> i.e. These things thus assumed in partial syllogisms, do not differ from the same things assumed in universal syllogisms.

<sup>4</sup> This is a proposition entirely false.

<sup>5</sup> This is a proposition partly false.

<sup>6</sup> i.e. So far as pertains to this, that the terms being proposed, it may be shown that a conclusion may be collected from false propositions.

<sup>7</sup> i.e. In negative propositions (for the preceding words pertain to affirmative propositions) when it is assumed that a thing is present with no individual, which is present with every, or with certain individuals.

<sup>8</sup> i.e. Antecedent and consequent.

<sup>9</sup> i.e. The antecedent.

<sup>10</sup> i.e. The consequent.

<sup>2</sup> i.e. The consequent.

<sup>3</sup> i.e. The antecedent.

<sup>4</sup> Because an argument from the subversion of the consequent to the subversion of the antecedent is valid: as, If man is, animal is; but animal is not; therefore man is not. Like wise if the propositions are true, the conclusion is true: but the conclusion is not true: therefore the propositions are not true. For the propositions are antecedent, but the conclusion consequent.

<sup>5</sup> i.e. The consequent.

not necessary that the other<sup>6</sup> should exist. But the same<sup>7</sup> thing existing, and not existing, it is impossible that the same<sup>8</sup> thing should be from necessity<sup>9</sup>; as if A is white, that B is necessarily great; and if A is not white, that B is necessarily great. For when, this thing being white, as A, it is necessary that this thing should be great, as B; but B being great, it is necessary that C should not be white; it is necessary if A is white, that C should not be white. And<sup>1</sup> when two<sup>2</sup> things being proposed, if the one<sup>3</sup> is, it is necessary that the other<sup>4</sup> should be; this not existing, it is necessary that the first should not exist. Hence B, not being great, it is not possible that A can be white. But if when A is not white, it is necessary that B should be great; it will necessarily happen, that if B is not great, B itself is great. This, however, is impossible. For if B is not great, A will not be white from necessity. If, therefore, A not being white, B will be great, it will happen, as through three<sup>5</sup> [terms], that if B is not great, it is great.

[If A is not white, B is great:  
 If B is not great, A is not white: Therefore,  
 If B is not great, it is great.  
*Which is impossible.*]

<sup>6</sup> i.e. It is not necessary that the antecedent should exist, because an argument from the position of the consequent to the position of the antecedent is not valid: as, animal is, therefore, man is: the conclusion is true, therefore, the propositions are true.

<sup>7</sup> i.e. The antecedent.

<sup>8</sup> i.e. The consequent.

<sup>9</sup> i.e. The consequent cannot be collected from the affirmation and negation of the antecedent: as, if man is, animal is: and, if man is not, animal is.

<sup>1</sup> Aristotle assumes another principle, viz. that an argument from the subversion of the consequent to the subversion of the antecedent is valid.

<sup>2</sup> i.e. Two subject terms, as A and B.

<sup>3</sup> i.e. The antecedent.

<sup>4</sup> i.e. The consequent.

<sup>5</sup> There are only two terms of a subject, A and B, but they perform the office of three terms, because B is posited twice.

## CHAPTER V.

To demonstrate, however, things in a circle, and from each other, is nothing else than through the conclusion, and receiving one proposition inverse in predication, to conclude the other proposition, which was assumed in the other syllogism. As if it were requisite to demonstrate that A is present with every C; but it is proved through B<sup>6</sup>; again 7, if it should demonstrate that A is present with B, assuming that A is present with C, that C is present with B, and A with B. But first, on the contrary, it is assumed that B is present with C. Or if it were requisite to demonstrate that B is present with C<sup>8</sup>, and it should be assumed that A is present with C, which was the conclusion 9; and that B is present with A. But it was first<sup>1</sup> assumed, on the contrary, that A is present with B. It is not, however, otherwise possible to form a demonstration of them from each other. For whether another middle<sup>2</sup> is assumed, there will not be a demonstration in a circle; for nothing of the same<sup>3</sup> will be assumed; or whether something of these is assumed, it is necessary that one of them alone<sup>4</sup> should be assumed. For if both<sup>5</sup>, there will be the same conclusion, though it is necessary that there should be a different conclusion. In those terms, therefore, which are not con-

<sup>6</sup> The first syllogism A B C.

<sup>7</sup> The second syllogism A C B, in which the major proposition of the first syllogism is proved.

<sup>8</sup> i. e. The minor proposition of the first syllogism.

<sup>9</sup> In the first syllogism.

<sup>1</sup> In the first syllogism.

<sup>2</sup> i. e. Different from the three terms posited in the beginning A B C.

<sup>3</sup> i. e. From the propositions of the first syllogism.

<sup>4</sup> i. e. One proposition of the first syllogism.

<sup>5</sup> i. e. If both propositions of the first syllogism are assumed.

verted

verted from one undemonstrated proposition, a syllogism is produced. For it is not possible to demonstrate through these terms, that the third is present with the middle, or the middle with the first. But in those which reciprocate, it is possible to demonstrate all of them through each other; as if A, and B, and C, are converted into each other. For A C will be demonstrated<sup>6</sup> through the middle B; and again<sup>7</sup>, A B through the conclusion, and the proposition B C converted. In like manner<sup>8</sup> also, B C is demonstrated through the conclusion, and the proposition A B inverse. But it is necessary to demonstrate the proposition C B<sup>9</sup>, and the proposition B A<sup>1</sup>; for we alone use these undemonstrated. If<sup>2</sup>, therefore, it were assumed that B is present with every C, and C with every A, there will be a syllogism of B with respect to A. Again<sup>3</sup>, if it were assumed that C is present with every A, and A with every B, it is necessary that C should be present with every B. In both<sup>4</sup> these syllogisms, therefore, the proposition A C is assumed undemonstrated; for the others were demonstrated. Hence, if we should demonstrate this, all of them will be demonstrated through each other. If, therefore, it should be assumed<sup>5</sup>, that C is present with every B, and B with every A, both propositions will be assumed demonstrated, and it is necessary that C should be present with A. Hence it is evident, that in those propositions alone which are converted, demonstrations can be formed in a circle, and through each other; but in others, in the manner which we have before shown<sup>6</sup>. But it also hap-

<sup>6</sup> The first syllogism of a circle A B C.

<sup>7</sup> The second syllogism A C B.

<sup>8</sup> The sixth syllogism B A C.

<sup>9</sup> Which is the minor proposition of the second syllogism.

<sup>1</sup> Which is the major proposition of the sixth syllogism.

<sup>2</sup> The fifth syllogism B C A.

<sup>3</sup> The third syllogism C A B.

<sup>4</sup> i. e. In the fifth and third.

<sup>5</sup> The fourth syllogism C B A.

<sup>6</sup> i. e. One proposition is not demonstrated in a circle.

pens in these<sup>7</sup>, that we use what has been demonstrated, in order to frame a demonstration. For C is demonstrated of B<sup>8</sup>, and B of A<sup>9</sup>, assuming that C is predicated of A<sup>1</sup>; but C is demonstrated of A<sup>2</sup> through these propositions<sup>3</sup>. Hence we use the conclusion<sup>4</sup>, in order to frame the demonstration<sup>5</sup>. But in privative syllogisms, a demonstration through each other is effected as follows: Let B be present with every C, but let A be present with no B: the conclusion is, that A is

<sup>7</sup> In the syllogisms explained in the last place, i. e. in the third, fourth, and fifth, in which the converse propositions are proved. In order to understand which, it is necessary to observe, that a circle consists of six syllogisms. Of these, the first is as it were the foundation and origin of all the rest. To this, the second and sixth adhere; because the second proves the major of the first; and the sixth, the minor of the same first. But each, i. e. the second and the sixth, assumes the conclusion of the first; to which the second adds, the converse minor of the first, and the sixth, the converse major of the same first. Hence the second and the sixth prove direct propositions, i. e. the propositions of the first syllogism; but they assume two converse propositions. Hence the circle is not yet complete, because the converse propositions are also to be proved. These, however, are proved in the third and fifth syllogisms. The major proposition also of the third, and the minor of the fifth syllogism are the same; the minor of the fifth being the converse conclusion of the first, which is proved by the fourth syllogism. From what has been said it may be understood, that a circle may be divided into two parts, because the conclusions of the first, second, and sixth syllogisms are direct; but the conclusions of the third, fourth, and fifth are converse; since the conclusion of the third is the converse minor of the first; the conclusion of the fourth, is the converse conclusion of the first; and the conclusion of the fifth, is the converse major of the first.

<sup>8</sup> This is the major proposition of the fourth syllogism.

<sup>9</sup> This is the minor proposition of the fourth syllogism. But the major proposition is demonstrated through the third, and the minor through the fifth syllogism.

<sup>1</sup> This is the major proposition in the third syllogism, and the same is the minor in the fifth.

<sup>2</sup> In the fourth syllogism.

<sup>3</sup> i. e. C B and B A.

<sup>4</sup> Of the fourth syllogism.

<sup>5</sup> i. e. In order to prove the propositions of the same fourth syllogism. The fourth syllogism therefore, corresponds in proportion to the first, the third to the second, and the fifth to the sixth. For as the conclusion of the first is the major proposition in the second, and the minor in the sixth; thus also the conclusion of the fourth, becomes the major in the third, and the minor in the fifth. As the second also proves the major of the first, so the third proves the major of the fourth. Lastly, as the sixth proves the minor of the first, so the fifth proves the minor of the fourth.

present with no C. If, therefore, it is again necessary to conclude, that A is present with no B, which was assumed before ; A, indeed, will be present with no C, but C will be present with every B. For thus the proposition becomes inverse. But if it is necessary to conclude that B is present with C, the proposition A B is no longer to be similarly converted. For it is the same<sup>6</sup> proposition that B is present with no A, and that A is present with no B. It must be assumed, however, that B is present with every individual of that, with no individual of which A is present. Let A be present with no C, which was the conclusion. It is necessary, therefore, that B should be present with every C. Hence, since there are three [assertions] each becomes a conclusion. And to demonstrate in a circle is this, assuming the conclusion, and one proposition inverse, syllogistically to collect the other<sup>7</sup>. But in partial syllogisms, it is not possible to demonstrate the universal proposition through others, but it is possible thus to demonstrate the partial proposition. That it is not possible, therefore, to demonstrate the universal proposition is evident. For the universal is demonstrated through universals ; but the conclusion is not universal ; and it is necessary to demonstrate from the conclusion, and from the other proposition. Farther still, neither, in short, is a syllogism produced, when the proposition is converted ; for both the propositions are effected in part. But it is possible to demonstrate a partial proposition. For let A be demon-

<sup>6</sup> i. e. The two propositions have the same power.

<sup>7</sup> Thus, for instance, let there be a syllogism in Celarent ; *nothing rational is irrational; every man is rational; therefore, no man is irrational.* In this syllogism, the major may be proved from the conclusion, and the converse of the minor as follows : *No man is irrational; every thing rational is a man; therefore, nothing rational is irrational.* But in order to prove the minor affirmative, it is not sufficient to assume the conclusion, and convert the major ; for thus each of the premises will be negative, and, therefore, an affirmative conclusion will not follow. The minor, therefore, and the conclusion, ought to be converted into affirmative propositions as follows : *Every thing of which irrational is universally denied, is rational; but irrational is universally denied of every man; therefore, every man is rational.* Hence it appears, that in Celarent, these three may be proved in a circle, viz. the conclusion from the premises, and the premises from the conclusion.

strated of a certain C through B. If, therefore, it should be assumed that B is present with every A, and the conclusion should remain, B will be present with a certain C. For the first figure will be produced, and A will be the middle.

[Every B is A :  
Some C is B : Therefore,  
Some C is A.]

If, however, the syllogism is privative, it is not possible to demonstrate the universal proposition, for the reason which was before adduced. But a partial proposition cannot be demonstrated, if A B is similarly converted, as in universal propositions. It is possible, however, to demonstrate it through assumption<sup>\*</sup>; as, for instance, that A is not present with a certain thing, and that B is. But if the terms subsist otherwise, a syllogism will not be produced, because the partial proposition is negative.

## CHAPTER VI.

In the second figure, however, the affirmative [proposition] cannot be demonstrated after this manner, but the privative may. The affirmative, therefore, is not demonstrated, because not both the propositions are affirmative. For the conclusion is privative, but the affirmative is demonstrated from both the propositions being affirmative. But the privative proposition is thus demonstrated. Let A be present with every B, and with no C. The conclusion is, that B is present with no C. If, therefore, it is assumed that B is present with every A, but with no C, it is necessary that A should be present with no C. For the second figure will be produced. The middle is B. But if the proposition

\* i. e. Through a hypothetic syllogism according to assumption.

A B were assumed privative, but the other proposition categoric ; there will be the first figure. For C is present with every A, but B with no C. Hence neither is B present with any A. Neither, therefore, is A present with any B. The middle is C. Through the conclusion, therefore, and one proposition, a syllogism is not produced ; but when the other proposition is assumed there will be a syllogism. If, therefore, the syllogism is not universal, the proposition which is in the whole<sup>9</sup>, is not demonstrated, through that cause<sup>1</sup> which we have mentioned before. But the partial<sup>2</sup> proposition is demonstrated, when the universal is categoric<sup>3</sup>. For let A be present with every B, but not with every C ; the conclusion is, that B is not present with a certain C. If, therefore, it were assumed that B is present with every A, but not with every C ; A will not be present with a certain C. The middle is B. But if the universal proposition is privative, the proposition A C will not be demonstrated, the proposition A C being converted. For it will happen that either both<sup>4</sup> propositions, or that one<sup>5</sup> proposition will be negative. Hence there will not be a syllogism. In a similar manner also, there will be a demonstration, if it is assumed that with that with which B is partly not present, A is partly present.

## CHAPTER VII.

IN the third figure, however, when both the propositions are assumed universally, a mutual and reciprocal demonstration cannot take place.

<sup>9</sup> This is the major proposition.

<sup>1</sup> Because the conclusion being assumed, and the minor proposition of Festino or Baroco, both propositions will be partial : whence nothing will be concluded.

<sup>2</sup> This is the minor proposition.

<sup>3</sup> And the partial affirmative.

<sup>4</sup> If the conclusion is assumed, and the major proposition.

<sup>5</sup> If the conclusion is assumed which denies, and the minor proposition which affirms.

