Reading Seminar in Philosophy

~ *Reader* ~

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Contents

Parmenides: *Fragments*

Proemium

The horses which bear me conducted me as far as desire may go, when they had brought me speeding along to the far-famed road of a divinity who herself bears onward through all things the man of understanding. Along this road I was borne, along this the horses, wise indeed, bore me hastening the chariot on, and maidens guided my course. The axle in its box, enkindled by the heat, uttered the sound of a pipe (for it was driven on by the rolling wheels on either side), when the maiden daughters of Helios hastened to conduct me **[Page 89]**to the light, leaving the realms of night, pushing aside with the hand the veils from their heads. There is the gate between the ways of day and night lintel above it, and stone threshold beneath, hold it in place, and high in air it is fitted with great doors; retributive Justice holds the keys that open and shut them.1 However, the maidens addressed her with mild words, and found means to persuade her to thrust back speedily for them the fastened bolt from the doors; and the gate swinging free made the opening wide, turning in their sockets the bronze hinges, well fastened with bolts and nails; then through this the maidens kept horses and chariot straight on the high-road. The goddess received me with kindness, and, taking my right hand in hers, she addressed me with these words:--Youth joined with drivers immortal, who hast come with the horses that bear thee, to our dwelling, hail! since no evil fate has bid thee come on this road (for it lies far outside the beaten track of men), but right and justice. 'Tis necessary for thee to learn all things, both the abiding essence of persuasive truth, and men's opinions in which rests no true belief. But nevertheless these things also thou shalt learn, since it is necessary to judge accurately the things that rest on opinion, passing all things carefully in review.

Concenring Truth

Come now I will tell thee-and do thou hear my word and heed it-what are the only ways of enquiry that lead to knowledge. The one way, **[Page 91]**assuming that being is and that it is impossible for it not to be, is the trustworthy path, for truth attends it. The other, that not-being is and that it necessarily is, I call a wholly incredible course, since thou canst not recognise not-being (for this is impossible), nor couldst thou speak of it, for thought and being are the same thing.

It makes no difference to me at what point I begin, for I shall always come back again to this.

It is necessary both to say and to think that being is; for it is possible that being is, and it is impossible that not-being is ; this is what I bid thee ponder. I restrain thee from this first course of investigation; and from that course also along which mortals knowing nothing wander aimlessly, since helplessness directs the roaming thought in their bosoms, and they are borne on deaf and like-wise blind, amazed, headstrong races, they who consider being and not-being as the same and not the same; and that all things follow a back-turning course.

That things which are not are, shall never prevail, she said, but do thou restrain thy mind from this course of investigation.

[Page 93] And let not long-practised habit compel thee along this path, thine eye careless, thine ear and thy tongue overpowered by noise; but do thou weigh the much contested refutation of their words, which I have uttered.

There is left but this single path to tell thee of: namely, that being is. And on this path there are many proofs that being is without beginning and indestructible; it is universal, existing alone, immovable and without end; nor ever was it nor will it be, since it now is, all together, one, and continuous. For what generating of it wilt thou seek out? From what did it grow, and how? I will not permit thee to say or to think that it came from not-being; for it is impossible to think or to say that not-being is. What thine would then have stirred it into activity that it should arise from not-being later rather than earlier? So it is necessary that being either is absolutely or is not. Nor will the force of the argument permit that anything spring from being except being itself. Therefore justice does not slacken her fetters to permit generation or destruction, but holds being firm.

(The decision as to these things comes in at this point.)

[Page 95] Either being exists or it does not exist. It has been decided in accordance with necessity to leave the unthinkable, unspeakable path, as this is not the true path, but that the other path exists and is true. How then should being suffer destruction? How come into existence? If it came into existence, it is not being, nor will it be if it ever is to come into existence. . . . So its generation is extinguished, and its destruction is proved incredible.

Nor is it subject to division, for it is all alike; nor is anything more in it, so as to prevent its cohesion, nor anything less, but all is full of being; therefore the all is continuous, for being is contiguous to being.

Farther it is unmoved, in the hold of great chains, without beginning or end, since generation and destruction have completely disappeared and true belief has rejected them. It lies the same, abiding in the same state and by itself accordingly it abides fixed in the same spot. For powerful necessity holds it in confining bonds, which restrain it on all sides. Therefore divine right does not permit being to have any end; but it is lacking in nothing, for if it lacked anything it would lack everything.

Nevertheless, behold steadfastly all absent things as present to thy mind; for thou canst not separate **[Page 97]** being in one place from contact with being in another place; it is not scattered here and there through the universe, nor is it compounded of parts.

Therefore thinking and that by reason of which thought exists are one and the same thing, for thou wilt not find thinking without the being from which it receives its name. Nor is there nor will there be anything apart from being; for fate has linked it together, so that it is a whole and immovable. Wherefore all these things will be but a name, all these things which mortals determined in the belief that they were true, viz. that things arise and perish, that they are and are not, that they change their position and vary in colour.

But since there is a final limit, it is perfected on every side, like the mass of a rounded sphere, equally distant from the centre at every point. For it is necessary that it should neither be greater at all nor less anywhere, since there is no not-being which can prevent it from arriving at equality, nor is being such that there may ever be more than what is in one part and less in another, since the whole is inviolate. For if it is equal on all sides, it abides in equality within its limits.

Plato

Phaedo

70c-77a

that is what I mean by saying that, in a sense, they are made temperate through intemperance.

Such appears to be the case.

Yet the exchange of one fear or pleasure or pain for another fear or pleasure or pain, and of the greater for the less, as if they were coins, is not the exchange of virtue. O my blessed Simmias, is there not one true coin for which all things ought to be exchanged?−−and that is wisdom; and only in exchange for this, and in company with this, is anything truly bought or sold, whether courage or temperance or justice. And is not all true virtue the companion of wisdom, no matter what fears or pleasures or other similar goods or evils may or may not attend her? But the virtue which is made up of these goods, when they are severed from wisdom and exchanged with one another, is a shadow of virtue only, nor is there any freedom or health or truth in her; but in the true exchange there is a purging away of all these things, and temperance, and justice, and courage, and wisdom herself are the purgation of them. The founders of the mysteries would appear to have had a real meaning, and were not talking nonsense when they intimated in a figure long ago that he who passes unsanctified and uninitiated into the world below will lie in a slough, but that he who arrives there after initiation and purification will dwell with the gods. For 'many,' as they say in the mysteries, 'are the thyrsus−bearers, but few are the mystics,'−−meaning, as I interpret the words, 'the true philosophers.' In the number of whom, during my whole life, I have been seeking, according to my ability, to find a place;−−whether I have sought in a right way or not, and whether I have succeeded or not, I shall truly know in a little while, if God will, when I myself arrive in the other world−−such is my belief. And therefore I maintain that I am right, Simmias and Cebes, in not grieving or repining at parting from you and my masters in this world, for I believe that I shall equally find good masters and friends in another world. But most men do not believe this saying; if then I succeed in convincing you by my defence better than I did the Athenian judges, it will be well.

Cebes answered: I agree, Socrates, in the greater part of what you say. But in what concerns the soul, men are apt to be incredulous; they fear that when she has left the body her place may be nowhere, and that on the very day of death she may perish and come to an end−−immediately on her release from the body, issuing forth dispersed like smoke or air and in her flight vanishing away into nothingness. If she could only be collected into herself after she has obtained release from the evils of which you are speaking, there would be good reason to hope, Socrates, that what you say is true. But surely it requires a great deal of argument and many proofs to show that when the man is dead his soul yet exists, and has any force or intelligence.

True, Cebes, said Socrates; and shall I suggest that we converse a little of the probabilities of these things?

I am sure, said Cebes, that I should greatly like to know your opinion about them.

I reckon, said Socrates, that no one who heard me now, not even if he were one of my old enemies, the Comic poets, could accuse me of idle talking about matters in which I have no concern:−−If you please, then, we will proceed with the inquiry.

Suppose we consider the question whether the souls of men after death are or are not in the world below. There comes into my mind an ancient doctrine which affirms that they go from hence into the other world, and returning hither, are born again from the dead. Now if it be true that the living come from the dead, then our souls must exist in the other world, for if not, how could they have been born again? And this would be conclusive, if there were any real evidence that the living are only born from the dead; but if this is not so, then other arguments will have to be adduced.

Very true, replied Cebes.

Then let us consider the whole question, not in relation to man only, but in relation to animals generally, and to plants, and to everything of which there is generation, and the proof will be easier. Are not all things which have opposites generated out of their opposites? I mean such things as good and evil, just and unjust−−and

there are innumerable other opposites which are generated out of opposites. And I want to show that in all opposites there is of necessity a similar alternation; I mean to say, for example, that anything which becomes greater must become greater after being less.

True.

And that which becomes less must have been once greater and then have become less.

Yes.

And the weaker is generated from the stronger, and the swifter from the slower.

Very true.

And the worse is from the better, and the more just is from the more unjust.

Of course.

And is this true of all opposites? and are we convinced that all of them are generated out of opposites?

Yes.

And in this universal opposition of all things, are there not also two intermediate processes which are ever going on, from one to the other opposite, and back again; where there is a greater and a less there is also an intermediate process of increase and diminution, and that which grows is said to wax, and that which decays to wane?

Yes, he said.

And there are many other processes, such as division and composition, cooling and heating, which equally involve a passage into and out of one another. And this necessarily holds of all opposites, even though not always expressed in words−−they are really generated out of one another, and there is a passing or process from one to the other of them?

Very true, he replied.

Well, and is there not an opposite of life, as sleep is the opposite of waking?

True, he said.

And what is it?

Death, he answered.

And these, if they are opposites, are generated the one from the other, and have there their two intermediate processes also?

Of course.

Now, said Socrates, I will analyze one of the two pairs of opposites which I have mentioned to you, and also its intermediate processes, and you shall analyze the other to me. One of them I term sleep, the other waking. The state of sleep is opposed to the state of waking, and out of sleeping waking is generated, and out of

waking, sleeping; and the process of generation is in the one case falling asleep, and in the other waking up. Do you agree?

I entirely agree.

Then, suppose that you analyze life and death to me in the same manner. Is not death opposed to life?

Yes.

And they are generated one from the other?

Yes.

What is generated from the living?

The dead.

And what from the dead?

I can only say in answer−−the living.

Then the living, whether things or persons, Cebes, are generated from the dead?

That is clear, he replied.

Then the inference is that our souls exist in the world below?

That is true.

And one of the two processes or generations is visible−−for surely the act of dying is visible?

Surely, he said.

What then is to be the result? Shall we exclude the opposite process? And shall we suppose nature to walk on one leg only? Must we not rather assign to death some corresponding process of generation?

Certainly, he replied.

And what is that process?

Return to life.

And return to life, if there be such a thing, is the birth of the dead into the world of the living?

Quite true.

Then here is a new way by which we arrive at the conclusion that the living come from the dead, just as the dead come from the living; and this, if true, affords a most certain proof that the souls of the dead exist in some place out of which they come again.

Yes, Socrates, he said; the conclusion seems to flow necessarily out of our previous admissions.

And that these admissions were not unfair, Cebes, he said, may be shown, I think, as follows: If generation were in a straight line only, and there were no compensation or circle in nature, no turn or return of elements into their opposites, then you know that all things would at last have the same form and pass into the same state, and there would be no more generation of them.

What do you mean? he said.

A simple thing enough, which I will illustrate by the case of sleep, he replied. You know that if there were no alternation of sleeping and waking, the tale of the sleeping Endymion would in the end have no meaning, because all other things would be asleep, too, and he would not be distinguishable from the rest. Or if there were composition only, and no division of substances, then the chaos of Anaxagoras would come again. And in like manner, my dear Cebes, if all things which partook of life were to die, and after they were dead remained in the form of death, and did not come to life again, all would at last die, and nothing would be alive−−what other result could there be? For if the living spring from any other things, and they too die, must not all things at last be swallowed up in death? (But compare Republic.)

There is no escape, Socrates, said Cebes; and to me your argument seems to be absolutely true.

Yes, he said, Cebes, it is and must be so, in my opinion; and we have not been deluded in making these admissions; but I am confident that there truly is such a thing as living again, and that the living spring from the dead, and that the souls of the dead are in existence, and that the good souls have a better portion than the evil.

Cebes added: Your favorite doctrine, Socrates, that knowledge is simply recollection, if true, also necessarily implies a previous time in which we have learned that which we now recollect. But this would be impossible unless our soul had been in some place before existing in the form of man; here then is another proof of the soul's immortality.

But tell me, Cebes, said Simmias, interposing, what arguments are urged in favour of this doctrine of recollection. I am not very sure at the moment that I remember them.

One excellent proof, said Cebes, is afforded by questions. If you put a question to a person in a right way, he will give a true answer of himself, but how could he do this unless there were knowledge and right reason already in him? And this is most clearly shown when he is taken to a diagram or to anything of that sort. (Compare Meno.)