For

For the universal is demonstrated through universals ; but the conclusion in this figure, is always partial. Hence it is evident, that, in short, a universal proposition cannot be demonstrated through this figure. But if the one proposition is universal, and the other partial, [a reciprocal demonstration] will at one time be possible, and at another not. When, therefore, both the propositions are assumed categoric, and universal is joined to the less<sup>6</sup> extreme, it will be possible ; but when to the other<sup>7</sup> extreme it will not be possible<sup>8</sup>. For let A be present with every C, but let B be present with a certain C ; the conclusion will be A B. If, therefore, it should be assumed that C is present with every A, the universal proposition being converted ; and that A is present with a certain B, which was the conclusion ; C, indeed, is demonstrated to be present with a certain B ; but B is not demonstrated to be present with a certain C. It is necessary, however, if C is present with a certain B, that B also should be present with a certain C. But it is not the same thing, for *this* thing to be present with *that*, and *that* with *this* ; but it must be assumed that if *this* is partly present with *that*, *that* also is partly present with *this*. But this being assumed, a syllogism will no longer be produced from the conclusion, and the other proposition. If, however, B is present, indeed, with every C, but A with a certain C, it will be possible to demonstrate the proposition A C, when it is assumed that C is present with every B, but A with a certain B. For if C is present with every B, but A with a certain B, it is necessary that A should be present with a certain C. The middle is B. And when the one proposition is categoric, but the other privative, and the categoric is universal, the other<sup>9</sup> may be demonstrated. For let B be present with every C, but let A not be present with a certain C ; the conclusion is, that A is not present with a certain B. If, therefore, it

<sup>6</sup> i. e. When the minor proposition is universal, and the major partial.

<sup>7</sup> i. e. When the major proposition is universal, and the minor partial.

<sup>8</sup> There will not be a true circle, because from the conclusion and the major proposition, the minor proposition is not proved.

<sup>9</sup> i. e. The negative partial proposition.

should

should be assumed that C is present with every B, but A was not present with every B, it is necessary that A should not be present with a certain C. The middle is B. But when the privative proposition is universal, the other proposition will not be demonstrated, unless as it was assumed in the former syllogisms, if it should be assumed, that the other is present with some individual of that, with every individual of which this is not present. As, if A, indeed, is present with no C, but B is present with a certain C, the conclusion is, that A is not present with a certain B. If, therefore, it should be assumed that C is present with some individual of that, with every individual of which A is not present, it is necessary that C should be present with a certain B. It is not, however, possible in any other way, when the universal proposition is converted, to demonstrate the other proposition; for there will by no means be a syllogism<sup>1</sup>. It is evident, therefore, that in the first figure, a reciprocal demonstration is effected, through the first, and through the third figure. For when the conclusion is categoric, the reciprocal demonstration is through the first figure; but when it is privative, through the last<sup>2</sup> figure. For let it be assumed that the other [i. e. the subject] is present with every individual of that with no individual of which this [i. e. the predicate] is present. But in the middle figure when the syl-

<sup>1</sup> In Ferison, the minor proposition when partial, as being affirmative, cannot be circularly demonstrated, the conclusion and the other proposition being negative, except by converting the conclusion, and the negative majors, into affirmative majors. For let the syllogism in Ferison be: Nothing rational is irrational: Something rational is an animal: Therefore, some animal is not irrational. In order to demonstrate the minor affirmative, it ought thus to be said: Every thing of which the irrational is denied is rational: But the irrational is denied of some animal: Therefore, some animal is rational: Therefore, something rational is an animal. Hence it is evident, that in the partial modes of the third figure, in which the minor is universal, i. e. in Disamis and Boccardo, there may be a perfect circulation; but in the modes in which the major is universal, i. e. in Datisi and Ferison, a perfect circulation cannot be effected.

<sup>2</sup> The reader must not suppose that by the last figure here is meant the third figure of categoric syllogisms, because in syllogisms of the kind mentioned by Aristotle, the minor is negative, and the conclusion is universal, contrary to the rules of that figure. But by the last figure in this place, an hypothetic syllogism is meant, which is said to be in the third figure, because in the hypothesis, there are two attributes and one subject, as in the third figure.

logism is universal, the demonstration is through it<sup>3</sup>, and through the first figure<sup>4</sup>: and when it is partial, it is through it<sup>5</sup>, and through the last figure<sup>6</sup>. In the third figure, however, all the demonstrations are through the third figure. It is also evident, that in the middle and third figures, the syllogisms which are not produced through them, either are not according to a circular demonstration, or are imperfect.

## CHAPTER VIII.

To convert, however, is, the conclusion being transposed<sup>7</sup>, to produce a syllogism, either that the [greater] extreme is not present with the middle, or that this middle [is not present] with the last. For it is necessary, the conclusion being converted, and one proposition remaining, that the other proposition should be subverted; since if [that proposition] will be, the conclusion also will be<sup>8</sup>. But it makes a difference whether the conclusion is converted oppositely<sup>9</sup>, or contrarily. For the same syllogism is not produced, when the conclusion is converted either way. This, however, will be evident from what follows. But I say to be opposed, to every individual, and not to every indivi-

<sup>3</sup> For the minor proposition of Camestres, is proved in Camestres.

<sup>4</sup> For the major proposition of Cesare is proved in Celarent.

<sup>5</sup> Because the minor of Baroco is proved in Baroco.

<sup>6</sup> For the minor proposition of Ferison is proved by an hypothetical syllogism, which is said to be in the third figure, as above explained.

<sup>7</sup> The conclusion is changed into that which contradicts or is contrary; afterwards a proposition is produced, and the other proposition is added to it, and thus a new syllogism is produced subverting the proposition of the former syllogism.

<sup>8</sup> It has been above demonstrated, that what is false cannot be concluded from true propositions. When, therefore, we admit the conclusion to be false, and assume it contradicting or contrary, it is necessary that one of the propositions should also be false.

<sup>9</sup> i. e. Contradictorily.

dual,

dual, and to some individual, and not to some individual. And I call the being contrarily opposed, the being present with every individual, and with no individual, and the being present with a certain individual, and not with a certain individual<sup>1</sup>. For let A be demonstrated of C, through the medium B. If, therefore, it were assumed that A is present with no C, but is present with every B, B will be present with no C. And if it were assumed that A is present with no C, but that B is present with every C, A will not be present with every B; but it cannot be concluded that it is, in short, present with no B; for universal is not demonstrated through the third figure. In short, it is not possible to subvert universally through conversion, the proposition which is joined to the greater extreme; for it is always subverted through the third figure. For it is necessary to assume both the propositions to the last extreme. And in a similar manner if the syllogism is privative. For let it be demonstrated through B, that A is present with no C. If, therefore, it were assumed that A is present with every C, but is present with no B; B will be present with no C. And if A and B are present with every C, A will be present with a certain B. But it was present with no B<sup>2</sup>. If, however, the conclusion should be converted oppositely, other syllogisms also will be opposite, and not universal<sup>3</sup>. For one proposition will be partial; so that the conclusion also will be partial. For let the syllogism be categoric, and thus be converted. Hence, if A is not present with every C, but is present with every B; B will not be present with every C. And if A is not present with every C, but B is present with every C; A will not be present with every B. The like will also take place if the syllogism is privative<sup>4</sup>. For<sup>5</sup> if A is present with a certain C, but with no B; B will not be

<sup>1</sup> These are commonly called sub-contraries; and are improperly called contraries, since they may be at one and the same time true.

<sup>2</sup> i. e. It was assumed to be present with no B, in the major proposition of Celarent.

<sup>3</sup> i. e. They will prove a partial conclusion, contradicting the universal proposition before assumed.

<sup>4</sup> i. e. Celarent.

<sup>5</sup> The subversion of the minor in Ferison.

present with a certain C, and will not simply<sup>6</sup> be present with no C. And if<sup>7</sup> A is present with a certain C, but B is present with every C, as it was assumed in the beginning<sup>8</sup>; A will be present with a certain B. But in partial syllogisms, when the conclusion is oppositely converted, both the propositions are subverted; but when it is converted contrarily, neither of them is subverted. For it no longer happens as in universals, that a subversion is effected, the conclusion failing<sup>9</sup> according to conversion; but neither, in short, can a subversion be effected<sup>1</sup>. For let A be demonstrated<sup>2</sup> of a certain C. If, therefore<sup>3</sup>, it should be assumed that A is present with no C, but that B is present with a certain C; A will not be present with a certain B. And<sup>4</sup> if A is present with no C, but is present with every B; B will be present with no C. Hence both the propositions are subverted. If, however, the conclusion is contrarily converted, neither [proposition is subverted]. For if A is not present with a certain C, but is present with every B; B will not be present with a certain C. That, however, which was proposed from the first, is not yet subverted<sup>5</sup>; for it may be present with a certain individual, and with a certain individual not be present. But of the universal proposition A B, there will not, in short, be a syllogism<sup>6</sup>. For if A is not present with a certain C, but is present with a certain B, neither of the propositions is universal. The like will also take place if the syllogism is privative. For if it should be assumed that A is present with every C, both the propositions would be subverted; but if

<sup>6</sup> i. e. Universally.

<sup>7</sup> The subversion of the major in Disamis.

<sup>8</sup> i. e. In the minor proposition of Celarent.

<sup>9</sup> The conclusion is said to fail, when from being universal it becomes partial; because it comprehends fewer things than it comprehended before.

<sup>1</sup> For there is no syllogism when both the propositions are partial.

<sup>2</sup> Darii.

<sup>3</sup> The subversion of the minor in Camestres.

<sup>4</sup> The subversion of the major in Ferison.

<sup>5</sup> i. e. The minor proposition of Darii, some C is B.

<sup>6</sup> i. e. There will not be a syllogism, in which the major proposition of Darii is subverted.

[it should be assumed that A is present] with a certain C, neither [of them would be subverted]. The demonstration, however, is the same.

## CHAPTER IX.

BUT in the second figure, it is not possible to subvert contrarily the proposition which is joined to the greater extreme, in whatever way<sup>7</sup> the conversion may be effected. For the conclusion will always be in the third figure; but there was not in this figure a universal syllogism. And we subvert the other proposition in a manner similar to that in which the conversion was made. But I say similarly, if, indeed, the conversion is made contrarily, [it will be subverted] contrarily; but if oppositely, in an opposite<sup>8</sup> manner. For let<sup>9</sup> A be present with every B, but with no C; the conclusion is B C. If, therefore, it should be assumed<sup>1</sup>, that B is present with every C, and the proposition A B should remain; A will be present with every C. For the first figure will be produced. But<sup>2</sup> if B is present with every C, and A with no C; A will not be present with every B. The figure is the last. If, however, [the conclusion] B C should be oppositely converted; the proposition A B may be similarly<sup>3</sup> demonstrated; but the proposition A C oppositely<sup>4</sup>. For if B<sup>5</sup> is present with a certain C, but A with no C; A will not be present with a certain B. Again<sup>6</sup>, if B is present with a

<sup>7</sup> i. e. Whether the conclusion is changed into a contrary, or into that which contradicts.

<sup>8</sup> i. e. Contradictorily.

<sup>9</sup> A syllogism in Camestres.

<sup>1</sup> Barbara subverting the minor proposition of Camestres.

<sup>2</sup> Felapton subverting the major.

<sup>3</sup> i. e. It may be subverted through a contrary.

<sup>4</sup> i. e. It may be subverted through a contradictory.

<sup>5</sup> Darii subverting the minor.

<sup>6</sup> Ferison subverting the major.

certain

certain C, but A with every B; A will be present with a certain C. Hence the syllogism will be produced in an opposite<sup>7</sup> way. There will also be a demonstration in a similar manner, if the propositions should subsist vice versa<sup>8</sup>. But if the syllogism is partial, the conclusion being converted contrarily, neither of the propositions is subverted, as neither [was there a subversion of either] in the first figure. If, however, [the conclusion is] oppositely [converted] both [are subverted]. For let it be posited that A is present with no B, but is present with a certain C; the conclusion is B C. If, therefore, it were posited that B is present with a certain C; and the proposition A B should remain; the conclusion will be, that A is not present with a certain C. That, however, [which was proposed] from the first will not be subverted; for it may be present, and not be present with a certain individual. Again<sup>9</sup>, if B is present with a certain C, and A is present with a certain C, there will not be a syllogism; for neither of the assumed [propositions] is universal. Hence, neither is the proposition A B subverted. But if it should be oppositely converted, both [the propositions] are subverted. For if B is present with every C, but A is present with no B; A will be present with no C. It was, however, present with a certain C<sup>1</sup>. Again, if B is present with every C, but A is present with a certain C; A will be present with a certain B. There will also be the same demonstration, if the universal proposition should be categoric.

<sup>7</sup> i.e. The syllogism in Darii proves the conclusion contradicting the minor proposition of Camestres; and the syllogism in Ferison proves the conclusion contradicting the major proposition of the same Camestres.

<sup>8</sup> i.e. If the major should deny, and the minor affirm; so that a syllogism should be produced in Cesare, when the former was in Camestres.

<sup>9</sup> An useless mode from two partial propositions in the third figure.

<sup>1</sup> i.e. In the minor proposition of Festino, it was posited that A is present with a certain C.

## CHAPTER X.

BUT in the third figure, when the conclusion is converted contrarily, neither of the propositions is subverted, according to no one of the syllogisms. When, however, [the conclusion is converted] oppositely, both [are subverted], and in all [syllogisms]. For let it be shown that A is present with a certain B, and let C be assumed as the middle. Let also the propositions be universal. If, therefore, it should be assumed that A is not present with a certain B, but that B is present with every C, a syllogism will not be produced<sup>2</sup> of A and C. Neither if A, indeed, is not present with a certain B, but is present with every C, will there be a syllogism<sup>3</sup> of B and of C. There will also be a similar demonstration, if the propositions are not universal. For either it is necessary that both should be partial, through conversion, or that universal should be joined to the less extreme: but thus there was not a syllogism, neither in the first, nor in the middle figure. But if the propositions are oppositely converted, both will be subverted. For if A is present with no B, but B is present with every C; A will be present with no C. Again, if A is present with no B, but is present with every C; B will be present with no C. The like will also take place if one of the propositions is not universal. For if A is present with no B, but B is present with a certain C; A will not be present with a certain C. But if A is present with no B, but is present with every C; B will be present with no C. In a similar manner also if the syllogism is privative. For let it be demonstrated that A is not present with a certain B; and let the categoric [proposition] be B C, but the negative A C; for thus a syllogism was produced. When, therefore, [the proposition] is as-

<sup>2</sup> Because the major proposition is partial in the first figure.

<sup>3</sup> Because the major proposition is partial in the second figure.

sumed contrary to the conclusion there will not be a syllogism. For if A was present with a certain B, but B was present with every C, there was not a syllogism of A and of C<sup>4</sup>. Nor if A was present with a certain B, but with no C, was there a syllogism of B and of C<sup>5</sup>. Hence the propositions are not subverted. When, however, the opposite [is assumed, the propositions] are subverted. For if A is present with every B, and B is present with every C; A will be present with every C. But it was present with no C<sup>6</sup>. Again<sup>7</sup>, if A is present with every B, but is present with no C; B will be present with no C. But it was present with every C<sup>8</sup>. There will also be a similar demonstration if the propositions are not universal<sup>9</sup>. For A C becomes universal and privative<sup>1</sup>; but the other<sup>2</sup> proposition is partial and categoric. If, therefore, A is present with every B, but B is present with a certain C; A will happen to a certain C. But it was present with no C<sup>3</sup>. Again, if A is present with every B, but with no C<sup>4</sup>; B will be present with no C. It was posited<sup>5</sup>, however, to be present with a certain C. But if A is present with a certain B, and B with a certain C, there will not<sup>6</sup> be a syllogism. Nor if A is present with a certain B, but with no C; neither thus will there be a syllogism<sup>7</sup>. Hence in that way, indeed, but not in this, the propositions are subverted. From what has been said,

<sup>4</sup> It was proved that there was not in chap. 4. of the first book. But there is not a syllogism, because the major proposition is partial in the first figure.

<sup>5</sup> This was proved in chap. 5. of the first book. And there is not a syllogism, because the major proposition is universal in the second figure.

<sup>6</sup> i. e. It was so posited in the major proposition of Felapton.

<sup>7</sup> In Camestres.

<sup>8</sup> i. e. in the minor proposition of Felapton.

<sup>9</sup> In Ferison.

<sup>1</sup> i. e. The major proposition of Ferison.

<sup>2</sup> i. e. The minor of Ferison.

<sup>3</sup> In the major proposition of Ferison.

<sup>4</sup> In Camestres.

<sup>5</sup> In the minor proposition of Ferison.

<sup>6</sup> Because both the propositions are partial.

<sup>7</sup> Because the major proposition is partial.

therefore,

therefore, it is evident, how the conclusion being converted, a syllogism will be produced in each figure; and when contrarily, and when oppositely to the proposition. [It is also evident], that in the first figure syllogisms are produced through the middle and the last; and that [the proposition], indeed, which is joined to the less extreme, is always subverted through the middle [figure]; but that the proposition which is joined to the greater extreme, is subverted through the last [figure]. But in the second figure, through the first, and the last. And the proposition, indeed, which is joined to the less extreme, is always subverted through the first figure; but that which is joined to the greater extreme, is always subverted through the last figure. But in the third figure, through the first, and the middle. And the proposition, indeed, which is joined to the greater extreme, is always subverted through the first, but that which is joined to the less extreme, through the middle figure. What, therefore, it is to convert, and how this is effected in each figure, and what syllogism is produced, is evident.

## CHAPTER XI.

A SYLLOGISM, however, through the impossible is exhibited, when the contradiction of the conclusion is posited, and another proposition is assumed. But it is produced in all the figures; for it is similar to conversion. Except that it thus much differs, that it is converted indeed, a syllogism being made, and both the propositions being assumed; but it is deduced to the impossible, when the opposite is not previously acknowledged, but is manifestly true. But the terms subsist similarly in both<sup>s</sup>, and the assumption of both is the same. Thus, for instance, if A is present with every B, but the middle is C, if it should be sup-

\* i.e. In the conversive syllogism, and in that which leads to the impossible.

posed

posed that A, either is not present with every, or is present with no B, but is present with every C, which was true, it is necessary that C should be present with no B, or not with every B. But this is impossible. Hence that which was supposed is false. The opposite<sup>9</sup>, therefore, is true. The like will also take place in other figures; for such things as receive conversion, [receive] also a syllogism [which is constructed] through the impossible. All other problems, therefore, are demonstrated through the impossible in all the figures; but the categoric universal, is demonstrated, indeed, in the middle, and in the third figure, but is not demonstrated in the first figure. For let it be supposed that A is not present with every B, or is present with no B, and let the other proposition be assumed from either part, whether that C is present with every A, or B with every D; for thus there will be the first figure. If, therefore, it is supposed that A is not present with every B, a syllogism will not be produced<sup>1</sup>, the proposition being assumed from either part. But if it is supposed that A is present with no B; when the proposition B D is assumed, there will be a syllogism, indeed, of the false, yet the thing proposed will not be demonstrated. For if A is present with no B, but B is present with every D, A will be present with no D. But let this be impossible. It is false, therefore, that A is present with no B. If, however, it is false, that it is present with no B, it does not follow that it is true, that it is present with every B. But if [the proposition] C A is assumed, a syllogism is not produced<sup>2</sup>. Neither is a syllogism produced, when it is supposed that A is not present with every B. Hence it is evident, that the being present with every individual, is not demonstrated in the first figure through the impossible. But to be present with a certain individual, and with no individual, and not with every individual, is demonstrated. For let it be supposed that A is present with no B; but let B be assumed to be present with every, or with a certain C. It is necessary, therefore, that A

<sup>9</sup> i. e. That which contradicts.

<sup>1</sup> Because a partial negative proposition has no place in the first figure.

<sup>2</sup> Because since the hypothesis denies, it cannot be the minor in the first figure.

should

should not be present with every or should be present with no C. But this is impossible. For let this be true and manifest, that A is present with every C. Hence if this is false, it is necessary that A should be present with a certain B. But if one of the propositions should be assumed toward A<sup>3</sup>, there will not be a syllogism<sup>4</sup>. Nor will there be when it is supposed contrary to the conclusion, as, for instance, not to be present with a certain individual. It is evident, therefore, that the opposite must be made the hypothesis. Again, let it be supposed that A is present with a certain B, and let it be assumed that C is present with every A. It is necessary, therefore, that C should be present with a certain B. But let this be impossible. Hence, that which was supposed is false. But if this be the case, it is true that A is present with no B. The like will also take place if [the proposition] C A were assumed privative. But if the proposition were assumed toward B<sup>5</sup>, there will not be a syllogism. If, however, the contrary were supposed, there will, indeed, be a syllogism, and the impossible [will be demonstrated]; but that which was proposed will not be proved. For let it be supposed that A is present with every B; and let it be assumed that C is present with every A. It is necessary, therefore, that C should be present with every B. But this is impossible. Hence it is false that A is present with every B; but it is not yet necessary, that if it is not present with every, it is present with no B. The like will also take place if to B the other proposition<sup>6</sup> is assumed; for there will be a syllogism, and the impossible [will be proved]. The hypothesis, however, is not subverted; so that the opposite<sup>7</sup> must be supposed. But in order to prove that A is not present with every B, it must be supposed that it is present with every B. For if A is present with every B, and C is pre-

<sup>3</sup> i. e. So as that it may become the major proposition.

<sup>4</sup> Because a negative hypothesis will be the minor proposition, contrary to the rule of the second figure.

<sup>5</sup> i. e. If the minor proposition should be true.

<sup>6</sup> i. e. A proposition evidently true.

<sup>7</sup> i. e. An hypothesis contradicting the problem.

sent with every A ; C will be present with every B. Hence if this is impossible, that which was supposed is false. The like will also take place if the other proposition is assumed to B<sup>8</sup>. And in a similar manner, if the proposition C A is privative ; for thus also a syllogism is produced. But if the privative proposition is joined to B, nothing is demonstrated. If, however, it should not be supposed to be present with every, but with a certain individual, it will not be demonstrated, that it is not present with every individual, but that it is present with no individual. For if A is present with a certain B, but C is present with every A ; C will be present with a certain B. If, therefore, this is impossible, it is false that A is present with a certain B. Hence it is true that it is present with no B. But this being demonstrated, that which is true is at the same time subverted. For A was present with a certain B, and with a certain B was not present. Farther still, the hypothesis does not happen on account of the hypothesis ; for it will be false ; since it is not possible to conclude the false from the true. Now, however, it is true ; for A is present with a certain B. Hence it must not be supposed that A is present with a certain, but with every B. The like will also take place if we should demonstrate that A is not present with a certain B. For if it is the same thing not to be present with a certain individual, and not to be present with every individual, there is the same demonstration of both. It is evident, therefore, that not the contrary, but the opposite<sup>9</sup> must be supposed in all syllogisms<sup>1</sup> ; for thus there will be a necessity [of concluding], and the probable axiom. For if affirmation or negation [is true] of every thing ; when it is shown that negation is not [true], it is necessary that affirmation should be true. Again, unless it is admitted that affirmation is true, it must be admitted that negation is probable. But the contrary must be considered as in neither way adapted. For neither if the being present with no individual is false, is it necessary that the being present with every indivi-

<sup>8</sup> i. e. If a proposition evidently true is so assumed as to be the minor proposition.

<sup>9</sup> i. e. The hypothesis contradicting the problem.

<sup>1</sup> i. e. In all syllogisms leading to the impossible.

dual is true, nor is it probable, that if the one<sup>2</sup> is false, the other<sup>3</sup> is true. It is evident, therefore, that in the first figure, all other problems are demonstrated, through the impossible, but that the universal affirmative is not demonstrated.

## CHAPTER XII.

IN the middle, however, and last figure, this<sup>4</sup> also is demonstrated. For let it be supposed that A is not present with every B; and let it be assumed that A is present with every C. Hence if A is not present with every B, but is present with every C; C is not present with every B. This, however, is impossible. For let it be manifest that C is present with every B. Hence that which was supposed is false. The being present with every individual, therefore, is true. But if the contrary should be supposed, there will be a syllogism, indeed, and the impossible [will be proved]; yet the thing proposed will not be demonstrated. For if A is present with no B, but is present with every C; C will be present with no B. But this is impossible. Hence it is false that A is present with no B. It does not, however, follow that if this is false, it is true that it is present with every B. But when A is present with a certain B, let it be supposed that A is present with no B, and that it is present with every C. It is necessary, therefore, that C should be present with no B. Hence, if this is impossible, it is necessary that A should be present with a certain B. But if it should be supposed that A is not present with a certain B, there will be the same<sup>5</sup> things as in

the

<sup>2</sup> i. e. The being present with every individual.<sup>3</sup> i. e. The being present with no individual.<sup>4</sup> i. e. An universal affirmative problem.<sup>5</sup> i. e. The thing proposed will not be so much confirmed, as subverted. For if the not being present with a certain individual is false, the being present with every individual is true. And if

the first figure. Again, let it be supposed that A is present with a certain B; but let it be present with no C. It is necessary, therefore, that C should not be present with a certain B. But it was present with every C. Hence that which was supposed is false. A, therefore, will be present with no B. But when A is not present with every B; let it be supposed to be present with every B, but with no C. It is necessary, therefore, that C should be present with no B. But this is impossible. Hence it is true, that A is not present with every B. It is evident, therefore, that all the syllogisms are produced through the middle figure<sup>6</sup>.

## CHAPTER XIII.

IN a similar manner also it may be concluded through the last figure. For let it be posited that A is not present with a certain B, but that C is present with every B. A, therefore, will not be present with a certain C. If, therefore, this is impossible, it is false that A is not present with a certain B; so that it is true that it is present with every B. But if it should be supposed that it is present with no B; there will, indeed, be a syllogism, and the impossible [will be proved], but the thing proposed will not be demonstrated. For if the contrary should be supposed, there will be the same<sup>7</sup> things as in the former [syllogisms]. But for the purpose of concluding that A is present with a certain B, this hypothesis is to be assumed. For if A is present with no B, but C is present with a certain B, A will not be present with every C. If, there-

if the latter is true the former is false. Besides, when the hypothesis is true that A is present with a certain B, the false cannot be collected from it.

<sup>6</sup> i.e. That all problems are proved through a deduction to an absurdity, in the second figure.  
<sup>7</sup> i.e. A will not be proved to be present with every, but with a certain B.

fore, this is false, it is true that A is present with a certain B. But when A is present with no B, let it be supposed to be present with a certain B. And let it be assumed that C is present with every A. It is necessary, therefore, that A should be present with a certain C. But it was present with no C. Hence it is false that A is present with a certain B. But if it should be supposed that A is present with every B, the thing proposed will not be demonstrated<sup>8</sup>. In order, however, to conclude that a thing is not present with every individual, this hypothesis<sup>9</sup> is to be assumed. For if A is present with every B, and C is present with a certain B; A is present with a certain C. But this was not [true]. Hence it is false that A is present with every B. And if this be the case, it is true that it is not present with every B. But if it should be supposed that it is present with a certain B; there will be the same things as in the before-mentioned syllogisms. It is evident, therefore, that in all syllogisms [which are constructed] through the impossible, that which is opposite<sup>1</sup> must be supposed. But it is evident, that in the middle figure also, the affirmative may in a certain respect<sup>2</sup> be demonstrated, and in the last figure, the universal.

## CHAPTER XIV.

But a demonstration leading to the impossible differs from an ostensive demonstration; because it admits that which it wishes to subvert, leading to an acknowledged falsehood; but an ostensive demonstration

<sup>8</sup> Because if it is false that A is present with every B, it is not immediately true that it is present with no B; but that it is not present with every B.

<sup>9</sup> i.e. The hypothesis of being present with every individual.

<sup>1</sup> i.e. That which contradicts the problem.

<sup>2</sup> i.e. By a deduction to an absurdity.

begins

begins from acknowledged positions. Both [demonstrations], therefore, assume two acknowledged propositions; but the one<sup>3</sup> assumes those from which a syllogism is produced; and the other<sup>4</sup> one of these, and the contradiction of the conclusion. In the one<sup>5</sup> also it is not necessary that the conclusion should be known, nor previously to assume that it is, or that it is not; but in the other it is necessary, [previously to assume] that it is not<sup>6</sup>. It is, however, of no consequence, whether the conclusion is affirmation, or negation; but the like will take place about both<sup>7</sup>. But every thing which is concluded ostensively, may also be demonstrated through the impossible; and that which is concluded through the impossible, may also be demonstrated ostensively; and through the same terms, but not in the same figures. For when the syllogism<sup>8</sup> is produced in the first figure, the truth<sup>9</sup> will be either in the middle, or in the last figure; the privative, indeed, in the middle, but the categoric in the last figure. But when the syllogism is in the middle figure, the truth will be in the first<sup>1</sup> figure, in all the problems.

<sup>3</sup> i. e. The ostensive demonstration.

<sup>4</sup> i. e. The demonstration leading to the impossible.

<sup>5</sup> i. e. In the ostensive demonstration.

<sup>6</sup> i. e. In the demonstration leading to the impossible, the contradiction of the conclusion to be proved is assumed.