But if, said Socrates, you are still incredulous, Simmias, I would ask you whether you may not agree with me when you look at the matter in another way;−−I mean, if you are still incredulous as to whether knowledge is recollection.

Incredulous, I am not, said Simmias; but I want to have this doctrine of recollection brought to my own recollection, and, from what Cebes has said, I am beginning to recollect and be convinced; but I should still like to hear what you were going to say.

This is what I would say, he replied:−−We should agree, if I am not mistaken, that what a man recollects he must have known at some previous time.

Very true.

And what is the nature of this knowledge or recollection? I mean to ask, Whether a person who, having seen or heard or in any way perceived anything, knows not only that, but has a conception of something else which is the subject, not of the same but of some other kind of knowledge, may not be fairly said to recollect that of

which he has the conception?

What do you mean?

I mean what I may illustrate by the following instance:−−The knowledge of a lyre is not the same as the knowledge of a man?

True.

And yet what is the feeling of lovers when they recognize a lyre, or a garment, or anything else which the beloved has been in the habit of using? Do not they, from knowing the lyre, form in the mind's eye an image of the youth to whom the lyre belongs? And this is recollection. In like manner any one who sees Simmias may remember Cebes; and there are endless examples of the same thing.

Endless, indeed, replied Simmias.

And recollection is most commonly a process of recovering that which has been already forgotten through time and inattention.

Very true, he said.

Well; and may you not also from seeing the picture of a horse or a lyre remember a man? and from the picture of Simmias, you may be led to remember Cebes?

True.

Or you may also be led to the recollection of Simmias himself?

Quite so.

And in all these cases, the recollection may be derived from things either like or unlike?

It may be.

And when the recollection is derived from like things, then another consideration is sure to arise, which is−−whether the likeness in any degree falls short or not of that which is recollected?

Very true, he said.

And shall we proceed a step further, and affirm that there is such a thing as equality, not of one piece of wood or stone with another, but that, over and above this, there is absolute equality? Shall we say so?

Say so, yes, replied Simmias, and swear to it, with all the confidence in life.

And do we know the nature of this absolute essence?

To be sure, he said.

And whence did we obtain our knowledge? Did we not see equalities of material things, such as pieces of wood and stones, and gather from them the idea of an equality which is different from them? For you will acknowledge that there is a difference. Or look at the matter in another way:−−Do not the same pieces of wood or stone appear at one time equal, and at another time unequal?

That is certain.

But are real equals ever unequal? or is the idea of equality the same as of inequality?

Impossible, Socrates.

Then these (so−called) equals are not the same with the idea of equality?

I should say, clearly not, Socrates.

And yet from these equals, although differing from the idea of equality, you conceived and attained that idea?

Very true, he said.

Which might be like, or might be unlike them?

Yes.

But that makes no difference; whenever from seeing one thing you conceived another, whether like or unlike, there must surely have been an act of recollection?

Very true.

But what would you say of equal portions of wood and stone, or other material equals? and what is the impression produced by them? Are they equals in the same sense in which absolute equality is equal? or do they fall short of this perfect equality in a measure?

Yes, he said, in a very great measure too.

And must we not allow, that when I or any one, looking at any object, observes that the thing which he sees aims at being some other thing, but falls short of, and cannot be, that other thing, but is inferior, he who makes this observation must have had a previous knowledge of that to which the other, although similar, was inferior?

Certainly.

And has not this been our own case in the matter of equals and of absolute equality?

Precisely.

Then we must have known equality previously to the time when we first saw the material equals, and reflected that all these apparent equals strive to attain absolute equality, but fall short of it?

Very true.

And we recognize also that this absolute equality has only been known, and can only be known, through the medium of sight or touch, or of some other of the senses, which are all alike in this respect?

Yes, Socrates, as far as the argument is concerned, one of them is the same as the other.

From the senses then is derived the knowledge that all sensible things aim at an absolute equality of which they fall short?

Yes.

Then before we began to see or hear or perceive in any way, we must have had a knowledge of absolute equality, or we could not have referred to that standard the equals which are derived from the senses?−−for to that they all aspire, and of that they fall short.

No other inference can be drawn from the previous statements.

And did we not see and hear and have the use of our other senses as soon as we were born?

Certainly.

Then we must have acquired the knowledge of equality at some previous time?

Yes.

That is to say, before we were born, I suppose?

True.

And if we acquired this knowledge before we were born, and were born having the use of it, then we also knew before we were born and at the instant of birth not only the equal or the greater or the less, but all other ideas; for we are not speaking only of equality, but of beauty, goodness, justice, holiness, and of all which we stamp with the name of essence in the dialectical process, both when we ask and when we answer questions. Of all this we may certainly affirm that we acquired the knowledge before birth?

We may.

But if, after having acquired, we have not forgotten what in each case we acquired, then we must always have come into life having knowledge, and shall always continue to know as long as life lasts−−for knowing is the acquiring and retaining knowledge and not forgetting. Is not forgetting, Simmias, just the losing of knowledge?

Quite true, Socrates.

But if the knowledge which we acquired before birth was lost by us at birth, and if afterwards by the use of the senses we recovered what we previously knew, will not the process which we call learning be a recovering of the knowledge which is natural to us, and may not this be rightly termed recollection?

Very true.

So much is clear−−that when we perceive something, either by the help of sight, or hearing, or some other sense, from that perception we are able to obtain a notion of some other thing like or unlike which is associated with it but has been forgotten. Whence, as I was saying, one of two alternatives follows:−−either we had this knowledge at birth, and continued to know through life; or, after birth, those who are said to learn only remember, and learning is simply recollection.

Yes, that is quite true, Socrates.

And which alternative, Simmias, do you prefer? Had we the knowledge at our birth, or did we recollect the things which we knew previously to our birth?

I cannot decide at the moment.

At any rate you can decide whether he who has knowledge will or will not be able to render an account of his knowledge? What do you say?

Certainly, he will.

But do you think that every man is able to give an account of these very matters about which we are speaking?

Would that they could, Socrates, but I rather fear that to−morrow, at this time, there will no longer be any one alive who is able to give an account of them such as ought to be given.

Then you are not of opinion, Simmias, that all men know these things?

Certainly not.

They are in process of recollecting that which they learned before?

Certainly.

But when did our souls acquire this knowledge?−−not since we were born as men?

Certainly not.

And therefore, previously?

Yes.

Then, Simmias, our souls must also have existed without bodies before they were in the form of man, and must have had intelligence.

Unless indeed you suppose, Socrates, that these notions are given us at the very moment of birth; for this is the only time which remains.

Yes, my friend, but if so, when do we lose them? for they are not in us when we are born−−that is admitted. Do we lose them at the moment of receiving them, or if not at what other time?

No, Socrates, I perceive that I was unconsciously talking nonsense.

Then may we not say, Simmias, that if, as we are always repeating, there is an absolute beauty, and goodness, and an absolute essence of all things; and if to this, which is now discovered to have existed in our former state, we refer all our sensations, and with this compare them, finding these ideas to be pre−existent and our inborn possession−−then our souls must have had a prior existence, but if not, there would be no force in the argument? There is the same proof that these ideas must have existed before we were born, as that our souls existed before we were born; and if not the ideas, then not the souls.

Yes, Socrates; I am convinced that there is precisely the same necessity for the one as for the other; and the argument retreats successfully to the position that the existence of the soul before birth cannot be separated from the existence of the essence of which you speak. For there is nothing which to my mind is so patent as that beauty, goodness, and the other notions of which you were just now speaking, have a most real and absolute existence; and I am satisfied with the proof.

Categories
By Aristotle

Translated by E. M. Edghill

Parts 2 – 6

Part 2

Forms of speech are either simple or composite. Examples of the latter are such expressions as 'the man runs', 'the man wins'; of the former 'man', 'ox', 'runs', 'wins'.

Of things themselves some are predicable of a subject, and are never present in a subject. Thus 'man' is predicable of the individual man, and is never present in a subject.

By being 'present in a subject' I do not mean present as parts are present in a whole, but being incapable of existence apart from the said subject.

Some things, again, are present in a subject, but are never predicable of a subject. For instance, a certain point of grammatical knowledge is present in the mind, but is not predicable of any subject; or again, a certain whiteness may be present in the body (for colour requires a material basis), yet it is never predicable of anything.

Other things, again, are both predicable of a subject and present in a subject. Thus while knowledge is present in the human mind, it is predicable of grammar.

There is, lastly, a class of things which are neither present in a subject nor predicable of a subject, such as the individual man or the individual horse. But, to speak more generally, that which is individual and has the character of a unit is never predicable of a subject. Yet in some cases there is nothing to prevent such being present in a subject. Thus a certain point of grammatical knowledge is present in a subject.

Part 3

When one thing is predicated of another, all that which is predicable of the predicate will be predicable also of the subject. Thus, 'man' is predicated of the individual man; but 'animal' is predicated of 'man'; it will, therefore, be predicable of the individual man also: for the individual man is both 'man' and 'animal'.

If genera are different and co-ordinate, their differentiae are themselves different in kind. Take as an instance the genus 'animal' and the genus 'knowledge'. 'With feet', 'two-footed', 'winged', 'aquatic', are differentiae of 'animal'; the species of knowledge are not distinguished by the same differentiae. One species of knowledge does not differ from another in being 'two-footed'.

But where one genus is subordinate to another, there is nothing to prevent their having the same differentiae: for the greater class is predicated of the lesser, so that all the differentiae of the predicate will be differentiae also of the subject.

Part 4

Expressions which are in no way composite signify substance, quantity, quality, relation, place, time, position, state, action, or affection. To sketch my meaning roughly, examples of substance are 'man' or 'the horse', of quantity, such terms as 'two cubits long' or 'three cubits long', of quality, such attributes as 'white', 'grammatical'. 'Double', 'half', 'greater', fall under the category of relation; 'in a the market place', 'in the Lyceum', under that of place; 'yesterday',

'last year', under that of time. 'Lying', 'sitting', are terms indicating position, 'shod', 'armed', state; 'to lance', 'to cauterize', action; 'to be lanced', 'to be cauterized', affection.

No one of these terms, in and by itself, involves an affirmation; it is by the combination of such terms that positive or negative statements arise. For every assertion must, as is admitted, be either true or false, whereas expressions which are not in any way composite such as 'man', 'white', 'runs', 'wins', cannot be either true or false.

Part 5

Substance, in the truest and primary and most definite sense of the word, is that which is neither predicable of a subject nor present in a subject; for instance, the individual man or horse. But in a secondary sense those things are called substances within which, as species, the primary substances are included; also those which, as genera, include the species. For instance, the individual man is included in the species 'man', and the genus to which the species belongs is 'animal'; these, therefore-that is to say, the species 'man' and the genus 'animal,-are termed secondary substances.

It is plain from what has been said that both the name and the definition of the predicate must be predicable of the subject. For instance, 'man' is predicted of the individual man. Now in this case the name of the species man' is applied to the individual, for we use the term 'man' in describing the individual; and the definition of 'man' will also be predicated of the individual man, for the individual man is both man and animal. Thus, both the name and the definition of the species are predicable of the individual.

With regard, on the other hand, to those things which are present in a subject, it is generally the case that neither their name nor their definition is predicable of that in which they are present. Though, however, the definition is never predicable, there is nothing in certain cases to prevent the name being used. For instance, 'white' being present in a body is predicated of that in which it is present, for a body is called white: the definition, however, of the colour white' is never predicable of the body.

Everything except primary substances is either predicable of a primary substance or present in a primary substance. This becomes evident by reference to particular instances which occur. 'Animal' is predicated of the species 'man', therefore of the individual man, for if there were no individual man of whom it could be predicated, it could not be predicated of the species 'man' at all. Again, colour is present in body, therefore in individual bodies, for if there were no individual body in which it was present, it could not be present in body at all. Thus everything except primary substances is either predicated of primary substances, or is present in them, and if these last did not exist, it would be impossible for anything else to exist.

Of secondary substances, the species is more truly substance than the genus, being more nearly related to primary substance. For if any one should render an account of what a primary substance is, he would render a more instructive account, and one more proper to the subject, by stating the species than by stating the genus. Thus, he would give a more instructive account of an individual man by stating that he was man than by stating that he was animal, for the former description is peculiar to the individual in a greater degree, while the latter is too general. Again, the man who gives an account of

the nature of an individual tree will give a more instructive account by mentioning the species 'tree' than by mentioning the genus 'plant'.

Moreover, primary substances are most properly called substances in virtue of the fact that they are the entities which underlie every. else, and that everything else is either predicated of them or present in them. Now the same relation which subsists between primary substance and everything else subsists also between the species and the genus: for the species is to the genus as subject is to predicate, since the genus is predicated of the species, whereas the species cannot be predicated of the genus. Thus we have a second ground for asserting that the species is more truly substance than the genus.

Of species themselves, except in the case of such as are genera, no one is more truly substance than another. We should not give a more appropriate account of the individual man by stating the species to which he belonged, than we should of an individual horse by adopting the same method of definition. In the same way, of primary substances, no one is more truly substance than another; an individual man is not more truly substance than an individual ox.