<sup>7</sup> i. e. The conclusion is said not to be when it is false, whether it affirms or denies. When, therefore, the conclusion affirms it is said not to be, if the thing is not; but when it denies, it is said not to be, if the thing is.

<sup>8</sup> i. e. The syllogism leading to an absurdity.

<sup>9</sup> i. e. The thing proposed will be proved.

<sup>1</sup> Sometimes also, the truth will be in the third figure, as in the following examples. Let there be a syllogism in Cesare leading to the impossible from the major proposition which is false. Nothing immortal is a form: Every soul is a form: Therefore no soul is immortal. The truth may be concluded in Datisi as follows: Every soul is a form: A certain soul is immortal: Therefore something immortal is a form. Again, let there be a syllogism leading to the impossible in Camestres from the major which is false: Every pleasure is to be desired: Nothing base is to be desired: Therefore nothing base is pleasure. The truth may be thus proved in Ferison: Nothing base is to be desired: Something base is pleasure: Therefore some pleasure is not to be desired. What Aristotle, therefore, says in this place, is not to be generally assumed, but of certain principal modes of demonstrating and analyzing, which he himself explains.

But

But when the syllogism is in the last figure, the truth will be in the first, and in the middle figure; things affirmative in the first, but things primitive in the middle figure. For let it be demonstrated through the first<sup>2</sup> figure, that A is present with no, or not with every B. The hypothesis, therefore, was, that A is present with a certain B; but C was assumed to be present, indeed, with every A, but with no B. For thus a syllogism, and the impossible were produced. But this is the middle figure, if C is present with every A, but with no B. And it is evident from these things, that A is present with no B. The like will also take place if the not being present with every individual is demonstrated<sup>3</sup>. For the hypothesis is, to be present with every individual; but C was assumed to be present with every A, but not with every B. In a similar manner also, if [the proposition] C A should be assumed to be primitive for thus also the middle figure<sup>4</sup> will be produced. Again, let it be shown that A is present with a certain B<sup>5</sup>. The hypothesis, therefore, is, that A is present with no B. But B was assumed to be present with every C; and A to be present with every, or a certain C. For thus [the conclusion] will be impossible. But this is the last figure<sup>6</sup>, if A and B are present with every C. And from these things it is evident, that it is necessary A should be present with a certain B. The like will also take place if it should be assumed that B or A is present with a certain C. Again, in the middle<sup>7</sup> figure also, let it be shown, that A is present with every B. The hypothesis, therefore, was, that A is not present with every B. But it was assumed, that A is present with every C, and that C is present with every B; for thus there will be the impossible. And this is the first figure<sup>8</sup>, if A is present with every C, and C

<sup>2</sup> In Darii.

<sup>3</sup> In Barbara.

<sup>4</sup> Cesare, or Festino.

<sup>5</sup> In Celarent.

<sup>6</sup> Darapti.

<sup>7</sup> In Baroco.

<sup>8</sup> Barbara.

is present with every B. The like will also take place if the being present with a certain individual is demonstrated<sup>9</sup>. For the hypothesis was, that A is present with no B. But it was assumed that A is present with every C, and that C is present with a certain B. If, however, the syllogism<sup>1</sup> should be privative<sup>2</sup>, the hypothesis was, that A is present with a certain B. But it was also assumed that A is present with no C, and that C is present with every B. Hence the first figure is produced. In like manner also, if the syllogism<sup>3</sup> should not be universal, but A is demonstrated<sup>4</sup> not to be present with a certain B. For the hypothesis was, that A is present with every B; but it was assumed, that A is present with no C, and that C is present with a certain B. For thus the first figure is produced<sup>5</sup>. Again, in the third figure<sup>6</sup>, let it be shown, that A is present with every B. The hypothesis, therefore, was, that A is not present with every B; but it was assumed, that C is present with every B, and that A is present with every C. For thus there will be the impossible. But this is the first figure<sup>7</sup>. In a similar manner also, if the demonstration is in a certain thing<sup>8</sup>. For the hypothesis will be, that A is present with no B; but it is assumed, that C is present with a certain B, and that A is present with every C. But if the syllogism is privative<sup>9</sup>, the hypothesis is, that A is present with a certain B; but it is assumed that C is present with no A, and that it is present with every B. But this is the middle figure. The like will also

<sup>9</sup> In Camestres.

<sup>1</sup> Festino leading to the impossible.

<sup>2</sup> i. e. If the syllogism should prove a universal denying conclusion. But this is that which contradicts the minor proposition of Festino.

<sup>3</sup> Leading to the impossible.

<sup>4</sup> In Cesare.

<sup>5</sup> Ferio.

<sup>6</sup> In Brocardo.

<sup>7</sup> Barbara.

<sup>8</sup> i. e. It will prove a partial affirming conclusion; and the syllogism will lead to the impossible, in Ferison.

<sup>9</sup> i. e. Leading to the impossible in Disamis.

take

take place if the demonstration is not universal<sup>1</sup>. For the hypothesis will be, that A is present with every B; and it is assumed, that C is present with no A, and is present with a certain B. But this is the middle figure<sup>2</sup>. It is evident, therefore, that each of the problems may be demonstrated through the same terms, both ostensively, and through the impossible. In like manner also, it will be possible, when the syllogisms are ostensive, to form a deduction to the impossible, in those terms which are assumed, when the proposition is assumed opposite to the conclusion. For the same syllogisms will be formed, as those which are produced through conversion; so that we shall also immediately have figures, through which each problem will conclude. It is evident, therefore, that every problem is demonstrated according to both modes, [i. e.] through the impossible, and ostensively; and that it is not possible for the one mode to be separated from the other.

## CHAPTER XV.

IN what figure, however, it is possible, and in what it is not possible to syllogize from opposite propositions, will be manifest as follows: But I say that opposite propositions are according to diction four; as, for instance, [to be present] with every individual, [to be present] with no individual; [to be present] with every individual, [to be present] not with every individual; [to be present] with a certain individual, [to be present] with no individual; and [to be present] with a certain individual, and [to be present] not with a certain individual. In reality, however, the opposite propositions are three; for to be present

<sup>1</sup> i.e. If the syllogism leading to the impossible in Datisi, should prove a partial denying conclusion.

<sup>2</sup> Festino.

with

with a certain individual, is opposed to the being present not with a certain individual, according to diction only. But of these<sup>3</sup>, I call those which are universal, contraries, i. e. to be present with every individual, and to be present with no individual; as, for instance, that every science is worthy, and that no science is worthy: but I call the others opposites<sup>4</sup>. In the first figure, therefore, there is not a syllogism from opposite propositions, neither affirmative, nor negative. Not from affirmative propositions, indeed, because it is necessary that both the propositions should be affirmative; but affirmation and negation are opposites. Nor can there be a syllogism from privative propositions; because opposites affirm and deny the same thing of the same; but the middle in the first figure is not predicated of both [the extremes], but one thing is denied of it, and it is predicated of another. These [propositions], however, are not opposed. But in the middle figure a syllogism may be produced from opposites<sup>5</sup>, and from contraries. For let good be A; but science B and C. If, therefore, it should be assumed that every science is worthy, and also that no science is worthy; A will be present with every B, and with no C; so that B will be present with no C. No science, therefore, is science.

[Every science is worthy:  
No science is worthy: Therefore,  
No science is science.]

The like will also take place, if when it is assumed that every science is worthy, it should [afterwards] be assumed that medicine is not worthy. For A is present with every B, but with no C. Hence a certain science will not be science.

[Every science is worthy:  
No medicine (which is a certain science) is worthy:  
Therefore,  
No medicine (which is a certain science) is science.]

<sup>3</sup> i. e. Which are in reality contraries.

<sup>4</sup> i. e. Contradictory, which are called opposites *κατ' εξοχην*, eminently.

<sup>5</sup> i. e. From contradicries.

Likewise, if A is present with every C, but with no B. But B is science; C, medicine; A, opinion. For assuming that no science is opinion, it will be assumed that a certain science is opinion.

[No science is opinion:  
All medicine (which is a certain science) is opinion:  
Therefore,  
No medicine (which is a certain science) is science.]

[This mode<sup>6</sup>], however, differs from the former<sup>7</sup>, on account of the conversion made in the terms; for before<sup>8</sup>, affirmation was joined to B<sup>9</sup>, but now<sup>1</sup> it is joined to C<sup>2</sup>. In a similar manner also, if one of the propositions is not universal. For it is always the middle, which is predicated negatively of the one, and affirmatively of the other. Hence it happens that opposites are concluded; yet not always, nor entirely; but when those things which are under the middle<sup>3</sup> so subsist, as that they are either the same<sup>4</sup>, or [are related as] a whole to a part<sup>5</sup>. In any other way this is impossible; for the propositions will by no means be either contrary or opposite. But in the third figure, an affirmative syllogism will never be from opposite propositions, for the reason before-mentioned in the first figure. There will, however, be a negative syllogism, whether the terms are universally, or not universally assumed. For let science be B and C; and medicine A. If, therefore, it should be assumed that all medicine is science, and that no medicine is science, B will be assumed to be present with every A, and C with no A. Hence a certain science will not be science.

<sup>6</sup> Cesare.

<sup>7</sup> Camestres.

<sup>8</sup> In Camestres.

<sup>9</sup> i. e. To the greater extreme. The major proposition, therefore, was affirming, the minor denying.

<sup>1</sup> In Cesare.

<sup>2</sup> i. e. To the less extreme. Therefore the major proposition denies, the minor affirms.

<sup>3</sup> i. e. The extremes, which in the second figure are subjected to the middle term.

<sup>4</sup> As science and science.

<sup>5</sup> i. e. As genus to species. And in this manner science is related to medicine.

[No medicine is science :  
All medicine is science : Therefore,  
A certain science is not science.]

The like will also take place, if the proposition **A B** were not as universal. For if a certain medicine is science, and again, no medicine is science ; it will happen that a certain science is not science.

A                    B  
[A certain medicine is not science :  
            A            C  
            All medicine is science : Therefore,  
            C              B  
            A certain science is not science.]

But the propositions are contrary, the terms being universally assumed though if one of them is partial<sup>7</sup> they are opposite. It is necessary however, to understand, that opposites may be assumed in the manner we have mentioned, as that every science is worthy, and again, no science is worthy, or that a certain science is not worthy, which is not wont to be latent. It is also possible through other interrogations that the other [part of contradiction] may be concluded ; or as was observed in the Topics<sup>8</sup> may be assumed. But since the opposite affirmations are three, it happens that opposites are assumed in six ways either in every and no individual, or in every and not in every individual, or in a certain, and in no individual : and this may be considered in the terms. Thus A [may be present] with every B, but with some or may be present with every C and with no B ; or with the whole of the one, and not with the whole of the other. And this again may be converted according to the terms. The like will also take place in the third figure. Hence it is evident in how many ways, and in what manner it happens that a syllogism is produced through opposite propositions. But it is also evident, that the truth may be syllogistically concluded.

<sup>6</sup> In Felapton.

<sup>7</sup> In Brocardo.

<sup>8</sup> Chap. 1. of the 8th book.

from false propositions, as has been before<sup>9</sup> observed. From opposites, however, it cannot be concluded; for a syllogism will always be produced contrary to the thing. Thus, if a thing is good [it will be concluded] that it is not good; or if it is an animal, that it is not an animal; because the syllogism is from contradiction; and the subject terms are either the same, or the one is a whole<sup>1</sup>, but the other a part<sup>2</sup>. It is also manifest, that in paralogisms\*, nothing hinders but that there may be a contradiction of the hypothesis; as, if a thing is an odd number, it is not an odd number. For the syllogism from opposite propositions was contrary. If, therefore, such are assumed, there will be a contradiction of the hypothesis. But it is necessary to understand, that contraries cannot be so concluded from one syllogism, as that the conclusion may be, that which is not good is good, or any thing else of this kind, unless such<sup>3</sup> a proposition is immediately assumed; as, for instance, that every animal is white and not white, and that man is an animal<sup>4</sup>. For it is necessary either previously to assume contradiction<sup>5</sup>; as that all science<sup>6</sup> is opinion, and is not<sup>7</sup> opinion, and afterwards<sup>8</sup> to assume [from it] that medicine is a science, indeed, but is no opinion; just as *elenchi*<sup>9</sup> are produced, or [to conclude] from two

<sup>9</sup> In the 2d, 3d, and 4th chapters of this book.

<sup>1</sup> i. e. Genus.

<sup>2</sup> i. e. Species.

<sup>\*</sup> All reasoning from opposites is faulty; because one of the propositions is necessarily false, unless there is some ambiguity: as, every dog is a quadruped, no dog is a quadruped.

<sup>3</sup> i. e. A proposition containing opposition.

<sup>4</sup> This is the minor proposition. The conclusion must be supplied, Therefore man is white and not white. Thus that is concluded to be white, which is not white.

<sup>5</sup> i. e. In the beginning to suppose an axiom contradicting that which we shall afterwards prove.

<sup>6</sup> This is an hypothesis which contradicts the future conclusion.

<sup>7</sup> This is the conclusion contradicting the hypothesis.

<sup>8</sup> i. e. To prove through the following syllogism.

<sup>9</sup> An *elenchus* is defined to be a syllogism of contradiction in the 20th chapter of this book; or a syllogism with contradiction of the conclusion in chap. 1, book 1. Of Sophistical Arguments.

A should be demonstrated through B, and B through C; but C is naturally adapted to be demonstrated through A. For it happens that A will be demonstrated through itself, by those who thus syllogize; which is effected, indeed, by those, who fancy that they describe parallel lines<sup>8</sup>. For they deceive themselves, assuming such things as cannot be demonstrated, unless they are parallel. Hence it happens to those who thus syllogize, that they say, each thing is, if each thing is. But thus every thing will be known through itself, which is impossible. If, therefore, some one, when it is immanifest that A is present with C, and in a similar manner that A is present with B, begs [it may be granted him] that A is present with B; it is not yet evident whether he begs [the question proposed] from the beginning; but it is evident that he does not demonstrate; for that which is similarly immanifest, is not the principle of demonstration. But if B so subsists with reference to C, as that they are the same<sup>9</sup>, or it is evident that [these] are converted, or that the one is present with the other<sup>1</sup>, then the thing investigated in the beginning is made the object of petition. For that A is present with B may be demonstrated through them, if they are converted. Now<sup>2</sup>, however, this<sup>3</sup> prevents<sup>4</sup> but not the mode<sup>5</sup>. But if it should do this<sup>6</sup>, it will effect what has been mentioned<sup>7</sup>, and a conversion will

<sup>8</sup> Those beg the question who endeavour to show that certain lines are parallel because they never meet. For since it ought to be proved that lines do not meet, because they are equidistant, they prove from the first to the last, that lines are equidistant, because they are equidistant. Thus they prove the same thing through the same, and beg the question, while they assume that which is to be proved, and is not a principle known by itself, as if it were a self-luminous principle.

<sup>9</sup> They are the same in reality, and differ only in name, as a vestment and a garment.

<sup>1</sup> i. e. B is predicated of C, as genus of species.

<sup>2</sup> i. e. When B is predicated of C, as genus of species.

<sup>3</sup> That B is more widely extended than A.

<sup>4</sup> i. e. The demonstrating A of B through C.

<sup>5</sup> This syllogistic mode does not prevent conversion from taking place; but rather it is especially adapted to the reception of it, since it is Barbara, in which alone a perfect circle is produced through a conversion of this kind.

<sup>6</sup> i. e. If it should convert the minor proposition, and through C prove A of B.

<sup>7</sup> i. e. It will beg the question.

be made as through three<sup>8</sup> terms. In like manner, if any one should assume that B is present with C, since it is similarly immanifest, as if [he should assume] that A is present with C; he does not yet beg the question from the beginning, but he does not demonstrate. If, however, A and B should be the same, or should be converted, or A should be consequent to B, he will beg the question from the beginning, through the same cause. For what begging the question from the beginning is capable of effecting, we have before shown, viz. that it is to demonstrate a thing through itself, which is not through itself manifest. If, therefore, to beg the question in the beginning, is [nothing else than] to demonstrate of a thing through itself, that which is not through itself manifest; but this is not to demonstrate, since the thing demonstrated, and that through which it is demonstrated, are similarly immanifest, either because the same things are assumed to be present with the same thing<sup>9</sup>, or the same thing with the same things<sup>1</sup>;—if this be the case, in the middle figure, and also in the third, the thing investigated from the beginning, may in each way be similarly the subject of petition. But in a categoric syllogism, [the question is the subject of petition] in the third and first<sup>2</sup> figure [only]; and negatively, when the same things are absent from the same thing, and both the propositions do not subsist similarly<sup>3</sup> (the like also takes place in the middle figure) because

<sup>8</sup> There are not always three terms in reality, but sometimes two; yet one term is now assumed for two; and, therefore, after a manner, there are three terms, as *white*, *vestment*, and *garment*.

<sup>9</sup> The same things are said to be present with the same thing, when A and B are the same. For A is said to be present with C in the conclusion; but B is said to be present with the same C, in the minor proposition; and that in Barbara.

<sup>1</sup> The same thing is said to be present with the same things, when B and C are the same, with which in Barbara we say A is present. For A is predicated of B in the major proposition, and of C in the conclusion.

<sup>2</sup> Because there is no affirmative syllogism in the second figure.

<sup>3</sup> For there cannot be a begging of the question in an affirming, but only in a denying proposition.

the terms are not converted in negative syllogisms<sup>4</sup>. To beg the question, however, in the beginning, takes place in demonstrations, when things which thus subsist in reality, [are the subjects of petition] ; but in dialectic [syllogisms] when those things are requested to be granted, which [appear thus to subsist] according to opinion.

## CHAPTER XVII.

BUT that the false does not happen on account of this, (which in discussions we are frequently accustomed to say) is first [found to be the case] in syllogisms leading to the impossible, when any one contradicts that [which another] demonstrates by a deduction to the impossible. For neither will he who does not contradict, assert that, not on this account, but [he will contend] that it is something false, from those things<sup>5</sup> which were before<sup>6</sup> posited ; nor in an ostensive [proof] ; for he does not adduce contradiction<sup>7</sup>. Farther still, when any thing is ostensively subverted through A B C<sup>8</sup>, it cannot be said that a syllogism is produced on account of that which is posited. For we then say *that* is not produced on account of *this*, when *this* being subverted, the syllogism is nevertheless completed ; which is not the case in ostensive syl-

<sup>4</sup> i. e. The terms of a denying proposition, cannot signify the same thing, or be convertible ; which would be necessary if there were a begging of the question in the affirming proposition. For as often as there is a begging of the question in any proposition, it is necessary, that in the other proposition, the subject and attribute should be the same, or nearly the same.

<sup>5</sup> i. e. Propositions.

<sup>6</sup> i. e. Before the conclusion.

<sup>7</sup> An ostensive proof, or he who uses such a proof, does not adduce a proposition contradicting that which he wishes to prove.

<sup>8</sup> i. e. Through three terms ; for an ostensive syllogism consists of three terms.

logisms.

logisms. For the position<sup>9</sup> being subverted, the syllogism will no longer subsist which pertains to it. It is evident, therefore, that in syllogisms leading to the impossible, *that* is asserted not on account of *this*; and when the hypothesis from the beginning so subsists with reference to the impossible, that both when it is, and when it is not, the impossible will nevertheless happen. Hence the most apparent mode of the false not subsisting on account of the hypothesis, is, when the syllogism produced from media leading to the impossible, is unjoined with the hypothesis, as we have also observed in the Topics<sup>1</sup>. For this it is, to assume that which is not a cause, as a cause; just as if any one wishing to show that the diameter of a square is incommensurable with its side, should endeavour to demonstrate the argument of Zeno, that motion has no existence, and to this should deduce the impossible. For the false is by no means whatever in continuity, with that which was asserted from the beginning<sup>2</sup>. But there is another mode, if the impossible should be in continuity with the hypothesis, yet it does not happen on account of that. For this may take place, whether the continuity is assumed upward or downward; as if A should be posited to be present with B; B with C; and C with D; but this should be false, that B is present with D. For if A being subverted, B is nevertheless present with C, and C with D, there will not be the false from the hypothesis assumed from the beginning. Or again, if some one should assume the continuity in an upward direction; as if A should be present with B, E with A, and F with E; but it should be false that F is present with A. For thus there will no less be the impossible, the hypo-

<sup>9</sup> i. e. The proposition.

<sup>1</sup> i. e. In the fifth chapter of the treatise entitled Sophistical Elenchi; for these books contain sophistical, in the same manner as the Topics contain dialectical, places; and they are conjoined by Aristotle with the Topics, in the same manner as the Posterior, with the Prior Analytics. For both the former pertain to disputation, and both the latter to the acquisition of true science. But the Prior Analytics unfold syllogism generally assumed, under which not only demonstration is comprehended, but also dialectical and sophistical syllogism. Demonstration, however, is the principal species, just as the principal end of logic is demonstrative science.

<sup>2</sup> i. e. That the diameter of a square is not commensurable with the side.

thesis being subverted assumed from the beginning. It is necessary, however, to conjoin the impossible with the terms [assumed] from the beginning; for thus it will be on account of the hypothesis<sup>3</sup>. Thus when the continuity is assumed in a downward direction, [it ought to be conjoined] with the categoric term. For if it is impossible that A should be present with D ; A being taken away, there will no longer be the false. But the continuity [being assumed] in an upward direction, [it ought to be conjoined] with the subject term. For if F cannot be present with B ; B being subverted, there will no longer be the impossible. The like also takes place when the syllogisms are privative. It is evident, therefore, that unless the impossible is conjoined with the terms assumed from the beginning, the false will not happen on account of the position<sup>4</sup>. Or shall we say that neither thus will there be the false on account of the hypothesis? For if A is posited to be present not with B, but with K, and K with C, and this with D ; thus also the impossible will remain. The like will also take place, when the terms are assumed in an upward direction. Since, therefore, the impossible will happen, whether this is, or is not ; it will not be on account of the position<sup>5</sup>. Or if this is not, the false nevertheless is produced ; it ought not to be so assumed as if something else being posited the impossible will happen ; but when this being subverted, the same impossible is concluded, through the remaining propositions. For perhaps there is no absurdity, that the false should be inferred through many hypotheses ; as that parallel lines<sup>6</sup> will meet, whether the internal angle is greater than the external, or whether a triangle has more than two right angles.

<sup>3</sup> i. e. The impossible will be collected.

<sup>4</sup> i. e. The hypothesis.

<sup>5</sup> i. e. The hypothesis.

<sup>6</sup> That parallel lines when produced will meet, is a false conclusion deduced from two false hypotheses. One hypothesis is, that when a line falls on two parallel lines, the internal is greater than the external angle. The other hypothesis is, if a triangle has more than two right angles ; i. e. if the three angles which are in a triangle are greater than two right angles.

## CHAPTER XVIII.

FALSE reasoning, however, is produced, on account of that which is primarily false. For every syllogism consists either from two, or from more than two propositions. If, therefore, it consists from two propositions, it is necessary that one, or both of these should be false; for there will not be a false syllogism from true propositions<sup>7</sup>. But if it consists of more than two propositions, as if C [should be demonstrated] through A B, but these through D E F G; in this case, some one of the above<sup>8</sup> is false; and on this account the reasoning is false. For A and B are concluded through them<sup>9</sup>. Hence through some one of them, the conclusion and the false happen to take place<sup>1</sup>.

## CHAPTER XIX.

IN order, however, to prevent a syllogistical conclusion being adduced against us, we must observe when our [opponent] interrogates the argument<sup>2</sup> without conclusions, lest the same thing should be twice conceded in the propositions; since we know that a syllogism is not produced without a middle, and a middle is that of which we have frequently spoken. But in what manner it is necessary to observe the

<sup>7</sup> It was demonstrated that there will not be in the 2d, 3d, and 4th chapters of this book.

<sup>8</sup> i.e. D E F G.

<sup>9</sup> i.e. D E F G.

<sup>1</sup> i.e. The false conclusion C.

<sup>2</sup> i.e. The propositions of syllogisms.

middle with respect to every conclusion, is evident from knowing what kind of thing is demonstrated in each figure. And of this<sup>3</sup> we shall not be ignorant, in consequence of knowing how<sup>4</sup> we sustain the disputation. It is, however, requisite when we argue, that we should endeavour to conceal that which we have ordered the respondent to guard against<sup>5</sup>. But this will be effected in the first place, indeed, if the conclusions are not pre-syllogized<sup>6</sup>, but are immanifest, when the necessary propositions<sup>7</sup> are assumed. Again, [this will also be effected] if things proximate are not made the subjects of interrogation, but such as are especially media. For instance, let it be requisite to conclude A of F; and let the media be B C D E. It is necessary, therefore, to interrogate, whether A is present with B, and again, not whether B is present with C, but whether D is present with E; and afterwards whether B is present with C; and so of the rest. If also the syllogism should be produced through one middle, [it is necessary] to begin from the middle; for thus especially the respondent may be deceived.

## CHAPTER XX.

BUT since we have when, and in what manner the terms subsisting, a syllogism is produced, it is also evident when, and when there will not be an elenchus. For all things being conceded, or the answers being

<sup>3</sup> i. e. The principal conclusion.

<sup>4</sup> i. e. On what subject.

<sup>5</sup> i. e. If we wish to infer an indefinite conclusion, we should secretly endeavour that the person who answers us, may grant us two propositions in which the middle is latent. But if we wish to infer a definite conclusion, propositions must be posited containing the middle, from which the conclusion is alone inferred mediately and remotely.

<sup>6</sup> The propositions of the principal syllogism are the conclusions of the prosyllògisms.

<sup>7</sup> i. e. The propositions from which these conclusions are necessarily collected.

posited

posed alternately (as, for instance, the one being affirmative, and the other negative) an elenchus may be produced.. For there was a syllogism, the terms subsisting, as well in this, as in that way. Hence, if that which is posited, should be contrary to the conclusion, it is necessary that an elenchus should be produced; for *an elenches is a syllogism of contradiction*. But if nothing should be granted, it is impossible that an elenchus should be produced; for there was not a syllogism when all the terms are privative; so that neither will there be any elenchus. For if there is an elenchus, it is necessary there should be a syllogism; but if there is a syllogism, it is not necessary there should be an elenchus. The like will also take place, if nothing according to the interrogation should be posited in the whole<sup>8</sup>; for there will be the same determination of the elenchus and the syllogism.

## CHAPTER XXI.

IT sometimes happens, however, that as we are deceived in the position of the terms<sup>9</sup>, thus also deception is produced according to opinion; as if it should happen that the same thing, is *primarily*<sup>1</sup> present with many things, and some one should be ignorant of one of these, and should fancy that it is present with no individual, but should know the other. For let A be essentially present with B and with C, and let these be present with every D. If, therefore, some one should fancy that A is present with every B, and this with every D; but A with no

<sup>8</sup> i. e. If the respondent should not concede any universal proposition.

<sup>9</sup> Because we do not distinguish an indefinite from a universal proposition. See the 33d chap. of the former book.

<sup>1</sup> i. e. Without a medium, or as Aristotle shortly after says, *per se*, or *essentially*. For all these expressions signify the same thing.

C, and this with every D; he will have both science<sup>3</sup> and ignorance<sup>3</sup> of the same thing<sup>4</sup> according to the same<sup>5</sup>. Again, if any should be deceived about those things which are from the same co-ordination<sup>6</sup>; as if A is present with B, but this with C, and C with D; but he should apprehend that A is present with every B, and again, with no C; he will at the same time know and not think that it is present. Will he, therefore, from these things think nothing else, than that he does not form an opinion<sup>7</sup> of that which he knows<sup>8</sup>? For he in a certain respect<sup>9</sup> knows that A is present with C, through B, just as the partial is known in the universal<sup>1</sup>. Hence, that which he in a certain respect knows, he entirely thinks he does not know, which is impossible. But in that<sup>2</sup> which was before-mentioned, if the middle is not from the same co-ordination<sup>3</sup> it will not happen that any one can form an opinion<sup>4</sup> of both the propositions according to each of the media; as if A should be present with every B<sup>5</sup>, but with no C<sup>6</sup>, and both these should be present with every D<sup>7</sup>. For it will happen that the first proposition<sup>8</sup>

<sup>3</sup> Through B.

<sup>3</sup> Through C.

<sup>4</sup> i.e. Of D.

<sup>5</sup> i.e. A.

<sup>6</sup> i.e. Which are subaltern.

<sup>7</sup> For in the major proposition of Celarent, he assumes that no C is A.

<sup>8</sup> i.e. That C is A, which he after a manner knows, as will be shortly explained.

<sup>9</sup> i.e. By a universal, and not by a proper knowledge.

<sup>1</sup> C is partial, that is, it is a part of B; and, therefore, is contained in the universal knowledge of B.

<sup>2</sup> i.e. In the first deception.

<sup>3</sup> i.e. If the middle assumed in Barbara, and the middle in Celarent, are not subaltern.