It is, then, with good reason that of all that remains, when we exclude primary substances, we concede to species and genera alone the name 'secondary substance', for these alone of all the predicates convey a knowledge of primary substance. For it is by stating the species or the genus that we appropriately define any individual man; and we shall make our definition more exact by stating the former than by stating the latter. All other things that we state, such as that he is white, that he runs, and so on, are irrelevant to the definition. Thus it is just that these alone, apart from primary substances, should be called substances.

Further, primary substances are most properly so called, because they underlie and are the subjects of everything else. Now the same relation that subsists between primary substance and everything else subsists also between the species and the genus to which the primary substance belongs, on the one hand, and every attribute which is not included within these, on the other. For these are the subjects of all such. If we call an individual man 'skilled in grammar', the predicate is applicable also to the species and to the genus to which he belongs. This law holds good in all cases.

It is a common characteristic of all sub. stance that it is never present in a subject. For primary substance is neither present in a subject nor predicated of a subject; while, with regard to secondary substances, it is clear from the following arguments (apart from others) that they are not present in a subject. For 'man' is predicated of the individual man, but is not present in any subject: for manhood is not present in the individual man. In the same way, 'animal' is also predicated of the individual man, but is not present in him. Again, when a thing is present in a subject, though the name may quite well be applied to that in which it is present, the definition cannot be applied. Yet of secondary substances, not only the name, but also the definition, applies to the subject: we should use both the definition of the species and that of the genus with reference to the individual man. Thus substance cannot be present in a subject.

Yet this is not peculiar to substance, for it is also the case that differentiae cannot be present in subjects. The characteristics 'terrestrial' and 'two-footed' are predicated of the species 'man', but not present in it. For they are not in man. Moreover, the definition of the differentia

may be predicated of that of which the differentia itself is predicated. For instance, if the characteristic 'terrestrial' is predicated of the species 'man', the definition also of that characteristic may be used to form the predicate of the species 'man': for 'man' is terrestrial.

The fact that the parts of substances appear to be present in the whole, as in a subject, should not make us apprehensive lest we should have to admit that such parts are not substances: for in explaining the phrase 'being present in a subject', we stated' that we meant 'otherwise than as parts in a whole'.

It is the mark of substances and of differentiae that, in all propositions of which they form the predicate, they are predicated univocally. For all such propositions have for their subject either the individual or the species. It is true that, inasmuch as primary substance is not predicable of anything, it can never form the predicate of any proposition. But of secondary substances, the species is predicated of the individual, the genus both of the species and of the individual. Similarly the differentiae are predicated of the species and of the individuals. Moreover, the definition of the species and that of the genus are applicable to the primary substance, and that of the genus to the species. For all that is predicated of the predicate will be predicated also of the subject. Similarly, the definition of the differentiae will be applicable to the species and to the individuals. But it was stated above that the word 'univocal' was applied to those things which had both name and definition in common. It is, therefore, established that in every proposition, of which either substance or a differentia forms the predicate, these are predicated univocally.

All substance appears to signify that which is individual. In the case of primary substance this is indisputably true, for the thing is a unit. In the case of secondary substances, when we speak, for instance, of 'man' or 'animal', our form of speech gives the impression that we are here also indicating that which is individual, but the impression is not strictly true; for a secondary substance is not an individual, but a class with a certain qualification; for it is not one and single as a primary substance is; the words 'man', 'animal', are predicable of more than one subject.

Yet species and genus do not merely indicate quality, like the term 'white'; 'white' indicates quality and nothing further, but species and genus determine the quality with reference to a substance: they signify substance qualitatively differentiated. The determinate qualification covers a larger field in the case of the genus that in that of the species: he who uses the word 'animal' is herein using a word of wider extension than he who uses the word 'man'.

Another mark of substance is that it has no contrary. What could be the contrary of any primary substance, such as the individual man or animal? It has none. Nor can the species or the genus have a contrary. Yet this characteristic is not peculiar to substance, but is true of many other things, such as quantity. There is nothing that forms the contrary of 'two cubits long' or of 'three cubits long', or of 'ten', or of any such term. A man may contend that 'much' is the contrary of 'little', or 'great' of 'small', but of definite quantitative terms no contrary exists.

Substance, again, does not appear to admit of variation of degree. I do not mean by this that one substance cannot be more or less truly substance than another, for it has already been stated' that this is the case; but that no single substance admits of varying degrees

within itself. For instance, one particular substance, 'man', cannot be more or less man either than himself at some other time or than some other man. One man cannot be more man than another, as that which is white may be more or less white than some other white object, or as that which is beautiful may be more or less beautiful than some other beautiful object. The same quality, moreover, is said to subsist in a thing in varying degrees at different times. A body, being white, is said to be whiter at one time than it was before, or, being warm, is said to be warmer or less warm than at some other time. But substance is not said to be more or less that which it is: a man is not more truly a man at one time than he was before, nor is anything, if it is substance, more or less what it is. Substance, then, does not admit of variation of degree.

The most distinctive mark of substance appears to be that, while remaining numerically one and the same, it is capable of admitting contrary qualities. From among things other than substance, we should find ourselves unable to bring forward any which possessed this mark. Thus, one and the same colour cannot be white and black. Nor can the same one action be good and bad: this law holds good with everything that is not substance. But one and the selfsame substance, while retaining its identity, is yet capable of admitting contrary qualities. The same individual person is at one time white, at another black, at one time warm, at another cold, at one time good, at another bad. This capacity is found nowhere else, though it might be maintained that a statement or opinion was an exception to the rule. The same statement, it is agreed, can be both true and false. For if the statement 'he is sitting' is true, yet, when the person in question has risen, the same statement will be false. The same applies to opinions. For if any one thinks truly that a person is sitting, yet, when that person has risen, this same opinion, if still held, will be false. Yet although this exception may be allowed, there is, nevertheless, a difference in the manner in which the thing takes place. It is by themselves changing that substances admit contrary qualities. It is thus that that which was hot becomes cold, for it has entered into a different state. Similarly that which was white becomes black, and that which was bad good, by a process of change; and in the same way in all other cases it is by changing that substances are capable of admitting contrary qualities. But statements and opinions themselves remain unaltered in all respects: it is by the alteration in the facts of the case that the contrary quality comes to be theirs. The statement 'he is sitting' remains unaltered, but it is at one time true, at another false, according to circumstances. What has been said of statements applies also to opinions. Thus, in respect of the manner in which the thing takes place, it is the peculiar mark of substance that it should be capable of admitting contrary qualities; for it is by itself changing that it does so.

If, then, a man should make this exception and contend that statements and opinions are capable of admitting contrary qualities, his contention is unsound. For statements and opinions are said to have this capacity, not because they themselves undergo modification, but because this modification occurs in the case of something else. The truth or falsity of a statement depends on facts, and not on any power on the part of the statement itself of admitting contrary qualities. In short, there is nothing which can alter the nature of statements and opinions. As, then, no change takes place in themselves, these cannot be said to be capable of admitting contrary qualities.

But it is by reason of the modification which takes place within the substance itself that a substance is said to be capable of admitting

contrary qualities; for a substance admits within itself either disease or health, whiteness or blackness. It is in this sense that it is said to be capable of admitting contrary qualities.

To sum up, it is a distinctive mark of substance, that, while remaining numerically one and the same, it is capable of admitting contrary qualities, the modification taking place through a change in the substance itself.

Let these remarks suffice on the subject of substance.

Part 6

Quantity is either discrete or continuous. Moreover, some quantities are such that each part of the whole has a relative position to the other parts: others have within them no such relation of part to part.

Instances of discrete quantities are number and speech; of continuous, lines, surfaces, solids, and, besides these, time and place.

In the case of the parts of a number, there is no common boundary at which they join. For example: two fives make ten, but the two fives have no common boundary, but are separate; the parts three and seven also do not join at any boundary. Nor, to generalize, would it ever be possible in the case of number that there should be a common boundary among the parts; they are always separate. Number, therefore, is a discrete quantity.

The same is true of speech. That speech is a quantity is evident: for it is measured in long and short syllables. I mean here that speech which is vocal. Moreover, it is a discrete quantity for its parts have no common boundary. There is no common boundary at which the syllables join, but each is separate and distinct from the rest.

A line, on the other hand, is a continuous quantity, for it is possible to find a common boundary at which its parts join. In the case of the line, this common boundary is the point; in the case of the plane, it is the line: for the parts of the plane have also a common boundary. Similarly you can find a common boundary in the case of the parts of a solid, namely either a line or a plane.

Space and time also belong to this class of quantities. Time, past, present, and future, forms a continuous whole. Space, likewise, is a continuous quantity; for the parts of a solid occupy a certain space, and these have a common boundary; it follows that the parts of space also, which are occupied by the parts of the solid, have the same common boundary as the parts of the solid. Thus, not only time, but space also, is a continuous quantity, for its parts have a common boundary.

Quantities consist either of parts which bear a relative position each to each, or of parts which do not. The parts of a line bear a relative position to each other, for each lies somewhere, and it would be possible to distinguish each, and to state the position of each on the plane and to explain to what sort of part among the rest each was contiguous. Similarly the parts of a plane have position, for it could similarly be stated what was the position of each and what sort of parts were contiguous. The same is true with regard to the solid and to space. But it would be impossible to show that the arts of a number had a relative position each to each, or a particular position, or to state what parts were contiguous. Nor could this be

done in the case of time, for none of the parts of time has an abiding existence, and that which does not abide can hardly have position. It would be better to say that such parts had a relative order, in virtue of one being prior to another. Similarly with number: in counting, 'one' is prior to 'two', and 'two' to 'three', and thus the parts of number may be said to possess a relative order, though it would be impossible to discover any distinct position for each. This holds good also in the case of speech. None of its parts has an abiding existence: when once a syllable is pronounced, it is not possible to retain it, so that, naturally, as the parts do not abide, they cannot have position. Thus, some quantities consist of parts which have position, and some of those which have not.

Strictly speaking, only the things which I have mentioned belong to the category of quantity: everything else that is called quantitative is a quantity in a secondary sense. It is because we have in mind some one of these quantities, properly so called, that we apply quantitative terms to other things. We speak of what is white as large, because the surface over which the white extends is large; we speak of an action or a process as lengthy, because the time covered is long; these things cannot in their own right claim the quantitative epithet. For instance, should any one explain how long an action was, his statement would be made in terms of the time taken, to the effect that it lasted a year, or something of that sort. In the same way, he would explain the size of a white object in terms of surface, for he would state the area which it covered. Thus the things already mentioned, and these alone, are in their intrinsic nature quantities; nothing else can claim the name in its own right, but, if at all, only in a secondary sense.

Quantities have no contraries. In the case of definite quantities this is obvious; thus, there is nothing that is the contrary of 'two cubits long' or of 'three cubits long', or of a surface, or of any such quantities. A man might, indeed, argue that 'much' was the contrary of 'little', and 'great' of 'small'. But these are not quantitative, but relative; things are not great or small absolutely, they are so called rather as the result of an act of comparison. For instance, a mountain is called small, a grain large, in virtue of the fact that the latter is greater than others of its kind, the former less. Thus there is a reference here to an external standard, for if the terms 'great' and 'small' were used absolutely, a mountain would never be called small or a grain large. Again, we say that there are many people in a village, and few in Athens, although those in the city are many times as numerous as those in the village: or we say that a house has many in it, and a theatre few, though those in the theatre far outnumber those in the house. The terms 'two cubits long, "three cubits long,' and so on indicate quantity, the terms 'great' and 'small' indicate relation, for they have reference to an external standard. It is, therefore, plain that these are to be classed as relative.

Again, whether we define them as quantitative or not, they have no contraries: for how can there be a contrary of an attribute which is not to be apprehended in or by itself, but only by reference to something external? Again, if 'great' and 'small' are contraries, it will come about that the same subject can admit contrary qualities at one and the same time, and that things will themselves be contrary to themselves. For it happens at times that the same thing is both small and great. For the same thing may be small in comparison with one thing, and great in comparison with another, so that the same thing comes to be both small and great at one and the same time, and is of such a nature as to admit contrary qualities at one and the

same moment. Yet it was agreed, when substance was being discussed, that nothing admits contrary qualities at one and the same moment. For though substance is capable of admitting contrary qualities, yet no one is at the same time both sick and healthy, nothing is at the same time both white and black. Nor is there anything which is qualified in contrary ways at one and the same time.

Moreover, if these were contraries, they would themselves be contrary to themselves. For if 'great' is the contrary of 'small', and the same thing is both great and small at the same time, then 'small' or 'great' is the contrary of itself. But this is impossible. The term 'great', therefore, is not the contrary of the term 'small', nor 'much' of 'little'. And even though a man should call these terms not relative but quantitative, they would not have contraries.

It is in the case of space that quantity most plausibly appears to admit of a contrary. For men define the term 'above' as the contrary of 'below', when it is the region at the centre they mean by 'below'; and this is so, because nothing is farther from the extremities of the universe than the region at the centre. Indeed, it seems that in defining contraries of every kind men have recourse to a spatial metaphor, for they say that those things are contraries which, within the same class, are separated by the greatest possible distance.