<sup>4</sup> i.e. Both the propositions of Barbara, and both of Celarent, cannot be at one and the same time assumed.

<sup>5</sup> The major proposition of Barbara.

<sup>6</sup> The major proposition of Celarent.

<sup>7</sup> The minor of Barbara and Celarent.

<sup>8</sup> i.e. The major.

will assume a contrary, either simply, or partially.<sup>9</sup> For if he thinks that A is present with every thing with which B is present, but he knows that B is present with D; he will also know that A is present with D. Hence, if again he thinks that A is present with nothing with which C is present; he will not think that A is present with any thing with which B is present. But that he who thinks that it is present with every thing with which B is present, should again think that it is not present with something with which B is present, is either simply, or partially contrary. It is not possible, therefore, thus to think. Nothing, however, hinders [the assuming] one<sup>1</sup> proposition according to each [middle<sup>2</sup>], or both according to one<sup>3</sup>; as that A is present with every B, and B with D; and again, that A is present with no C. For a deception of this kind is similar to that by which we are deceived about particulars; as<sup>4</sup> if A is present with every B, but B with every C, A will be present with every C. If, therefore, any one knows that A is present with every thing with which B is present, he will also know that it is present with C. Nothing, however, hinders, but that he may be ignorant of the existence of C; as if A is two right angles; B, a triangle; and C, a sensible triangle.

B A  
 [Every triangle has angles equal to two right:—*Known*.  
 C B  
 This is a triangle:—*Unknown*. Therefore,  
 C A  
 This has angles equal to two right. { *Known* by universal,  
*Unknown* by proper knowledge.

<sup>9</sup> For since B and C are different subjects; these propositions, every B is A, no C is A, are not simply contrary, but partially, i.e. by reason of D, which is subjected both to B and to C. For if D is B, and the same is not A, certainly, not every B is A, and yet it is assumed that every B is A.

<sup>1</sup> i. e. The assuming two propositions, one pertaining to B, the other to C; as every B is A, no C is A, the minor propositions not being added.

<sup>2</sup> i.e. B, and C.

<sup>3</sup> i. e. To assume both the propositions from one middle, and one proposition from the other middle; as in the example which Aristotle subjoins, both the propositions of Barbara are assumed, and only the major of Celarent.

\* Conjoin what is here said, with chap. 1. book 1. of the Posterior Analytics, and chap. 3. book 6. of the Nicomachean Ethics.

For:

For some one may think that C does not exist, knowing that every triangle has angles equal to two right. Hence he will at the same time know<sup>5</sup>, and be ignorant<sup>6</sup> of the same thing. For to know that every triangle has angles equal to two right, is not any thing simple<sup>7</sup>, but partly arises from the possession of universal science, and partly from the possession of partial science. Thus, therefore, by universal science he knows that C has angles equal to two right ; but he does not know it by partial science. He will not, therefore, possess contraries<sup>8</sup>. The like also takes place with respect to the reasoning in the Meno [of Plato], that discipline is reminiscence. For it never happens that there is a pre-existent knowledge of particulars, but together with induction we receive, as it were recognizing, the science of particulars. For some things<sup>9</sup> we immediately know ; as, for instance, the possession of angles equal to two right<sup>i</sup>, if we know that [what we see] is a triangle. The like also takes place in other things. By universal knowledge, therefore, we survey particulars, but we do not know them [through universals] with appropriate knowledge. Hence it happens that about these we are deceived, yet not contrarily<sup>2</sup> ; but because we have a universal [knowledge], and are deceived according to particular knowledge. The like, therefore, takes place in the things of which we have before spoken<sup>2</sup>. For the deception which is according to the middle is not contrary to the science according to syllogism ; nor the opinion according to each of the middles. Nothing, however, hinders but that he who knows that A is present with the whole of B, and again, that this is present with C, may think that A is not present with C. Thus, he who knows that every mule is barren, and that this [animal] is a

<sup>5</sup> By universal knowledge.

<sup>6</sup> By particular knowledge.

<sup>7</sup> i. e. Is not assumed in one mode.

<sup>8</sup> i. e. Science and ignorance.

<sup>9</sup> i. e. Particulars.

<sup>i</sup> i. e. We immediately know that this triangle has angles equal to two right,

<sup>2</sup> i. e. Not in a manner contrary to science.

<sup>2</sup> i. e. In the first and second kind of deception,

mule, may fancy that this [animal] is parturient. For he does not know that A is present with C, unless he at the same time surveys each [proposition]. Hence it is evident, that if he knows one [of the propositions], but does not know the other, he will be deceived, with respect to the manner in which universal subsist with reference to particular sciences. For we know nothing of sensibles which exists external to sense, not even if we have perceived it [before], unless so far as we possess universal and proper science, and not because we energize [according to that science]. For the possession of scientific knowledge is predicated in a threecfold respect; either as arising from the possession of universal knowledge, or as from proper knowledge, or as from energizing, so that to be deceived is likewise predicated in as many ways. Nothing, therefore, hinders, but that a man may have a knowledge of and be deceived about the same thing, except not in a contrary manner; which also happens to him who knows according to each proposition, and has not previously considered<sup>4</sup>. For thinking that a mule is parturient, he has not science in energy. Nor again, on account of opinion<sup>5</sup>, has he deception contrary to science<sup>6</sup>; for the deception contrary to universal [science]<sup>7</sup> is a syllogism<sup>8</sup>. But he who thinks that the very being of good, is the very being of evil, apprehends that the essence of good is the same as the essence of evil. For let the essence of good be A; but the essence of evil, B; and again, let the essence of good be C. Since, therefore, he thinks that B and C are the same, he will also think that C is B; and again, he will in a similar manner think that B is A; so that he will also be of opinion that C is A.

<sup>4</sup> i. e. He has not considered both the propositions conjointly, which he knew separately, so that from them he might educe the conclusion.

<sup>5</sup> Because he thinks that this mule is parturient.

<sup>6</sup> By which he knows that every mule is barren.

<sup>7</sup> i. e. That every mule is barren.

<sup>8</sup> i. e. It is a deceptive syllogism, by which it is universally proved that no mule is barren, because universals are contrary. The proposed opinion, however, is partial, because it thinks that this particular mule is barren.

B                    A  
 [He thinks that the essence of evil is the essence of good :  
 C                    B  
 He thinks that the essence of good is the essence of evil : Therefore,  
 C                    A  
 He thinks that the essence of good is the essence of good.]

For just<sup>9</sup> as if it were true, that of which C is predicated, B is predicated ; and that of which B is predicated, A is predicated ;—this being the case, it was also true that A is predicated of C. The like will also take place in [the verb] to opine ; and in [the verb] to be. For if C and B are the same, and again, B and A ; C also is the same as A. Hence the like will also take place in [the verb] to opine. Is, therefore, this<sup>1</sup>, indeed, necessary, if any one should concede the first<sup>2</sup>? But perhaps that is false<sup>3</sup>, that any one will opine that the essence of good is the essence of evil, unless from accident<sup>4</sup>. For it is possible to opine this in many ways. This, however, must be more accurately considered<sup>5</sup>.

<sup>9</sup> Aristotle confirms the argument which he employs from the similar. For as a syllogism rightly concludes when we use the verb to be predicated, or the verb to be, thus also when we use the verb to think, or the verb to opine, which Aristotle employs at present.

<sup>1</sup> i. e. That he who conjointly considers both propositions has contrary opinions.

<sup>2</sup> i. e. That some one should think that the essence of good is the same as the essence of evil.

<sup>3</sup> Heraclitus, indeed, said, that on account of the continual mutation of things, each thing is not more than which it is, than the contrary. He said this, however, with reference to the perpetual flux of matter, and not with reference to the incorporeal presence of form, through which even material natures possess a certain identity of being.

<sup>4</sup> That which is essentially good may from accident, i. e. in a certain special case, from some particular circumstance, become evil. Thus, it is essentially good to return a deposit, but it is bad to return a sword into the hands of a madman.

<sup>5</sup> Not in this treatise, but in the Ethics, or Metaphysics.

## CHAPTER XXII.

WHEN, however, the extremes<sup>6</sup> are converted, it is also necessary that the middle should be converted with both [extremes<sup>7</sup>]. For if A is present with C through B ; if [the conclusion] is converted, and C is present with whatever A is present, B also is converted with A<sup>8</sup>; and with whatever A is present, B also is present through the middle C. C likewise is converted with B<sup>9</sup> through the middle A. The like will also take place in the not being present with. As if B is present with C<sup>1</sup>, but A is not present with B<sup>2</sup>; neither will A be present with C. If, therefore, B is converted with A, C also will be converted with A. For let B not be present with A<sup>3</sup>, neither, therefore, will C be present with A<sup>4</sup>; for B was present with every C. And if C is converted with B, A also will be converted with B. For of whatever B is predicated, C also is predicated. And if C is converted with A, B also will be converted with A<sup>5</sup>. For that with which B is present, C also is present<sup>6</sup>; but C

\* i.e. When the conclusion is converted.

<sup>7</sup> i.e. It is necessary both propositions should be converted. But this must be understood of syllogisms constructed in the first figure from true propositions.

<sup>8</sup> The major proposition.

<sup>9</sup> The minor proposition.

<sup>1</sup> The minor proposition of Celarent.

<sup>2</sup> The major proposition of Celarent.

<sup>3</sup> The minor of Camestres.

<sup>4</sup> The conclusion of Camestres.

<sup>5</sup> And C likewise with B must be supplied; so that not only the conclusion may be converted, but also the minor proposition.

<sup>6</sup> i.e. Every B is C. This is the major proposition of Camestres, which is collected from the conversion of the minor of Celarent.

is not present with that with which A is present<sup>7</sup>. And this alone<sup>8</sup> begins from the conclusion (but the others<sup>9</sup> not similarly) as is also the case in a categoric syllogism<sup>1</sup>. Again, if A and B are converted, and in a similar manner C and D, but it is necessary that A or C should be present with every individual, B also and D will so subsist, that one of them will be present with every individual. For since B is present with that with which A is present, and D with that with which C is present, but both are not at the same time present with every thing with which A or C is present; it is evident that B or D also is present with every individual, and not both of them at one and the same time. For two syllogisms are composed<sup>2</sup>. Again, if A or B is present with every individual, and C or D, but they are not present at one and the same time; if A and C are converted, B also and D are converted. For if B is not present with a certain thing, with which D is present, it is evident that A is present with it. But if A is present, C also will be present; for they are converted; so that C and D will be present at one and the same time; but this is impossible<sup>3</sup>. Thus, if that which is unbegotten is incorruptible, and that which is incorruptible is unbegotten; it is necessary that what is generated should be corruptible, and what is corruptible, generated. But when A is present with the whole

<sup>7</sup> i. e. No A is C. This is the minor proposition of Camestres, which is taken from the conversion of the conclusion of Celarent.

<sup>8</sup> i. e. This mode alone of converting a negative syllogism.

<sup>9</sup> i. e. The two preceding modes.

<sup>1</sup> i. e. In Barbara; for there also the conversion began from the conclusion.

<sup>2</sup> There are two syllogisms, by one of which it is proved, that either B is or D, i. e. that neither of them can be; but by the other it is proved that both of them cannot exist at one and the same time. These two syllogisms in the words of the context are conjoined as follows: Whatever is A or C, and not both, that is either B or D, and not both. But every being is either A or C, and not both; therefore, every being is either B or D, and not both.

<sup>3</sup> Aristotle had before proved that B is predicated of every D. It does not however, hence follow that B and D may be converted, unless it is also added, that D is predicated of every B. This Aristotle, for the sake of brevity, has omitted, because the proof of this is similar to the former proof.

of B, and with [the whole of] C, and is predicated of nothing else, and B also is present with every C ; it is necessary that A and B should be converted. For since A is predicated of B C alone, but B also is predicated itself of itself, and of C ; it is evident that of those things of which A is predicated, of all those B also will be predicated, except of A. Again, when A and B are present with the whole of C, but C is converted with B, it is necessary that A should be present with every B. For since A is present with every C, but C is present with every B, in consequence of reciprocation, A also will be present with every B. But when of two things which are opposites, as, for instance, A and B, A is more eligible than B, and in a similar manner D is more eligible than C, if A C are more eligible than B D, A is more eligible than D. For in a similar manner A is to be pursued, and B to be avoided ; since they are opposites. C also [is to be similarly avoided], and D [to be pursued]; for these likewise are opposed. If, therefore, A is similarly eligible with D, B also is to be similarly avoided with C. For each is similarly [opposed] to each, that which is to be avoided, to that which is to be pursued. Hence both [are to be similarly avoided, or pursued], viz. A C, similarly with B D. But because [those are] more [eligible] than these, they cannot be similarly [eligible]; for if they could, B D would be similarly eligible [with A C]. But if D is more eligible than A, B also will be less avoidable than C; for the less is opposed to the less. But the greater good and the less evil are more eligible than the less good and the greater evil. The whole, therefore, of B D, is more eligible than A C. Now, however, this is not the case. Hence A is more eligible than D ; and consequently C is less avoidable than B. If, therefore, every lover according to love chooses A, viz. to be in such a condition that he may be gratified, and yet not be gratified, which is C, rather than be gratified which is D, and yet not be in a condition to be gratified which is B ; it is evident that A, viz. to be in a condition adapted to be gratified, is more eligible than to be gratified<sup>4</sup>.

To

\* This is a most elegant example of the adduced comparison, from which the assertion of Plato in the Banquet, that coition is not the end of love, is confirmed. But the rule on which the demonstration

To be beloved, therefore, is more eligible according to love than coition. Hence love is rather [the cause] of dilection than of coition. But if it is especially [the cause] of this, this also is the end of it. Hence coition either, in short, is not, or it is for the sake of dilection. For other desires also and arts, are thus<sup>5</sup> produced. It is evident, therefore, how terms subsist according to conversions, and the being more eligible, or more avoidable.

### CHAPTER XXIII.

Now, however, it must be shown, that not only dialectic and demonstrative syllogisms are produced through the before-mentioned figures, but that rhetorical syllogisms also are thus produced, and, in short, every kind of credibility, and according to every method. For we believe all things either through syllogism, or from induction. Induction, therefore, and the syllogism from induction are, when one<sup>6</sup> extreme is concluded through the other<sup>7</sup> of the middle. As if of A C the middle is B, and it should be shown through C, that A is present with B. For thus we make inductions. Thus, let A be long-lived ; B, void of bile ; C, every thing long-lived, as man, horse, and mule. A, therefore<sup>8</sup>, is

monstration of it depends, is as follows : If four terms so subsist that the first is more eligible than the second, and the fourth than the third, but the first together with the third is more eligible than the second together with the fourth ; then it is necessary that the first should be more eligible than the fourth. Aristotle's meaning, therefore, is, that if it is more eligible for a lover to be in a condition adapted to be gratified by the object of his love, and yet not be gratified, than not to be in a condition to be gratified, and yet be gratified, it is more eligible to be in a condition adapted to be gratified, than to be gratified.

<sup>5</sup> i. e. Nothing is desired, nothing is effected by art, unless for the sake of the proposed end.

<sup>6</sup> i. e. The greater extreme.

<sup>7</sup> Through the less extreme.

<sup>8</sup> The major proposition of the induction ; which induction, indeed, is constructed in the third figure.

present

present with the whole of C ; for every C is long-lived. But B<sup>9</sup> also, or that which is void of bile, is present with every C. If, therefore<sup>1</sup>, C is converted with B, and is not extended above the middle, it is necessary that A should be present with B. For it has been before shown<sup>2</sup>, that when any two<sup>3</sup> things are present with the same<sup>4</sup> thing, and the extreme<sup>5</sup> is converted with one<sup>6</sup> of them, the other<sup>7</sup> of the things predicated will also be present with that<sup>8</sup> which is converted. But it is necessary to conceive of C as if it were composed from all particulars ; for induction<sup>9</sup> is produced through all particulars.

C                    A  
[Every man, horse, mule, is long-lived :  
            B            C  
Whatever is void of bile is man, horse, mule : Therefore,  
            B            A  
Whatever is void of bile is long-lived.]

A syllogism, however, of this kind<sup>1</sup> is of the first proposition, and without a middle. For of those propositions of which there is a middle, the syllogism is produced through the middle ; but of those, of which there is not a middle, the syllogism is produced through induction. And after a certain manner induction is opposed to syllogism<sup>2</sup> ; for the latter shows the extreme<sup>3</sup> of the third through the middle ; but the former shows the extreme of the middle through the third<sup>4</sup>. To

<sup>9</sup> The minor proposition of the induction.

<sup>1</sup> A reduction to the first figure.

<sup>2</sup> In the preceding chapter.

<sup>3</sup> As A and B.

<sup>4</sup> As with C.

<sup>5</sup> i. e. C, which is the less extreme.

<sup>6</sup> As with B.

<sup>7</sup> i. e. A.

<sup>8</sup> i. e. With B.

<sup>9</sup> i. e. A perfect induction. For sometimes an imperfect induction is used, i. e. certain particulars are omitted ; and then the induction has not a necessary power of concluding.

<sup>1</sup> i. e. An inductive syllogism.

<sup>2</sup> i. e. To the syllogism which is produced through the middle.

<sup>3</sup> i. e. The greater extreme.

<sup>4</sup> i. e. Of the less extreme.

nature, therefore, the syllogism which is produced through the middle is prior and more known ; but to us<sup>5</sup> the syllogism which is produced through induction is more evident.

## CHAPTER XXIV.

BUT example is when the extreme<sup>6</sup> is shown to be present with the middle, through the similar to the third<sup>7</sup>. It is necessary, however, that it should be known that the middle is present with the third, and the first with the similar<sup>8</sup>. Thus, for instance, let A be bad ; B, to engage in war against neighbours ; C, the Athenians against the Thebans ; D the Thebans against the Phocenses. If, therefore, we wish to show that to war against the Thebans is bad, it must be assumed that it is bad to war against neighbours. But the credibility of this is from similars, as that to the Thebans, [the war] against the Phocenses [was pernicious]. Since, therefore, war against neighbours is bad ; but the war against the Thebans is against neighbours ; it is evident that it is bad to war against the Thebans. Hence it is evident that B is present with C, and with D ; for both are to engage in war against neighbours. And also that A is present with D ; for the war against the Phocenses was not advantageous to the Thebans. But that A is present with B will be shown through D. This will also be effected after the same manner, if belief that the middle is in the extreme is produced through many similars. It is evident, therefore, that example is neither as whole to

<sup>5</sup> Some things are more known to nature, but others are more known to us. See book 1. of the Posterior Analytics, chap. 1 ; book 1. of the Physics, chap. 1 ; and book 2. of the Metaphysics, chap. 1.

<sup>6</sup> i. e. The greater extreme.

<sup>7</sup> i. e. The similar to the less extreme.

<sup>8</sup> i. e. With that which is similar to the third.

part,

part, nor as part to whole, but as part to part<sup>9</sup>, when both<sup>1</sup> are under the same thing<sup>2</sup>, but the one is more known [than the other]<sup>3</sup>. It also differs from induction; because the latter shows from all individuals that the extreme<sup>4</sup> is present with the middle<sup>5</sup> and does not conjoin the syllogism with the extreme<sup>6</sup>; but the former<sup>7</sup> conjoins<sup>8</sup>, and does not demonstrate from all<sup>9</sup> [individuals].

## CHAPTER XXV.

**ABDUCTION**, however, is, when it is evident that the first is present with the middle<sup>1</sup>; but it is immanifest that the middle is present with the last<sup>2</sup>, though it is similarly credible, or more credible than the conclusion. Farther still, if the media of the last and middle are few; for it entirely happens that we shall be nearer to science.. Thus, for instance, let A be that which may be taught; B, science: and C, justice. That science, therefore, may be taught is evident; but whether justice is science is immanifest. Hence if B C is similarly, or more

<sup>9</sup> A is a whole; B is a part of A; and C D are parts of B. When, therefore, example proceeds from D to C, it proceeds from part to part.

<sup>1</sup> i. e. C and D.

<sup>2</sup> i. e. Are under the same A.

<sup>3</sup> i. e. It is more known that D than that C is contained under A.

<sup>4</sup> i. e. The greater extreme A.

<sup>5</sup> B.

<sup>6</sup> i. e. With the less extreme. In other words, it does not prove A of C.

<sup>7</sup> i. e. Example.

<sup>8</sup> i. e. Proves A of C.

<sup>9</sup> i. e. Not from all the individuals contained under B, but from some only.

<sup>1</sup> i.e. When the major proposition is known.

<sup>2</sup> i. e. The minor proposition.

credible than A C<sup>3</sup>, it is abduction; for we are nearer to scientific knowledge in consequence of adding [the proposition] B C [to the conclusion] A C, not possessing science before.

B            A  
[Every science may be taught :—Known.

C            B  
All justice is science :—Similarly or more credible than the conclusion.  
Therefore,

C            A  
All justice may be taught.]—Unknown.

Again, [abduction is], if the media of [the terms] B C should be few; for thus we shall be nearer to knowledge. As<sup>4</sup>, if D should be to be squared; E, a rectilinear figure; and F, a circle. Then if of [the proposition] E F, there is only one middle, for a circle to become equal to a rectilinear figure through lunulas, will be a thing near to knowledge.

E            D  
[Every rectilinear figure may be squared :—Known.

F            E  
Every circle may become a rectilinear figure :— { This is proved through one middle,  
i. e. through lunulas.

Therefore,

F            D  
Every circle may be squared.]—This is proved through many media.

But when neither [the proposition] B C is more credible than [the conclusion] A C, nor the media are fewer; I do not call this abduction. Nor when [the proposition] B C is without a middle; for a thing of this kind is science.

<sup>3</sup> i. e. The minor proposition than the conclusion.

<sup>4</sup> Aristotle here refers to the quadrature of the circle by Hippocrates of Chius. See the notes on chap. 2. book 1. of the Physics.

## CHAPTER XXVI.

BUT objection is a proposition contrary to a proposition<sup>5</sup>. It differs, however, from a proposition, because objection may be in part, but a proposition either altogether cannot be in part, or not in universal syllogisms. Objection, however, is urged in a twofold respect, and through two figures. In a twofold respect, indeed, because every objection is either universal or partial. But through two figures; because objections are urged opposite to the propositions, and opposites are only concluded in the first and third figure<sup>6</sup>. For when any one thinks fit to assert that a thing is present with every individual, we object, either that it is present with no individual, or that it is not present with a certain individual. But of these, that a thing is present with no individual [is collected] from the first figure<sup>7</sup>; and that it is not present with a certain individual [is collected] from the last figure<sup>8</sup>. Thus, for instance, let A be, there is one science; and B, be contraries. When any one, therefore, asserts that there is one science of contraries, it is objected, either that there is not entirely the same science of opposites, but contraries are opposites; so that the first figure is produced<sup>9</sup>.

<sup>5</sup> Εξαρσίς, or *objection*, is that which is opposed to a proposition; but αναστέμμα, or *subversion*, is opposed to a conclusion. Objection, however, is otherwise considered by Hermogenes in his treatise on invention, than in this place by Aristotle.

<sup>6</sup> Because in two figures alone, as well affirmation as negation is concluded.

<sup>7</sup> i. e. Celarent.

<sup>8</sup> i. e. Felapton.

<sup>9</sup> i. e. Celarent.

[Proposition. A              B There is one science of contraries :	Objection. A              C There is not one science of opposites : B              C Contraries are opposites : Therefore, A              B There is not one science of contraries.]
---	--

Or it is objected that there is not one science of the known and the unknown. And this is the third figure<sup>1</sup>. For of C, i. e. of the known and the unknown, it is true that they are contraries ; but it is false that there is one science of them.

[Proposition. A              B There is one science of contraries :	Objection. A              C There is not one science of the known and the unknown : C              B The known and the unknown are contraries : Therefore, A              B There is not one science of all contraries.]
---	---

The like will also take place in a privative proposition. For if any one thinks fit to assert that there is not one science of contraries ; we say either that there is the same science of opposites, or that there is the same science of certain contraries, as of the salubrious and the morbid. That there is one science, therefore, of all things, is objected to from the first figure<sup>2</sup>; but that there is one science of certain things, is objected to from the third figure<sup>3</sup>.

[Proposition. A              B There is not one science of contraries :	Objection. A              C There is one science of opposites : B              C Contraries are opposites : Therefore, A              B There is one science of contraries.]
---	---

<sup>1</sup> Felapton.

<sup>2</sup> In Barbara.

<sup>3</sup> In Darapti.

[Proposition.

[Proposition.		Objection.
A	B	A
There is not one science of contraries :		There is one science of the salubrious and the morbid:
		C
		The salubrious and the morbid are contraries :
		Therefore,
		A
		B
		There is one science of certain contraries.]

For, in short, in all [disputations], it is necessary that he who universally objects, should join the contradiction of the things proposed <sup>4</sup> to that which is universal <sup>5</sup>; as, if some one should think fit to assert that there is not the same science of all contraries, [he who objects] should say that there is one science of opposites. For thus it is necessary that there should be the first figure; since the middle becomes that which is universal to that [which was proposed] from the beginning <sup>6</sup>. But it is necessary that he who objects in part, [should join contradiction to that] to which the subject of the proposition is universal; as, that of the known and the unknown there is not the same science. For contraries are universal with reference to these <sup>7</sup>; and the third figure is produced. For that which is assumed in part is the middle, as, for instance, the known and the unknown; since from those things from which the contrary may be syllogistically collected, we endeavour to urge objections. Hence from these figures alone <sup>8</sup> we adduce objections; for in these alone opposite syllogisms [are constructed]; since through the second figure it is not possible to conclude affirmatively <sup>9</sup>. Besides, though it

<sup>4</sup> i. e. Of the proposition to which he objects.

<sup>5</sup> i. e. To that which is attributed to the subject of the proposition.

<sup>6</sup> i. e. Instead of the middle term opposites are assumed, which are attributed to contraries, as the universal is attributed to the particular contained under itself.

<sup>7</sup> i. e. Contraries are attributed to the known and the unknown, as the universal is attributed to the partial.

<sup>8</sup> i. e. In the first and third figures.

<sup>9</sup> Hence, if the proposition denies, it cannot be objected to in the second figure; since the objection opposed to the denying proposition ought to affirm.

should

should be possible<sup>1</sup>, yet the [objection adduced] in the middle figure would require a more extended discussion<sup>2</sup>; as if any one should not grant that A is present with B, because C is not consequent to it<sup>3</sup>. For this is manifest through other propositions. The objection, however, ought not to be converted to other things, but should immediately have the other proposition<sup>4</sup> apparent. Hence there is not a sign from this figure alone<sup>5</sup>. Other objections also are to be considered<sup>6</sup>; such as those which are assumed from the contrary<sup>7</sup>, from the similar<sup>8</sup>, and from that which is according to opinion. It must also be considered whether a partial objection can be assumed from the first figure, or a privative objection from the middle figure<sup>9</sup>.

## CHAPTER XXVII.

THE consentaneous, however, and a sign, are not the same. But the consentaneous, indeed, is a probable proposition. For that which is

<sup>1</sup> i. e. Though an objection might sometimes be made in the second figure; viz. when the proposition affirms.

<sup>2</sup> In order that the force of the objection may appear.

<sup>3</sup> i. e. To B.

<sup>4</sup> i. e. The proposition which is concealed and understood.

<sup>5</sup> See the following chapter.

<sup>6</sup> See Aristotle's Rhetoric, book 2. chap. 25.

<sup>7</sup> As if some one should oppose him who says that pleasure is not good, by asserting that pain is an evil.

<sup>8</sup> As if some one should assert that there is one science of contraries, and another should object that there is not.

<sup>9</sup> A partial objection may, indeed, be assumed from the first, and a negative objection from the second figure, but less conveniently, as is not only evident from what is explained in this chapter, but also from what was said in the former book, concerning the invention of the middle term.

known

known to be for the most part thus generated, or not generated, or to be, or not to be ; this is consentaneous ; as, for instance, that the envious hate, or that lovers love. But a sign seems to be nothing else than a demonstrative proposition, either necessary, or probable. For that which when it exists, a thing is, or which when it is generated, a thing is first or last generated ; this is a sign, that a thing is generated, or is. But an enthymeme is a syllogism from things consentaneous, or from signs. A sign, however, is triply assumed, in as many ways as the middle in the figures [of syllogisms]. For it is assumed either as in the first figure, or as in the middle, or as in the third. Thus to show that a woman is pregnant, because she has milk [in her breasts] is from the first figure ; for the middle is, to have milk. Let A be to be pregnant ; B, to have milk ; C, a woman.

B            A  
[Whatever woman has milk is pregnant :  
C            B  
This woman has milk : Therefore,  
C            A  
This woman is pregnant.]

But that wise are worthy men ; for Pittacus is a worthy man, [is concluded] through the last figure. Let A be worthy ; B, wise men ; C, Pittacus. It is true, therefore, that A and B are predicated of C ; except that they do not assert the one<sup>1</sup>, because they know it ; but they assume the other<sup>2</sup>.