Quantity does not, it appears, admit of variation of degree. One thing cannot be two cubits long in a greater degree than another. Similarly with regard to number: what is 'three' is not more truly three than what is 'five' is five; nor is one set of three more truly three than another set. Again, one period of time is not said to be more truly time than another. Nor is there any other kind of quantity, of all that have been mentioned, with regard to which variation of degree can be predicated. The category of quantity, therefore, does not admit of variation of degree.

The most distinctive mark of quantity is that equality and inequality are predicated of it. Each of the aforesaid quantities is said to be equal or unequal. For instance, one solid is said to be equal or unequal to another; number, too, and time can have these terms applied to them, indeed can all those kinds of quantity that have been mentioned.

That which is not a quantity can by no means, it would seem, be termed equal or unequal to anything else. One particular disposition or one particular quality, such as whiteness, is by no means compared with another in terms of equality and inequality but rather in terms of similarity. Thus it is the distinctive mark of quantity that it can be called equal and unequal.

Augustine

Confessions

Book 11, Sections 12 - 18

Full text available at
http://ccat.sas.upenn.edu/jod/augustine/Pusey

my punishment gathers upon me. For my strength is brought down in need, so that I cannot support my blessings, till Thou, Lord, Who hast been gracious to all mine iniquities, shalt heal all my infirmities. For Thou shalt also redeem my life from corruption, and crown me with loving kindness and tender mercies, and shalt satisfy my desire with good things, because my youth shall be renewed like an eagle's. For in hope we are saved, wherefore we through patience wait for Thy promises. Let him that is able, hear Thee inwardly discoursing out of Thy oracle: I will boldly cry out, How wonderful are Thy works, O Lord, in Wisdom hast Thou made them all; and this Wisdom is the Beginning, and in that Beginning didst Thou make heaven and earth.

11.10.12

Lo, are they not full of their old leaven, who say to us, "What was God doing before He made heaven and earth? For if (say they) He were unemployed and wrought not, why does He not also henceforth, and for ever, as He did heretofore? For did any new motion arise in God, and a new will to make a creature, which He had never before made, how then would that be a true eternity, where there ariseth a will, which was not? For the will of God is not a creature, but before the creature; seeing nothing could be created, unless the will of the Creator had preceded. The will of God then belongeth to His very Substance. And if aught have arisen in God's Substance, which before was not, that Substance cannot be truly called eternal. But if the will of God has been from eternity that the creature should be, why was not the creature also from eternity?"

11.11.13

Who speak thus, do not yet understand Thee, O Wisdom of God, Light of souls, understand not yet how the things be made, which by Thee, and in Thee are made: yet they strive to comprehend things eternal, whilst their heart fluttereth between the motions of things past and to come, and is still unstable. Who shall hold it, and fix it, that it be settled awhile, and awhile catch the glory of that everfixed Eternity, and compare it with the times which are never fixed, and see that it cannot be compared; and that a long time cannot become long, but out of many motions passing by, which cannot be prolonged altogether; but that in the Eternal nothing passeth, but the whole is present; whereas no time is all at once present: and that all time past, is driven on by time to come, and all to come followeth upon the past; and all past and to come, is created, and flows out of that which is ever present? Who shall hold the heart of man, that it may stand still, and see how eternity ever still-standing, neither past nor to come, uttereth the times past and to come? Can my hand do this, or the hand of my mouth by speech bring about a thing so great?

11.12.14

See, I answer him that asketh, "What did God before He made heaven and earth?" I answer not as one is said to have done merrily (eluding the pressure of the question), "He was preparing hell (saith he) for pryers into mysteries." It is one thing to answer enquiries, another to make sport of enquirers. So I answer not; for rather had I answer, "I know not," what I know not, than so as to raise a laugh at him who asketh deep things and gain praise for one who answereth false things. But I say that Thou, our God, art the Creator of every creature: and if by the name "heaven and earth," every creature be understood; I boldly say, "that before God made heaven and earth, He did not make any thing." For if He made, what did He make but a creature? And would I knew whatsoever I desire to know to my profit, as I know, that no creature was made, before there was made any creature.

11.13.15

But if any excursive brain rove over the images of forepassed times, and wonder that Thou the God Almighty and All-creating and All-supporting, Maker of heaven and earth, didst for innumerable ages forbear from so great a work, before Thou wouldest make it; let him awake and consider, that he wonders at false conceits. For whence could innumerable ages pass by, which Thou madest not, Thou the Author and Creator of all ages? or what times should there be, which were not made by Thee? or how should they pass by, if they never were? Seeing then Thou art the Creator of all times, if any time was before Thou madest heaven and earth, why say they that Thou didst forego working? For that very time didst Thou make, nor could times pass

by, before Thou madest those times. But if before heaven and earth there was no time, why is it demanded, what Thou then didst? For there was no "then," when there was no time.

11.13.16

Nor dost Thou by time, precede time: else shouldest Thou not precede all times. But Thou precedest all things past, by the sublimity of an ever-present eternity; and surpassest all future because they are future, and when they come, they shall be past; but Thou art the Same, and Thy years fail not. Thy years neither come nor go; whereas ours both come and go, that they all may come. Thy years stand together, because they do stand; nor are departing thrust out by coming years, for they pass not away; but ours shall all be, when they shall no more be. Thy years are one day; and Thy day is not daily, but To-day, seeing Thy To-day gives not place unto to-morrow, for neither doth it replace yesterday. Thy To-day, is Eternity; therefore didst Thou beget The Coeternal, to whom Thou saidst, This day have I begotten Thee. Thou hast made all things; and before all times Thou art: neither in any time was time not.

11.14.17

At no time then hadst Thou not made any thing, because time itself Thou madest. And no times are coeternal with Thee, because Thou abidest; but if they abode, they should not be times. For what is time? Who can readily and briefly explain this? Who can even in thought comprehend it, so as to utter a word about it? But what in discourse do we mention more familiarly and knowingly, than time? And, we understand, when we speak of it; we understand also, when we hear it spoken of by another. What then is time? If no one asks me, I know: if I wish to explain it to one that asketh, I know not: yet I say boldly that I know, that if nothing passed away, time past were not; and if nothing were coming, a time to come were not; and if nothing were, time present were not. Those two times then, past and to come, how are they, seeing the past now is not, and that to come is not yet? But the present, should it always be present, and never pass into time past, verily it should not be time, but eternity. If time present (if it is to be time) only cometh into existence, because it passeth into time past, how can we say that either this is, whose cause of being is, that it shall not be; so, namely, that we cannot truly say that time is, but because it is tending not to be?

11.15.18

And yet we say, "a long time" and "a short time"; still, only of time past or to come. A long time past (for example) we call an hundred years since; and a long time to come, an hundred years hence. But a short time past, we call (suppose) often days since; and a short time to come, often days hence. But in what sense is that long or short, which is not? For the past, is not now; and the future, is not yet. Let us not then say, "it is long"; but of the past, "it hath been long"; and of the future, "it will be long." O my Lord, my Light, shall not here also Thy Truth mock at man? For that past time which was long, was it long when it was now past, or when it was yet present? For then might it be long, when there was, what could be long; but when past, it was no longer; wherefore neither could that be long, which was not at all. Let us not then say, "time past hath been long": for we shall not find, what hath been long, seeing that since it was past, it is no more, but let us say, "that present time was long"; because, when it was present, it was long. For it had not yet passed away, so as not to be; and therefore there was, what could be long; but after it was past, that ceased also to be long, which ceased to be.

11.15.19

Let us see then, thou soul of man, whether present time can be long: for to thee it is given to feel and to measure length of time. What wilt thou answer me? Are an hundred years, when present, a long time? See first, whether an hundred years can be present. For if the first of these years be now current, it is present, but the other ninety and nine are to come, and therefore are not yet, but if the second year be current, one is now past, another present, the rest to come. And so if we assume any middle year of this hundred to be present, all before it, are past; all after it, to come; wherefore an hundred years cannot be present. But see at least whether that

one which is now current, itself is present; for if the current month be its first, the rest are to come; if the second, the first is already past, and the rest are not yet. Therefore, neither is the year now current present; and if not present as a whole, then is not the year present. For twelve months are a year; of which whatever by the current month is present; the rest past, or to come. Although neither is that current month present; but one day only; the rest being to come, if it be the first; past, if the last; if any of the middle, then amid past and to come.

11.15.20

See how the present time, which alone we found could be called long, is abridged to the length scarce of one day. But let us examine that also; because neither is one day present as a whole. For it is made up of four and twenty hours of night and day: of which, the first hath the rest to come; the last hath them past; and any of the middle hath those before it past, those behind it to come. Yea, that one hour passeth away in flying particles. Whatsoever of it hath flown away, is past; whatsoever remaineth, is to come. If an instant of time be conceived, which cannot be divided into the smallest particles of moments, that alone is it, which may be called present. Which yet flies with such speed from future to past, as not to be lengthened out with the least stay. For if it be, it is divided into past and future. The present hath no space. Where then is the time, which we may call long? Is it to come? Of it we do not say, "it is long"; because it is not yet, so as to be long; but we say, "it will be long." When therefore will it be? For if even then, when it is yet to come, it shall not be long (because what can be long, as yet is not), and so it shall then be long, when from future which as yet is not, it shall begin now to be, and have become present, that so there should exist what may be long; then does time present cry out in the words above, that it cannot be long.

11.16.21

And yet, Lord, we perceive intervals of times, and compare them, and say, some are shorter, and others longer. We measure also, how much longer or shorter this time is than that; and we answer, "This is double, or treble; and that, but once, or only just so much as that." But we measure times as they are passing, by perceiving them; but past, which now are not, or the future, which are not yet, who can measure? unless a man shall presume to say, that can be measured, which is not. When then time is passing, it may be perceived and measured; but when it is past, it cannot, because it is not.

11.17.22

I ask, Father, I affirm not: O my God, rule and guide me. "Who will tell me that there are not three times (as we learned when boys, and taught boys), past, present, and future; but present only, because those two are not? Or are they also; and when from future it becometh present, doth it come out of some secret place; and so, when retiring, from present it becometh past? For where did they, who foretold things to come, see them, if as yet they be not? For that which is not, cannot be seen. And they who relate things past, could not relate them, if in mind they did not discern them, and if they were not, they could no way be discerned. Things then past and to come, are."

11.18.23

Permit me, Lord, to seek further. O my hope, let not my purpose be confounded. For if times past and to come be, I would know where they be. Which yet if I cannot, yet I know, wherever they be, they are not there as future, or past, but present. For if there also they be future, they are not yet there; if there also they be past, they are no longer there. Wheresoever then is whatsoever is, it is only as present. Although when past facts are related, there are drawn out of the memory, not the things themselves which are past, but words which, conceived by the images of the things, they, in passing, have through the senses left as traces in the mind. Thus my childhood, which now is not, is in time past, which now is not: but now when I recall its image, and tell of it, I behold it in the present, because it is still in my memory. Whether there be a like cause of foretelling things to come also; that of things which as yet are not, the images may be perceived before, already existing, I confess, O my God, I know not. This indeed I know, that we generally think before on our

future actions, and that that forethinking is present, but the action whereof we forethink is not yet, because it is to come. Which, when we have set upon, and have begun to do what we were forethinking, then shall that action be; because then it is no longer future, but present.

11.18.24

Which way soever then this secret fore-perceiving of things to come be; that only can be seen, which is. But what now is, is not future, but present. When then things to come are said to be seen, it is not themselves which as yet are not (that is, which are to be), but their causes perchance or signs are seen, which already are. Therefore they are not future but present to those who now see that, from which the future, being foreconceived in the mind, is foretold. Which fore--conceptions again now are; and those who foretell those things, do behold the conceptions present before them. Let now the numerous variety of things furnish me some example. I behold the day-break, I foreshow, that the sun, is about to rise. What I behold, is present; what I foresignify, to come; not the sun, which already is; but the sun-rising, which is not yet. And yet did I not in my mind imagine the sun-rising itself (as now while I speak of it), I could not foretell it. But neither is that day-break which I discern in the sky, the sun-rising, although it goes before it; nor that imagination of my mind; which two are seen now present, that the other which is to be may be foretold. Future things then are not yet: and if they be not yet, they are not: and if they are not, they cannot be seen; yet foretold they may be from things present, which are already, and are seen.

11.19.25

Thou then, Ruler of Thy creation, by what way dost Thou teach souls things to come? For Thou didst teach Thy Prophets. By what way dost Thou, to whom nothing is to come, teach things to come; or rather of the future, dost teach things present? For, what is not, neither can it be taught. Too far is this way of my ken: it is too mighty for me, I cannot attain unto it; but from Thee I can, when Thou shalt vouchsafe it, O sweet light of my hidden eyes.

11.20.26

What now is clear and plain is, that neither things to come nor past are. Nor is it properly said, "there be three times, past, present, and to come": yet perchance it might be properly said, "there be three times; a present of things past, a present of things present, and a present of things future." For these three do exist in some sort, in the soul, but otherwhere do I not see them; present of things past, memory; present of things present, sight; present of things future, expectation. If thus we be permitted to speak, I see three times, and I confess there are three. Let it be said too, "there be three times, past, present, and to come": in our incorrect way. See, I object not, nor gainsay, nor find fault, if what is so said be but understood, that neither what is to be, now is, nor what is past. For but few things are there, which we speak properly, most things improperly; still the things intended are understood.

11.21.27

I said then even now, we measure times as they pass, in order to be able to say, this time is twice so much as that one; or, this is just so much as that; and so of any other parts of time, which be measurable. Wherefore, as I said, we measure times as they pass. And if any should ask me, "How knowest thou?" I might answer, "I know, that we do measure, nor can we measure things that are not; and things past and to come, are not." But time present how do we measure, seeing it hath no space? It is measured while passing, but when it shall have passed, it is not measured; for there will be nothing to be measured. But whence, by what way, and whither passes it while it is a measuring? whence, but from the future? Which way, but through the present? whither, but into the past? From that therefore, which is not yet, through that, which hath no space, into that, which now is not. Yet what do we measure, if not time in some space? For we do not say, single, and double, and triple, and equal, or any other like way that we speak of time, except of spaces of times. In what space then do we measure time passing? In the future, whence it passeth through? But what is not yet, we measure not. Or in the present, by which it passes? but no space, we do not measure: or in the past, to which it passes? But

neither do we measure that, which now is not.

11.22.28

My soul is on fire to know this most intricate enigma. Shut it not up, O Lord my God, good Father; through Christ I beseech Thee, do not shut up these usual, yet hidden things, from my desire, that it be hindered from piercing into them; but let them dawn through Thy enlightening mercy, O Lord. Whom shall I enquire of concerning these things? and to whom shall I more fruitfully confess my ignorance, than to Thee, to Whom these my studies, so vehemently kindled toward Thy Scriptures, are not troublesome? Give what I love; for I do love, and this hast Thou given me. Give, Father, Who truly knowest to give good gifts unto Thy children. Give, because I have taken upon me to know, and trouble is before me until Thou openest it. By Christ I beseech Thee, in His Name, Holy of holies, let no man disturb me. For I believed, and therefore do I speak. This is my hope, for this do I live, that I may contemplate the delights of the Lord. Behold, Thou hast made my days old, and they pass away, and how, I know not. And we talk of time, and time, and times, and times, "How long time is it since he said this"; "how long time since he did this"; and "how long time since I saw that"; and "this syllable hath double time to that single short syllable." These words we speak, and these we hear, and are understood, and understand. Most manifest and ordinary they are, and the self-same things again are but too deeply hidden, and the discovery of them were new.

11.23.29

I heard once from a learned man, that the motions of the sun, moon, and stars, constituted time, and I assented not. For why should not the motions of all bodies rather be times? Or, if the lights of heaven should cease, and a potter's wheel run round, should there be no time by which we might measure those whirlings, and say, that either it moved with equal pauses, or if it turned sometimes slower, otherwhiles quicker, that some rounds were longer, other shorter? Or, while we were saying this, should we not also be speaking in time? Or, should there in our words be some syllables short, others long, but because those sounded in a shorter time, these in a longer? God, grant to men to see in a small thing notices common to things great and small. The stars and lights of heaven, are also for signs, and for seasons, and for years, and for days; they are; yet neither should I say, that the going round of that wooden wheel was a day, nor yet he, that it was therefore no time.

11.23.30

I desire to know the force and nature of time, by which we measure the motions of bodies, and say (for example) this motion is twice as long as that. For I ask, Seeing "day" denotes not the stay only of the sun upon the earth (according to which day is one thing, night another); but also its whole circuit from east to east again; according to which we say, "there passed so many days," the night being included when we say, "so many days," and the nights not reckoned apart;- seeing then a day is completed by the motion of the sun and by his circuit from east to east again, I ask, does the motion alone make the day, or the stay in which that motion is completed, or both? For if the first be the day; then should we have a day, although the sun should finish that course in so small a space of time, as one hour comes to. If the second, then should not that make a day, if between one sun-rise and another there were but so short a stay, as one hour comes to; but the sun must go four and twenty times about, to complete one day. If both, then neither could that be called a day; if the sun should run his whole round in the space of one hour; nor that, if, while the sun stood still, so much time should overpass, as the sun usually makes his whole course in, from morning to morning. I will not therefore now ask, what that is which is called day; but, what time is, whereby we, measuring the circuit of the sun, should say that it was finished in half the time it was wont, if so be it was finished in so small a space as twelve hours; and comparing both times, should call this a single time, that a double time; even supposing the sun to run his round from east to east, sometimes in that single, sometimes in that double time. Let no man then tell me, that the motions of the heavenly bodies constitute times, because, when at the prayer of one, the sun had stood still, till he could achieve his victorious battle, the sun stood still, but time went on. For in its own allotted

space of time was that battle waged and ended. I perceive time then to be a certain extension. But do I perceive it, or seem to perceive it? Thou, Light and Truth, wilt show me.

11.24.31

Dost Thou bid me assent, if any define time to be "motion of a body?" Thou dost not bid me. For that no body is moved, but in time, I hear; this Thou sayest; but that the motion of a body is time, I hear not; Thou sayest it not. For when a body is moved, I by time measure, how long it moveth, from the time it began to move until it left off? And if I did not see whence it began; and it continue to move so that I see not when it ends, I cannot measure, save perchance from the time I began, until I cease to see. And if I look long, I can only pronounce it to be a long time, but not how long; because when we say "how long," we do it by comparison; as, "this is as long as that," or "twice so long as that," or the like. But when we can mark the distances of the places, whence and whither goeth the body moved, or his parts, if it moved as in a lathe, then can we say precisely, in how much time the motion of that body or his part, from this place unto that, was finished. Seeing therefore the motion of a body is one thing, that by which we measure how long it is, another; who sees not, which of the two is rather to be called time? For and if a body be sometimes moved, sometimes stands still, then we measure, not his motion only, but his standing still too by time; and we say, "it stood still, as much as it moved"; or "it stood still twice or thrice so long as it moved"; or any other space which our measuring hath either ascertained, or guessed; more or less, as we use to say. Time then is not the motion of a body.

11.25.32

And I confess to Thee, O Lord, that I yet know not what time is, and again I confess unto Thee, O Lord, that I know that I speak this in time, and that having long spoken of time, that very "long" is not long, but by the pause of time. How then know I this, seeing I know not what time is? or is it perchance that I know not how to express what I know? Woe is me, that do not even know, what I know not. Behold, O my God, before Thee I lie not; but as I speak, so is my heart. Thou shalt light my candle; Thou, O Lord my God, wilt enlighten my darkness.

11.26.33

Does not my soul most truly confess unto Thee, that I do measure times? Do I then measure, O my God, and know not what I measure? I measure the motion of a body in time; and the time itself do I not measure? Or could I indeed measure the motion of a body how long it were, and in how long space it could come from this place to that, without measuring the time in which it is moved? This same time then, how do I measure? do we by a shorter time measure a longer, as by the space of a cubit, the space of a rood? for so indeed we seem by the space of a short syllable, to measure the space of a long syllable, and to say that this is double the other. Thus measure we the spaces of stanzas, by the spaces of the verses, and the spaces of the verses, by the spaces of the feet, and the spaces of the feet, by the spaces of the syllables, and the spaces of long, by the space of short syllables; not measuring by pages (for then we measure spaces, not times); but when we utter the words and they pass by, and we say "it is a long stanza, because composed of so many verses; long verses, because consisting of so many feet; long feet, because prolonged by so many syllables; a long syllable because double to a short one. But neither do we this way obtain any certain measure of time; because it may be, that a shorter verse, pronounced more fully, may take up more time than a longer, pronounced hurriedly. And so for a verse, a foot, a syllable. Whence it seemed to me, that time is nothing else than protraction; but of what, I know not; and I marvel, if it be not of the mind itself? For what, I beseech Thee, O my God, do I measure, when I say, either indefinitely "this is a longer time than that," or definitely "this is double that"? That I measure time, I know; and yet I measure not time to come, for it is not yet; nor present, because it is not protracted by any space; nor past, because it now is not. What then do I measure? Times passing, not past? for so I said.

11.27.34

Courage, my mind, and press on mightily. God is our helper, He

made us, and not we ourselves. Press on where truth begins to dawn. Suppose, now, the voice of a body begins to sound, and does sound, and sounds on, and list, it ceases; it is silence now, and that voice is past, and is no more a voice. Before it sounded, it was to come, and could not be measured, because as yet it was not, and now it cannot, because it is no longer. Then therefore while it sounded, it might; because there then was what might be measured. But yet even then it was not at a stay; for it was passing on, and passing away. Could it be measured the rather, for that? For while passing, it was being extended into some space of time, so that it might be measured, since the present hath no space. If therefore then it might, then, to, suppose another voice hath begun to sound, and still soundeth in one continued tenor without any interruption; let us measure it while it sounds; seeing when it hath left sounding, it will then be past, and nothing left to be measured; let us measure it verily, and tell how much it is. But it sounds still, nor can it be measured but from the instant it began in, unto the end it left in. For the very space between is the thing we measure, namely, from some beginning unto some end. Wherefore, a voice that is not yet ended, cannot be measured, so that it may be said how long, or short it is; nor can it be called equal to another, or double to a single, or the like. But when ended, it no longer is. How may it then be measured? And yet we measure times; but yet neither those which are not yet, nor those which no longer are, nor those which are not lengthened out by some pause, nor those which have no bounds. We measure neither times to come, nor past, nor present, nor passing; and yet we do measure times.

11.27.35

"Deus Creator omnium," this verse of eight syllables alternates between short and long syllables. The four short then, the first, third, fifth, and seventh, are but single, in respect of the four long, the second, fourth, sixth, and eighth. Every one of these to every one of those, hath a double time: I pronounce them, report on them, and find it so, as one's plain sense perceives. By plain sense then, I measure a long syllable by a short, and I sensibly find it to have twice so much; but when one sounds after the other, if the former be short, the latter long, how shall I detain the short one, and how, measuring, shall I apply it to the long, that I may find this to have twice so much; seeing the long does not begin to sound, unless the short leaves sounding? And that very long one do I measure as present, seeing I measure it not till it be ended? Now his ending is his passing away. What then is it I measure? where is the short syllable by which I measure? where the long which I measure? Both have sounded, have flown, passed away, are no more; and yet I measure, and confidently answer (so far as is presumed on a practised sense) that as to space of time this syllable is but single, that double. And yet I could not do this, unless they were already past and ended. It is not then themselves, which now are not, that I measure, but something in my memory, which there remains fixed.

11.27.36

It is in thee, my mind, that I measure times. Interrupt me not, that is, interrupt not thyself with the tumults of thy impressions. In thee I measure times; the impression, which things as they pass by cause in thee, remains even when they are gone; this it is which still present, I measure, not the things which pass by to make this impression. This I measure, when I measure times. Either then this is time, or I do not measure times. What when we measure silence, and say that this silence hath held as long time as did that voice? do we not stretch out our thought to the measure of a voice, as if it sounded, that so we may be able to report of the intervals of silence in a given space of time? For though both voice and tongue be still, yet in thought we go over poems, and verses, and any other discourse, or dimensions of motions, and report as to the spaces of times, how much this is in respect of that, no otherwise than if vocally we did pronounce them. If a man would utter a lengthened sound, and had settled in thought how long it should be, he hath in silence already gone through a space of time, and committing it to memory, begins to utter that speech, which sounds on, until it be brought unto the end proposed. Yea it hath sounded, and will sound; for so much of it as is finished, hath sounded already, and the rest will sound. And thus passeth it on, until the present intent conveys over the future into the past; the past increasing by the diminution of the future, until by the

consumption of the future, all is past.

11.28.37
But how is that future diminished or consumed, which as yet is not? or how that past increased, which is now no longer, save that in the mind which enacteth this, there be three things done? For it expects, it considers, it remembers; that so that which it expecteth, through that which it considereth, passeth into that which it remembereth. Who therefore denieth, that things to come are not as yet? and yet, there is in the mind an expectation of things to come. And who denies past things to be now no longer? and yet is there still in the mind a memory of things past. And who denieth the present time hath no space, because it passeth away in a moment? and yet our consideration continueth, through which that which shall be present proceedeth to become absent. It is not then future time, that is long, for as yet it is not: but a long future, is "a long expectation of the future," nor is it time past, which now is not, that is long; but a long past, is "a long memory of the past."