[A Paralogism.  
C            A  
Pittacus is a worthy man :  
C            B  
Pittacus is a wise man : Therefore,  
B            A  
Wise are worthy men.]

But that a woman is pregnant because she is pale, [is to be concluded] through the middle figure. For since paleness is a consequence of

<sup>1</sup> Viz. That Pittacus is a wise man.

<sup>2</sup> Viz. That Pittacus is a worthy man.

pregnancy,

pregnancy, and it is also an attendant on this woman, they fancy that this woman is pregnant. Let paleness be A ; to be pregnant B ; a woman C.

	<b>B</b>	<b>A</b>
[Whatever woman is pregnant is pale :		
C	A	
This woman is pale : Therefore,		
C	B	
This woman is pregnant.]		

If, therefore, one proposition should be enunciated, a sign only will be produced ; but if the other proposition is also assumed, a syllogism will be produced ; as, for instance, that Pittacus is liberal ; for the ambitious are liberal ; and Pittacus is ambitious. Or again, that wise are good men ; for Pittacus is a good man, and also a wise man. Thus, therefore, syllogisms are produced. Except, indeed, that the syllogism which is constructed in the first figure is insoluble, if it is true ; for it is universal<sup>3</sup>. But the syllogism which is constructed through the last figure may be solved, though the conclusion should be true ; because the syllogism is not universal<sup>4</sup>, nor is the thing proposed concluded<sup>5</sup>. For it is not necessary if Pittacus is a worthy man, that on this account other wise men also should be worthy. But the syllogism which is constructed through the middle figure may always and entirely be solved. For a syllogism will never be produced when the terms thus subsist<sup>6</sup>. For it is not necessary, if the woman who is pregnant is pale, and this woman is pale, that this woman is pregnant. That which is true, therefore, will be inherent in all the figures ; but they will have the before-mentioned differences. Either, therefore, a sign must be thus divided ; but from these the argument ought to be assumed, which

<sup>3</sup> That is, it has the major proposition universal.

<sup>4</sup> i.e. It consists of two partial propositions, and therefore concludes nothing.

<sup>5</sup> Though something should be concluded, yet the thing intended is not concluded, viz. that all wise are worthy men, since a universal conclusion cannot be collected in the third figure.

<sup>6</sup> i.e. When both the propositions affirm.

is the middle<sup>7</sup>. For the argument they say is that which produces knowledge; but the middle is especially a thing of this kind<sup>8</sup>. Or those things [which are assumed] from the extremes<sup>9</sup>, are to be called signs; but that which is from the middle is to be called an argument. For that is most probable and especially true [which proves] through the first figure. But it is possible to form a judgment of the natural disposition of any one by his bodily frame<sup>1</sup>, if it is granted that such passions as are natural change at one and the same time the body and the soul. For some one perhaps learning music suffers some change in his soul; but this passion is not among the number of those which are natural to us; angers and desires which pertain to natural motions [rather belonging to this class]. If, therefore, this should be granted, and that one<sup>2</sup> thing is the sign of one [passion], and we are able to assume<sup>3</sup> the proper passion and sign of each genus; we may be able to form a judgment of the natural disposition by the bodily frame. For if a proper passion is inherent in a certain individual genus<sup>4</sup>, as, for instance, fortitude in lions, it is also necessary that there should be a certain sign; (for it is supposed [that the body and soul] sympathize with each other) and let this be the possession of great extremities; which also happens to be present with other not whole genera<sup>5</sup>. For

<sup>7</sup> Which is referred to the first figure, in which the middle term obtains the middle place.

<sup>8</sup> The middle term which is assumed in the first figure is especially scientific. See chap. 14. of book 1. of the Posterior Analytics.

<sup>9</sup> i. e. Which are referred to the second, or third figure; because in the one the middle term has the first place, but in the others the last place.

<sup>1</sup> By the example of a physiognomic sign, Aristotle wishes to show that signs especially probable are referred to the first figure.

<sup>2</sup> The first physiognomic hypothesis assumed by Aristotle is, that natural passion changes at one and the same time the body and the soul. The second which he now assumes is, that there is one sign of one passion.

<sup>3</sup> This is the third hypothesis, that the proper passion of every species of animal, and the sign of that passion, may be known.

<sup>4</sup> i. e. In the most special species.

<sup>5</sup> i. e. Other species of an animal also have great extremities, but this is not possessed by all the individuals contained under that species.

the sign is thus proper (or peculiar) because the passion is the peculiarity of the whole genus, and is not the peculiarity of it alone<sup>6</sup>, as we are accustomed to say. The same [sign], therefore, will also be inherent in another genus, and man will be brave, and some other animal. It will, therefore, possess that sign<sup>7</sup>; for there was one [sign] of one [passion]. If therefore, these things are [true], and we are able to collect such signs, in these animals, which have one peculiar passion alone; (but each [passion] has its [own] sign, since it is necessary that it should have one sign) we may be able to form a judgment of the natural disposition by the bodily frame. But if the whole genus has two peculiarities; as a lion has fortitude and liberality, how shall we know which of those signs that are properly consequent is the sign of either [passion]? Shall we say that we may know this, if both are inherent in something else, but not wholly<sup>8</sup>, and that in those things in which each is not inherent wholly, when one is possessed, the other is not<sup>9</sup>? For if an animal is brave, indeed, but not liberal, but it has this<sup>1</sup> from two signs; it is evident that in a lion also, this is the sign of fortitude. But to form a judgment of the natural disposition by the bodily frame, is in the first figure, because the middle reciprocates with the first extreme, but surpasses the third, and does not reciprocate [with it]. Thus, for instance, let fortitude be A; great extremities, B; and a lion, C. Hence B is present with every individual of

<sup>6</sup> i.e. It is a proper sign in the second mode, because it happens to *every* individual, but not to that genus *alone*

<sup>7</sup> i.e. Great extremities.

<sup>8</sup> i.e. If both passions and both signs are inherent in another genus of animals; yet so as that both are not inherent in all the individuals contained under that genus. Thus, for instance, fortitude and liberality are in horses as well as in lions, and the signs also of fortitude and liberality are in both. They are not, however, in all horses; for some are brave and not liberal; and others are liberal and not brave.

<sup>9</sup> i.e. When both passions and their signs, are found in other kinds of animals; yet so that both are not inherent in all the individuals; but some are only brave, and others are only liberal.

<sup>1</sup> i.e. Great extremities.

that

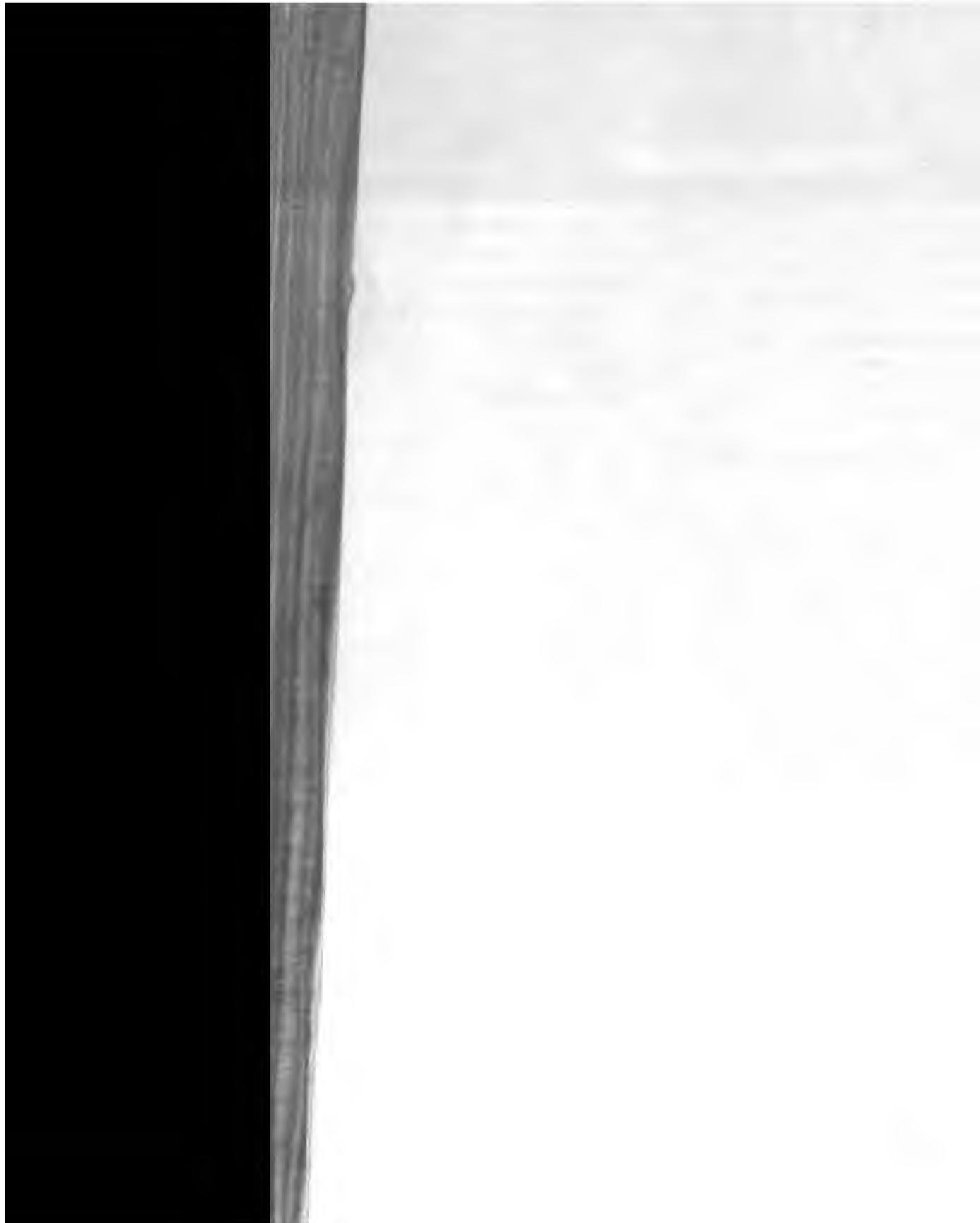
that with which C is present, and it is also present with other things<sup>2</sup>. But A is present with every individual of that with which B is present, and not with more individuals, but is converted. For if it were not, there would not be one sign of one passion.

[Whatever has great extremities is brave :  
Every lion has great extremities :  
Therefore,  
Every lion is brave.]

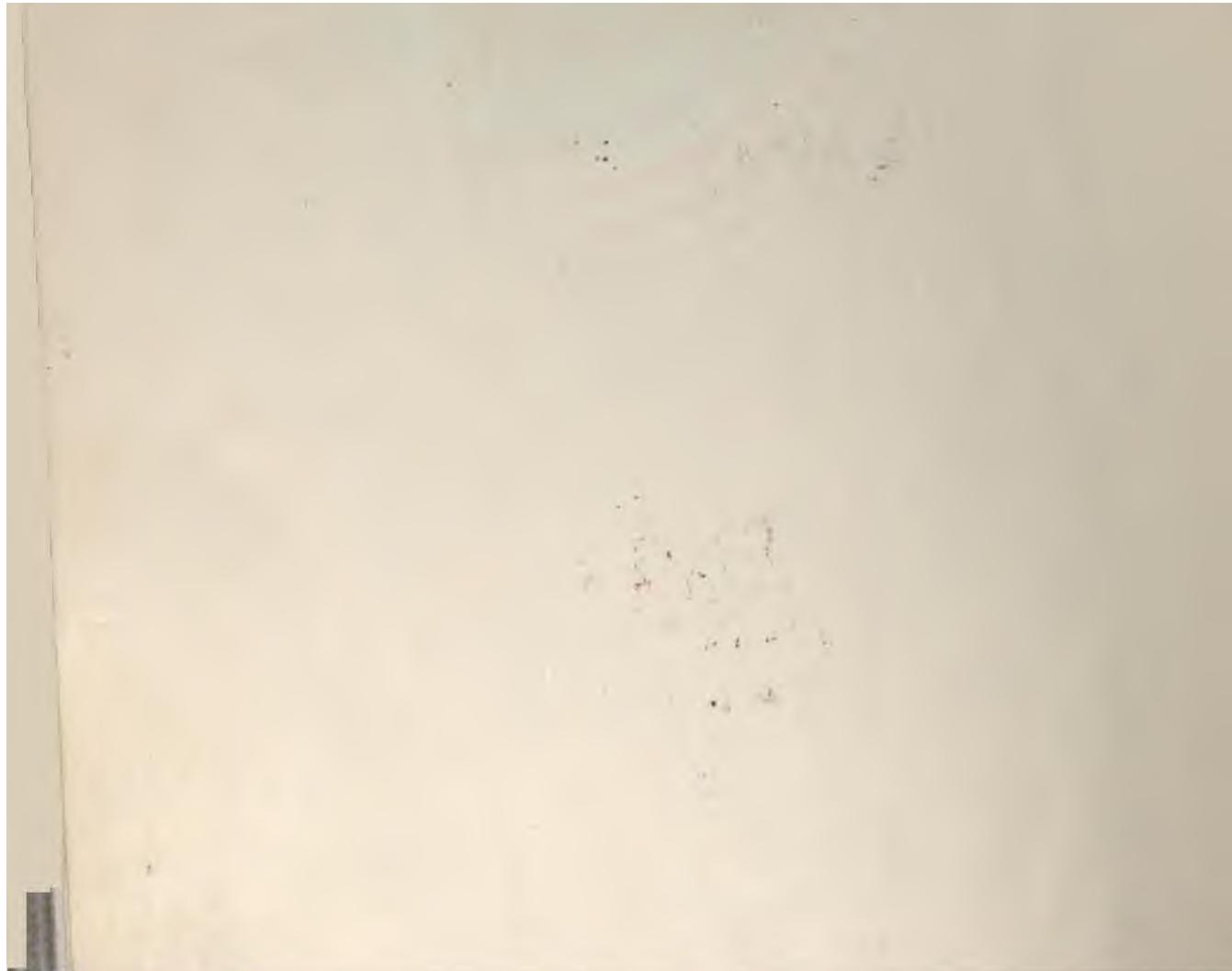
[Whatever has great extremities is brave;  
Some man has great extremities:  
Therefore,  
Some man is brave.]

\* As with D, or some man-









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JUN 19 1976 H	CANCELLED	JUN 19 1976 H	5395227
		BOOK DUE JUN 19 1978	5760246
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