11.28.38
I am about to repeat a Psalm that I know. Before I begin, my expectation is extended over the whole; but when I have begun, how much soever of it I shall separate off into the past, is extended along my memory; thus the life of this action of mine is divided between my memory as to what I have repeated, and expectation as to what I am about to repeat; but "consideration" is present with me, that through it what was future, may be conveyed over, so as to become past. Which the more it is done again and again, so much the more the expectation being shortened, is the memory enlarged: till the whole expectation be at length exhausted, when that whole action being ended, shall have passed into memory. And this which takes place in the whole Psalm, the same takes place in each several portion of it, and each several syllable; the same holds in that longer action, whereof this Psalm may be part; the same holds in the whole life of man, whereof all the actions of man are parts; the same holds through the whole age of the sons of men, whereof all the lives of men are parts.

11.29.39
But because Thy loving-kindness is better than all lives, behold, my life is but a distraction, and Thy right hand upheld me, in my Lord the Son of man, the Mediator betwixt Thee, The One, and us many, many also through our manifold distractions amid many things, that by Him I may apprehend in Whom I have been apprehended, and may be re-collected from my old conversation, to follow The One, forgetting what is behind, and not distended but extended, not to things which shall be and shall pass away, but to those things which are before, not distractedly but intently, I follow on for the prize of my heavenly calling, where I may hear the voice of Thy praise, and contemplate Thy delights, neither to come, nor to pass away. But now are my years spent in mourning. And Thou, O Lord, art my comfort, my Father everlasting, but I have been severed amid times, whose order I know not; and my thoughts, even the inmost bowels of my soul, are rent and mangled with tumultuous varieties, until I flow together into Thee, purified and molten by the fire of Thy love.

11.30.40
And now will I stand, and become firm in Thee, in my mould, Thy truth; nor will I endure the questions of men, who by a penal disease thirst for more than they can contain, and say, "what did God before He made heaven and earth?" Or, "How came it into His mind to make any thing, having never before made any thing?" Give them, O Lord, well to bethink themselves what they say, and to find, that "never" cannot be predicated, when "time" is not. This then that He is said "never to have made"; what else is it to say, than "in 'no have made?" Let them see therefore, that time cannot be without created being, and cease to speak that vanity. May they also be extended towards those things which are before; and understand Thee before all times, the eternal Creator of all times, and that no times be coeternal with Thee, nor any creature, even if there be any creature before all times.

11.31.41
O Lord my God, what a depth is that recess of Thy mysteries, and how far from it have the consequences of my transgressions cast

René Descartes

Discourse on the Method of Reasoning

Parts II - IV

matter of my experience as to secure my improvement. For it occurred to me that I should find much more truth in the reasonings of each individual with reference to the affairs in which he is personally interested, and the issue of which must presently punish him if he has judged amiss, than in those conducted by a man of letters in his study, regarding speculative matters that are of no practical moment, and followed by no consequences to himself, farther, perhaps, than that they foster his vanity the better the more remote they are from common sense; requiring, as they must in this case, the exercise of greater ingenuity and art to render them probable. In addition, I had always a most earnest desire to know how to distinguish the true from the false, in order that I might be able clearly to discriminate the right path in life, and proceed in it with confidence.

It is true that, while busied only in considering the manners of other men, I found here, too, scarce any ground for settled conviction, and remarked hardly less contradiction among them than in the opinions of the philosophers. So that the greatest advantage I derived from the study consisted in this, that, observing many things which, however extravagant and ridiculous to our apprehension, are yet by common consent received and approved by other great nations, I learned to entertain too decided a belief in regard to nothing of the truth of which I had been persuaded merely by example and custom; and thus I gradually extricated myself from many errors powerful enough to darken our natural intelligence, and incapacitate us in great measure from listening to reason. But after I had been occupied several years in thus studying the book of the world, and in essaying to gather some experience, I at length resolved to make myself an object of study, and to employ all the powers of my mind in choosing the paths I ought to follow, an undertaking which was accompanied with greater success than it would have been had I never quitted my country or my books.

PART II

I was then in Germany, attracted thither by the wars in that country,

which have not yet been brought to a termination; and as I was returning to the army from the coronation of the emperor, the setting in of winter arrested me in a locality where, as I found no society to interest me, and was besides fortunately undisturbed by any cares or passions, I remained the whole day in seclusion, with full opportunity to occupy my attention with my own thoughts. Of these one of the very first that occurred to me was, that there is seldom so much perfection in works composed of many separate parts, upon which different hands had been employed, as in those completed by a single master. Thus it is observable that the buildings which a single architect has planned and executed, are generally more elegant and commodious than those which several have attempted to improve, by making old walls serve for purposes for which they were not originally built. Thus also, those ancient cities which, from being at first only villages, have become, in course of time, large towns, are usually but ill laid out compared with the regularity constructed towns which a professional architect has freely planned on an open plain; so that although the several buildings of the former may often equal or surpass in beauty those of the latter, yet when one observes their indiscriminate juxtaposition, there a large one and here a small, and the consequent crookedness and irregularity of the streets, one is disposed to allege that chance rather than any human will guided by reason must have led to such an arrangement. And if we consider that nevertheless there have been at all times certain officers whose duty it was to see that private buildings contributed to public ornament, the difficulty of reaching high perfection with but the materials of others to operate on, will be readily acknowledged. In the same way I fancied that those nations which, starting from a semi-barbarous state and advancing to civilization by slow degrees, have had their laws successively determined, and, as it were, forced upon them simply by experience of the hurtfulness of particular crimes and disputes, would by this process come to be possessed of less perfect institutions than those which, from the commencement of their association as communities, have followed the appointments of some wise legislator. It is thus quite certain that the constitution of the true religion, the ordinances of which are derived from God, must be incomparably superior to that of every other. And, to speak of human affairs, I believe that the pre-eminence of Sparta was due not to the goodness of each of its laws in particular, for many of these were very strange, and even opposed to good morals, but to the

circumstance that, originated by a single individual, they all tended to a single end. In the same way I thought that the sciences contained in books (such of them at least as are made up of probable reasonings, without demonstrations), composed as they are of the opinions of many different individuals massed together, are farther removed from truth than the simple inferences which a man of good sense using his natural and unprejudiced judgment draws respecting the matters of his experience. And because we have all to pass through a state of infancy to manhood, and have been of necessity, for a length of time, governed by our desires and preceptors (whose dictates were frequently conflicting, while neither perhaps always counseled us for the best), I farther concluded that it is almost impossible that our judgments can be so correct or solid as they would have been, had our reason been mature from the moment of our birth, and had we always been guided by it alone.

It is true, however, that it is not customary to pull down all the houses of a town with the single design of rebuilding them differently, and thereby rendering the streets more handsome; but it often happens that a private individual takes down his own with the view of erecting it anew, and that people are even sometimes constrained to this when their houses are in danger of falling from age, or when the foundations are insecure. With this before me by way of example, I was persuaded that it would indeed be preposterous for a private individual to think of reforming a state by fundamentally changing it throughout, and overturning it in order to set it up amended; and the same I thought was true of any similar project for reforming the body of the sciences, or the order of teaching them established in the schools: but as for the opinions which up to that time I had embraced, I thought that I could not do better than resolve at once to sweep them wholly away, that I might afterwards be in a position to admit either others more correct, or even perhaps the same when they had undergone the scrutiny of reason. I firmly believed that in this way I should much better succeed in the conduct of my life, than if I built only upon old foundations, and leaned upon principles which, in my youth, I had taken upon trust. For although I recognized various difficulties in this undertaking, these were not, however, without remedy, nor once to be compared with such as attend the slightest reformation in public affairs. Large bodies, if once overthrown, are with great difficulty set up again, or even kept erect when once seriously shaken, and the fall of such is always disastrous. Then if there are any imperfections in the constitutions of states (and that many such exist the diversity of constitutions is alone sufficient to assure us), custom has without doubt materially smoothed their inconveniences, and has even managed to steer altogether clear of, or insensibly corrected a number which sagacity could not have provided against with equal effect; and, in fine, the defects are almost always more tolerable than the change necessary for their removal; in the same manner that highways which wind among mountains, by being much frequented, become gradually so smooth and commodious, that it is much better to follow them than to seek a straighter path by climbing over the tops of rocks and descending to the bottoms of precipices.

Hence it is that I cannot in any degree approve of those restless and busy meddlers who, called neither by birth nor fortune to take part in the management of public affairs, are yet always projecting reforms; and if I thought that this tract contained aught which might justify the suspicion that I was a victim of such folly, I would by no means permit its publication. I have never contemplated anything higher than the reformation of my own opinions, and basing them on a foundation wholly my own. And although my own satisfaction with my work has led me to present here a draft of it, I do not by any means therefore recommend to every one else to make a similar attempt. Those whom God has endowed with a larger measure of genius will entertain, perhaps, designs still more exalted; but for the many I am much afraid lest even the present undertaking be more than they can safely venture to imitate. The single design to strip one's self of all past beliefs is one that ought not to be taken by every one. The majority of men is composed of two classes, for neither of which would this be at all a befitting resolution: in the first place, of those who with more than a due confidence in their own powers, are precipitate in their judgments and want the patience requisite for orderly and circumspect thinking; whence it happens, that if men of this class once take the liberty to doubt of their accustomed opinions, and quit the beaten highway, they will never be able to thread the byway that would lead them by a shorter course, and will lose themselves and continue to wander for life; in the second place, of those who, possessed of sufficient sense or modesty to determine that there are others who excel them in the power of discriminating between truth and error, and by whom they may be instructed, ought rather to content

themselves with the opinions of such than trust for more correct to their own reason.

For my own part, I should doubtless have belonged to the latter class, had I received instruction from but one master, or had I never known the diversities of opinion that from time immemorial have prevailed among men of the greatest learning. But I had become aware, even so early as during my college life, that no opinion, however absurd and incredible, can be imagined, which has not been maintained by some on of the philosophers; and afterwards in the course of my travels I remarked that all those whose opinions are decidedly repugnant to ours are not in that account barbarians and savages, but on the contrary that many of these nations make an equally good, if not better, use of their reason than we do. I took into account also the very different character which a person brought up from infancy in France or Germany exhibits, from that which, with the same mind originally, this individual would have possessed had he lived always among the Chinese or with savages, and the circumstance that in dress itself the fashion which pleased us ten years ago, and which may again, perhaps, be received into favor before ten years have gone, appears to us at this moment extravagant and ridiculous. I was thus led to infer that the ground of our opinions is far more custom and example than any certain knowledge. And, finally, although such be the ground of our opinions, I remarked that a plurality of suffrages is no guarantee of truth where it is at all of difficult discovery, as in such cases it is much more likely that it will be found by one than by many. I could, however, select from the crowd no one whose opinions seemed worthy of preference, and thus I found myself constrained, as it were, to use my own reason in the conduct of my life.

But like one walking alone and in the dark, I resolved to proceed so slowly and with such circumspection, that if I did not advance far, I would at least guard against falling. I did not even choose to dismiss summarily any of the opinions that had crept into my belief without having been introduced by reason, but first of all took sufficient time carefully to satisfy myself of the general nature of the task I was setting myself, and ascertain the true method by which to arrive at the knowledge of whatever lay within the compass of my powers.

Among the branches of philosophy, I had, at an earlier period, given some attention to logic, and among those of the mathematics to geometrical analysis and algebra, -- three arts or sciences which ought, as I conceived, to contribute something to my design. But, on examination, I found that, as for logic, its syllogisms and the majority of its other precepts are of avail- rather in the communication of what we already know, or even as the art of Lully, in speaking without judgment of things of which we are ignorant, than in the investigation of the unknown; and although this science contains indeed a number of correct and very excellent precepts, there are, nevertheless, so many others, and these either injurious or superfluous, mingled with the former, that it is almost quite as difficult to effect a severance of the true from the false as it is to extract a Diana or a Minerva from a rough block of marble. Then as to the analysis of the ancients and the algebra of the moderns, besides that they embrace only matters highly abstract, and, to appearance, of no use, the former is so exclusively restricted to the consideration of figures, that it can exercise the understanding only on condition of greatly fatiguing the imagination; and, in the latter, there is so complete a subjection to certain rules and formulas, that there results an art full of confusion and obscurity calculated to embarrass, instead of a science fitted to cultivate the mind. By these considerations I was induced to seek some other method which would comprise the advantages of the three and be exempt from their defects. And as a multitude of laws often only hampers justice, so that a state is best governed when, with few laws, these are rigidly administered; in like manner, instead of the great number of precepts of which logic is composed, I believed that the four following would prove perfectly sufficient for me, provided I took the firm and unwavering resolution never in a single instance to fail in observing them.

The first was never to accept anything for true which I did not clearly know to be such; that is to say, carefully to avoid precipitancy and prejudice, and to comprise nothing more in my judgement than what was presented to my mind so clearly and distinctly as to exclude all ground of doubt.

The second, to divide each of the difficulties under examination into as many parts as possible, and as might be necessary for its adequate solution.

The third, to conduct my thoughts in such order that, by commencing with objects the simplest and easiest to know, I might ascend by little and little, and, as it were, step by step, to the knowledge of the more complex; assigning in thought a certain order even to those objects which in their own nature do not stand in a relation of antecedence and sequence.

And the last, in every case to make enumerations so complete, and reviews so general, that I might be assured that nothing was omitted.

The long chains of simple and easy reasonings by means of which geometers are accustomed to reach the conclusions of their most difficult demonstrations, had led me to imagine that all things, to the knowledge of which man is competent, are mutually connected in the same way, and that there is nothing so far removed from us as to be beyond our reach, or so hidden that we cannot discover it, provided only we abstain from accepting the false for the true, and always preserve in our thoughts the order necessary for the deduction of one truth from another. And I had little difficulty in determining the objects with which it was necessary to commence, for I was already persuaded that it must be with the simplest and easiest to know, and, considering that of all those who have hitherto sought truth in the sciences, the mathematicians alone have been able to find any demonstrations, that is, any certain and evident reasons, I did not doubt but that such must have been the rule of their investigations. I resolved to commence, therefore, with the examination of the simplest objects, not anticipating, however, from this any other advantage than that to be found in accustoming my mind to the love and nourishment of truth, and to a distaste for all such reasonings as were unsound. But I had no intention on that account of attempting to master all the particular sciences commonly denominated mathematics: but observing that, however different their objects, they all agree in considering only the various relations or proportions subsisting among those objects, I thought it best for my purpose to consider these proportions in the most general form possible, without referring them to any objects in particular, except such as would most facilitate the knowledge of them, and without by any means restricting them to these, that afterwards I might thus be the better able to apply them to every other class of objects to which they are legitimately applicable. Perceiving further, that in order to understand these relations I should sometimes have to consider them one by one and sometimes only to bear them in mind, or embrace them in the aggregate, I thought that, in order the better to consider them individually, I should view them as subsisting between straight lines, than which I could find no objects more simple, or capable of being more distinctly represented to my imagination and senses; and on the other hand, that in order to retain them in the memory or embrace an aggregate of many, I should express them by certain characters the briefest possible. In this way I believed that I could borrow all that was best both in geometrical analysis and in algebra, and correct all the defects of the one by help of the other.

And, in point of fact, the accurate observance of these few precepts gave me, I take the liberty of saying, such ease in unraveling all the questions embraced in these two sciences, that in the two or three months I devoted to their examination, not only did I reach solutions of questions I had formerly deemed exceedingly difficult but even as regards questions of the solution of which I continued ignorant, I was enabled, as it appeared to me, to determine the means whereby, and the extent to which a solution was possible; results attributable to the circumstance that I commenced with the simplest and most general truths, and that thus each truth discovered was a rule available in the discovery of subsequent ones Nor in this perhaps shall I appear too vain, if it be considered that, as the truth on any particular point is one whoever apprehends the truth, knows all that on that point can be known. The child, for example, who has been instructed in the elements of arithmetic, and has made a particular addition, according to rule, may be assured that he has found, with respect to the sum of the numbers before him, and that in this instance is within the reach of human genius. Now, in conclusion, the method which teaches adherence to the true order, and an exact enumeration of all the conditions of the thing .sought includes all that gives certitude to the rules of arithmetic.

But the chief ground of my satisfaction with thus method, was the assurance I had of thereby exercising my reason in all matters, if not with absolute perfection, at least with the greatest attainable by me: besides, I was conscious that by its use my mind was becoming gradually habituated to clearer and more distinct conceptions

of its objects; and I hoped also, from not having restricted this method to any particular matter, to apply it to the difficulties of the other sciences, with not less success than to those of algebra. I should not, however, on this account have ventured at once on the examination of all the difficulties of the sciences which presented themselves to me, for this would have been contrary to the order prescribed in the method, but observing that the knowledge of such is dependent on principles borrowed from philosophy, in which I found nothing certain, I thought it necessary first of all to endeavor to establish its principles. .And because I observed, besides, that an inquiry of this kind was of all others of the greatest moment, and one in which precipitancy and anticipation in judgment were most to be dreaded, I thought that I ought not to approach it till I had reached a more mature age (being at that time but twenty-three), and had first of all employed much of my time in preparation for the work, as well by eradicating from my mind all the erroneous opinions I had up to that moment accepted, as by amassing variety of experience to afford materials for my reasonings, and by continually exercising myself in my chosen method with a view to increased skill in its application.

PART III

And finally, as it is not enough, before commencing to rebuild the house

in which we live, that it be pulled down, and materials and builders provided, or that we engage in the work ourselves, according to a plan which we have beforehand carefully drawn out, but as it is likewise necessary that we be furnished with some other house in which we may live commodiously during the operations, so that I might not remain irresolute in my actions, while my reason compelled me to suspend my judgement, and that I might not be prevented from living thenceforward in the greatest possible felicity, I formed a provisory code of morals, composed of three or four maxims, with which I am desirous to make you acquainted.

The first was to obey the laws and customs of my country, adhering firmly to the faith in which, by the grace of God, I had been educated from my childhood and regulating my conduct in every other matter according to the most moderate opinions, and the farthest removed from extremes, which should happen to be adopted in practice with general consent of the most judicious of those among whom I might be living. For as I had from that time begun to hold my own opinions for nought because I wished to subject them all to examination, I was convinced that I could not do better than follow in the meantime the opinions of the most judicious; and although there are some perhaps among the Persians and Chinese as judicious as among ourselves, expediency seemed to dictate that I should regulate my practice conformably to the opinions of those with whom I should have to live; and it appeared to me that, in order to ascertain the real opinions of such, I ought rather to take cognizance of what they practised than of what they said, not only because, in the corruption of our manners, there are few disposed to speak exactly as they believe, but also because very many are not aware of what it is that they really believe; for, as the act of mind by which a thing is believed is different from that by which we know that we believe it, the one act is often found without the other. Also, amid many opinions held in equal repute, I chose always the most moderate, as much for the reason that these are always the most convenient for practice, and probably the best (for all excess is generally vicious), as that, in the event of my falling into error, I might be at less distance from the truth than if, having chosen one of the extremes, it should turn out to be the other which I ought to have adopted. And I placed in the class of extremes especially all promises by which somewhat of our freedom is abridged; not that I disapproved of the laws which, to provide against the instability of men of feeble resolution, when what is sought to be accomplished is some good, permit engagements by vows and contracts binding the parties to persevere in it, or even, for the security of commerce, sanction similar engagements where the purpose sought to be realized is indifferent: but because I did not find anything on earth which was wholly superior to change, and because, for myself in particular, I hoped gradually to perfect my judgments, and not to suffer them to deteriorate, I would have deemed it a grave sin against good sense, if, for the reason that I approved of something at a particular time, I therefore bound myself to hold it for good at a subsequent time, when perhaps it had ceased to be so, or I had ceased to esteem it such.

My second maxim was to be as firm and resolute in my actions as I was able, and not to adhere less steadfastly to the most doubtful opinions, when once adopted, than if they had been highly certain; imitating in this the example of travelers who, when they have lost their way in a forest, ought not to wander from side to side, far less remain in one place, but proceed constantly towards the same side in as straight a line as possible, without changing their direction for slight reasons, although perhaps it might be chance alone which at first determined the selection; for in this way, if they do not exactly reach the point they desire, they will come at least in the end to some place that will probably be preferable to the middle of a forest. In the same way, since in action it frequently happens that no delay is permissible, it is very certain that, when it is not in our power to determine what is true, we ought to act according to what is most probable; and even although we should not remark a greater probability in one opinion than in another, we ought notwithstanding to choose one or the other, and afterwards consider it, in so far as it relates to practice, as no longer dubious, but manifestly true and certain, since the reason by which our choice has been determined is itself possessed of these qualities. This principle was sufficient thenceforward to rid me of all those repentings and pangs of remorse that usually disturb the consciences of such feeble and uncertain minds as, destitute of any clear and determinate principle of choice, allow themselves one day to adopt a course of action as the best, which they abandon the next, as the opposite.

My third maxim was to endeavor always to conquer myself rather than fortune, and change my desires rather than the order of the world, and in general, accustom myself to the persuasion that, except our own thoughts, there is nothing absolutely in our power; so that when we have done our best in things external to us, all wherein we fail of success is to be held, as regards us, absolutely impossible: and this single principle seemed to me sufficient to prevent me from desiring for the future anything which I could not obtain, and thus render me contented; for since our will naturally seeks those objects alone which the understanding represents as in some way possible of attainment, it is plain, that if we consider all external goods as equally beyond our power, we shall no more regret the absence of such goods as seem due to our birth, when deprived of them without any fault of ours, than our not possessing the kingdoms of China or Mexico, and thus making, so to speak, a virtue of necessity, we shall no more desire health in disease, or freedom in imprisonment, than we now do bodies incorruptible as diamonds, or the wings of birds to fly with. But I confess there is need of prolonged discipline and frequently repeated meditation to accustom the mind to view all objects in this light; and I believe that in this chiefly consisted the secret of the power of such philosophers as in former times were enabled to rise superior to the influence of fortune, and, amid suffering and poverty, enjoy a happiness which their gods might have envied. For, occupied incessantly with the consideration of the limits prescribed to their power by nature, they became so entirely convinced that nothing was at their disposal except their own thoughts, that this conviction was of itself sufficient to prevent their entertaining any desire of other objects; and over their thoughts they acquired a sway so absolute, that they had some ground on this account for esteeming themselves more rich and more powerful, more free and more happy, than other men who, whatever be the favors heaped on them by nature and fortune, if destitute of this philosophy, can never command the realization of all their desires.

In fine, to conclude this code of morals, I thought of reviewing the different occupations of men in this life, with the view of making choice of the best. And, without wishing to offer any remarks on the employments of others, I may state that it was my conviction that I could not do better than continue in that in which I was engaged, viz., in devoting my whole life to the culture of my reason, and in making the greatest progress I was able in the knowledge of truth, on the principles of the method which I had prescribed to myself. This method, from the time I had begun to apply it, had been to me the source of satisfaction so intense as to lead me to, believe that more perfect or more innocent could not be enjoyed in this life; and as by its means I daily discovered truths that appeared to me of some importance, and of which other men were generally ignorant, the gratification thence arising so occupied my mind that I was wholly indifferent to every other object. Besides, the three preceding maxims were founded singly on the design of continuing the work of self-instruction. For since God has endowed each of us with some light of reason by which to distinguish truth from error, I could not have believed that I ought for a single moment to rest satisfied with the opinions of another, unless I had resolved to exercise my own judgment in examining these whenever I should be duly

qualified for the task. Nor could I have proceeded on such opinions without scruple, had I supposed that I should thereby forfeit any advantage for attaining still more accurate, should such exist. And, in fine, I could not have restrained my desires, nor remained satisfied had I not followed a path in which I thought myself certain of attaining all the knowledge to the acquisition of which I was competent, as well as the largest amount of what is truly good which I could ever hope to secure Inasmuch as we neither seek nor shun any object except in so far as our understanding represents it as good or bad, all that is necessary to right action is right judgment, and to the best action the most correct judgment, that is, to the acquisition of all the virtues with all else that is truly valuable and within our reach; and the assurance of such an acquisition cannot fail to render us contented.

Having thus provided myself with these maxims, and having placed them in reserve along with the truths of faith, which have ever occupied the first place in my belief, I came to the conclusion that I might with freedom set about ridding myself of what remained of my opinions. And, inasmuch as I hoped to be better able successfully to accomplish this work by holding intercourse with mankind, than by remaining longer shut up in the retirement where these thoughts had occurred to me, I betook me again to traveling before the winter was well ended. And, during the nine subsequent years, I did nothing but roam from one place to another, desirous of being a spectator rather than an actor in the plays exhibited on the theater of the world; and, as I made it my business in each matter to reflect particularly upon what might fairly be doubted and prove a source of error, I gradually rooted out from my mind all the errors which had hitherto crept into it. Not that in this I imitated the sceptics who doubt only that they may doubt, and seek nothing beyond uncertainty itself; for, on the contrary, my design was singly to find ground of assurance, and cast aside the loose earth and sand, that I might reach the rock or the clay. In this, as appears to me, I was successful enough; for, since I endeavored to discover the falsehood or incertitude of the propositions I examined, not by feeble conjectures, but by clear and certain reasonings, I met with nothing so doubtful as not to yield some conclusion of adequate certainty, although this were merely the inference, that the matter in question contained nothing certain. And, just as in pulling down an old house, we usually reserve the ruins to contribute towards the erection, so, in destroying such of my opinions as I judged to be Ill-founded, I made a variety of observations and acquired an amount of experience of which I availed myself in the establishment of more certain. And further, I continued to exercise myself in the method I had prescribed; for, besides taking care in general to conduct all my thoughts according to its rules, I reserved some hours from time to time which I expressly devoted to the employment of the method in the solution of mathematical difficulties, or even in the solution likewise of some questions belonging to other sciences, but which, by my having detached them from such principles of these sciences as were of inadequate certainty, were rendered almost mathematical: the truth of this will be manifest from the numerous examples contained in this volume. And thus, without in appearance living otherwise than those who, with no other occupation than that of spending their lives agreeably and innocently, study to sever pleasure from vice, and who, that they may enjoy their leisure without ennui, have recourse to such pursuits as are honorable, I was nevertheless prosecuting my design, and making greater progress in the knowledge of truth, than I might, perhaps, have made had I been engaged in the perusal of books merely, or in holding converse with men of letters.

These nine years passed away, however, before I had come to any determinate judgment respecting the difficulties which form matter of dispute among the learned, or had commenced to seek the principles of any philosophy more certain than the vulgar. And the examples of many men of the highest genius, who had, in former times, engaged in this inquiry, but, as appeared to me, without success, led me to imagine it to be a work of so much difficulty, that I would not perhaps have ventured on it so soon had I not heard it currently rumored that I had already completed the inquiry. I know not what were the grounds of this opinion; and, if my conversation contributed in any measure to its rise, this must have happened rather from my having confessed my Ignorance with greater freedom than those are accustomed to do who have studied a little, and expounded perhaps, the reasons that led me to doubt of many of those things that by others are esteemed certain, than from my having boasted of any system of philosophy. But, as I am of a disposition that makes me unwilling to be esteemed different from what I really am, I thought it necessary to endeavor by all means to render myself worthy of the reputation accorded to me; and it is now exactly eight years since this desire

constrained me to remove from all those places where interruption from any of my acquaintances was possible, and betake myself to this country, in which the long duration of the war has led to the establishment of such discipline, that the armies maintained seem to be of use only in enabling the inhabitants to enjoy more securely the blessings of peace and where, in the midst of a great crowd actively engaged in business, and more careful of their own affairs than curious about those of others, I have been enabled to live without being deprived of any of the conveniences to be had in the most populous cities, and yet as solitary and as retired as in the midst of the most remote deserts.

PART IV

I am in doubt as to the propriety of making my first meditations in the

place above mentioned matter of discourse; for these are so metaphysical, and so uncommon, as not, perhaps, to be acceptable to every one. And yet, that it may be determined whether the foundations that I have laid are sufficiently secure, I find myself in a measure constrained to advert to them. I had long before remarked that, in relation to practice, it is sometimes necessary to adopt, as if above doubt, opinions which we discern to be highly uncertain, as has been already said; but as I then desired to give my attention solely to the search after truth, I thought that a procedure exactly the opposite was called for, and that I ought to reject as absolutely false all opinions in regard to which I could suppose the least ground for doubt, in order to ascertain whether after that there remained aught in my belief that was wholly indubitable. Accordingly, seeing that our senses sometimes deceive us, I was willing to suppose that there existed nothing really such as they presented to us; and because some men err in reasoning, and fall into paralogisms, even on the simplest matters of geometry, I, convinced that I was as open to error as any other, rejected as false all the reasonings I had hitherto taken for demonstrations; and finally, when I considered that the very same thoughts (presentations) which we experience when awake may also be experienced when we are asleep, while there is at that time not one of them true, I supposed that all the objects (presentations) that had ever entered into my mind when awake, had in them no more truth than the illusions of my dreams. But immediately upon this I observed that, whilst I thus wished to think that all was false, it was absolutely necessary that I, who thus thought, should be somewhat; and as I observed that this truth, I think, therefore I am (COGITO ERGO SUM), was so certain and of such evidence that no ground of doubt, however extravagant, could be alleged by the sceptics capable of shaking it, I concluded that I might, without scruple, accept it as the first principle of the philosophy of which I was in search

In the next place, I attentively examined what I was and as I observed that I could suppose that I had no body, and that there was no world nor any place in which I might be; but that I could not therefore suppose that I was not; and that, on the contrary, from the very circumstance that I thought to doubt of the truth of other things, it most clearly and certainly followed that I was; while, on the other hand, if I had only ceased to think, although all the other objects which I had ever imagined had been in reality existent, I would have had no reason to believe that I existed; I thence concluded that I was a substance whose whole essence or nature consists only in thinking, and which, that it may exist, has need of no place, nor is dependent on any material thing; so that " I," that is to say, the mind by which I am what I am, is wholly distinct from the body, and is even more easily known than the latter, and is such, that although the latter were not, it would still continue to be all that it is.

After this I inquired in general into what is essential I to the truth and certainty of a proposition; for since I had discovered one which I knew to be true, I thought that I must likewise be able to discover the ground of this certitude. And as I observed that in the words I think, therefore I am, there is nothing at all which gives me assurance of their truth beyond this, that I see very clearly that in order to think it is necessary to exist, I concluded that I might take, as a general rule, the principle, that all the things which we very clearly and distinctly conceive are true, only observing, however, that there is some difficulty in rightly determining the objects which we distinctly conceive.

In the next place, from reflecting on the circumstance that I doubted, and that consequently my being was not wholly perfect (for I clearly saw that it was a greater perfection to know than to doubt), I was led to inquire whence I had learned to think of something more perfect than myself; and I clearly recognized that I must hold this notion from some nature which in reality was more perfect. As for the thoughts of many other objects external to me, as of the sky, the earth, light, heat, and a thousand more, I was less at a loss to know whence these came; for since I remarked in them nothing which seemed to render them superior to myself, I could believe that, if these were true, they were dependencies on my own nature, in so far as it possessed a certain perfection, and, if they were false, that I held them from nothing, that is to say, that they were in me because of a certain imperfection of my nature. But this could not be the case with-the idea of a nature more perfect than myself; for to receive it from nothing was a thing manifestly impossible; and, because it is not less repugnant that the more perfect should be an effect of, and dependence on the less perfect, than that something should proceed from nothing, it was equally impossible that I could hold it from myself: accordingly, it but remained that it had been placed in me by a nature which was in reality more perfect than mine, and which even possessed within itself all the perfections of which I could form any idea; that is to say, in a single word, which was God. And to this I added that, since I knew some perfections which I did not possess, I was not the only being in existence (I will here, with your permission, freely use the terms of the schools); but, on the contrary, that there was of necessity some other more perfect Being upon whom I was dependent, and from whom I had received all that I possessed; for if I had existed alone, and independently of every other being, so as to have had from myself all the perfection, however little, which I actually possessed, I should have been able, for the same reason, to have had from myself the whole remainder of perfection, of the want of which I was conscious, and thus could of myself have become infinite, eternal, immutable, omniscient, all-powerful, and, in fine, have possessed all the perfections which I could recognize in God. For in order to know the nature of God (whose existence has been established by the preceding reasonings), as far as my own nature permitted, I had only to consider in reference to all the properties of which I found in my mind some idea, whether their possession was a mark of perfection; and I was assured that no one which indicated any imperfection was in him, and that none of the rest was awanting. Thus I perceived that doubt, inconstancy, sadness, and such like, could not be found in God, since I myself would have been happy to be free from them. Besides, I had ideas of many sensible and corporeal things; for although I might suppose that I was dreaming, and that all which I saw or imagined was false, I could not, nevertheless, deny that the ideas were in reality in my thoughts. But, because I had already very clearly recognized in myself that the intelligent nature is distinct from the corporeal, and as I observed that all composition is an evidence of dependency, and that a state of dependency is manifestly a state of imperfection, I therefore determined that it could not be a perfection in God to be compounded of these two natures and that consequently he was not so compounded; but that if there were any bodies in the world, or even any intelligences, or other natures that were not wholly perfect, their existence depended on his power in such a way that they could not subsist without him for a single moment.

I was disposed straightway to search for other truths and when I had represented to myself the object of the geometers, which I conceived to be a continuous body or a space indefinitely extended in length, breadth, and height or depth, divisible into divers parts which admit of different figures and sizes, and of being moved or transposed in all manner of ways (for all this the geometers suppose to be in the object they contemplate), I went over some of their simplest demonstrations. And, in the first place, I observed, that the great certitude which by common consent is accorded to these demonstrations, is founded solely upon this, that they are clearly conceived in accordance with the rules I have already laid down In the next place, I perceived that there was nothing at all in these demonstrations which could assure me of the existence of their object: thus, for example, supposing a triangle to be given, I distinctly perceived that its three angles were necessarily equal to two right angles, but I did not on that account perceive anything which could assure me that any triangle existed: while, on the contrary, recurring to the examination of the idea of a Perfect Being, I found that the existence of the Being was comprised in the idea in the same way that the equality of its three angles to two right angles is comprised in the idea of a triangle, or as in the idea of a sphere, the equidistance of all points on its surface from the center, or even still more clearly; and that consequently it is at least as certain that God, who is this Perfect Being, is, or exists, as any demonstration of geometry can be.

But the reason which leads many to persuade them selves that there is a difficulty in knowing this truth, and even also in knowing what their mind really is, is that they never raise their thoughts above sensible objects, and are so accustomed to consider nothing except by way of imagination, which is a mode of thinking limited to material objects, that all that is not imaginable seems to them not intelligible. The truth of this is sufficiently manifest from the single circumstance, that the philosophers of the schools accept as a maxim that there is nothing in the understanding which was not previously in the senses, in which however it is certain that the ideas of God and of the soul have never been; and it appears to me that they who make use of their imagination to comprehend these ideas do exactly the some thing as if, in order to hear sounds or smell odors, they strove to avail themselves of their eyes; unless indeed that there is this difference, that the sense of sight does not afford us an inferior assurance to those of smell or hearing; in place of which, neither our imagination nor our senses can give us assurance of anything unless our understanding intervene.

Finally, if there be still persons who are not sufficiently persuaded of the existence of God and of the soul, by the reasons I have adduced, I am desirous that they should know that all the other propositions, of the truth of which they deem themselves perhaps more assured, as that we have a body, and that there exist stars and an earth, and such like, are less certain; for, although we have a moral assurance of these things, which is so strong that there is an appearance of extravagance in doubting of their existence, yet at the same time no one, unless his intellect is impaired, can deny, when the question relates to a metaphysical certitude, that there is sufficient reason to exclude entire assurance, in the observation that when asleep we can in the same way imagine ourselves possessed of another body and that we see other stars and another earth, when there is nothing of the kind. For how do we know that the thoughts which occur in dreaming are false rather than those other which we experience when awake, since the former are often not less vivid and distinct than the latter? And though men of the highest genius study this question as long as they please, I do not believe that they will be able to give any reason which can be sufficient to remove this doubt, unless they presuppose the existence of God. For, in the first place even the principle which I have already taken as a rule, viz., that all the things which we clearly and distinctly conceive are true, is certain only because God is or exists and because he is a Perfect Being, and because all that we possess is derived from him: whence it follows that our ideas or notions, which to the extent of their clearness and distinctness are real, and proceed from God, must to that extent be true. Accordingly, whereas we not infrequently have ideas or notions in which some falsity is contained, this can only be the case with such as are to some extent confused and obscure, and in this proceed from nothing (participate of negation), that is, exist in us thus confused because we are not wholly perfect. And it is evident that it is not less repugnant that falsity or imperfection, in so far as it is imperfection, should proceed from God, than that truth or perfection should proceed from nothing. But if we did not know that all which we possess of real and true proceeds from a Perfect and Infinite Being, however clear and distinct our ideas might be, we should have no ground on that account for the assurance that they possessed the perfection of being true.

But after the knowledge of God and of the soul has rendered us certain of this rule, we can easily understand that the truth of the thoughts we experience when awake, ought not in the slightest degree to be called in question on account of the illusions of our dreams. For if it happened that an individual, even when asleep, had some very distinct idea, as, for example, if a geometer should discover some new demonstration, the circumstance of his being asleep would not militate against its truth; and as for the most ordinary error of our dreams, which consists in their representing to us various objects in the same way as our external senses, this is not prejudicial, since it leads us very properly to suspect the truth of the ideas of sense; for we are not infrequently deceived in the same manner when awake; as when persons in the jaundice see all objects yellow, or when the stars or bodies at a great distance appear to us much smaller than they are. For, in fine, whether awake or asleep, we ought never to allow ourselves to be persuaded of the truth of anything unless on the evidence of our reason. And it must be noted that I say of our reason, and not of our imagination or of our senses: thus, for example, although we very clearly see the sun, we ought not therefore to determine that it is only of the size which our sense of sight presents; and we may very distinctly imagine the head of a lion joined to the body of a goat, without being therefore shut up to the conclusion that a chimaera exists; for it is not a dictate of reason that what we thus see or imagine is in reality existent; but it plainly tells us that all our

ideas or notions contain in them some truth; for otherwise it could not be that God, who is wholly perfect and veracious, should have placed them in us. And because our reasonings are never so clear or so complete during sleep as when we are awake, although sometimes the acts of our imagination are then as lively and distinct, if not more so than in our waking moments, reason further dictates that, since all our thoughts cannot be true because of our partial imperfection, those possessing truth must infallibly be found in the experience of our waking moments rather than in that of our dreams.

PART V

I would here willingly have proceeded to exhibit the whole chain of truths

which I deduced from these primary but as with a view to this it would have been necessary now to treat of many questions in dispute among the earned, with whom I do not wish to be embroiled, I believe that it will be better for me to refrain from this exposition, and only mention in general what these truths are, that the more judicious may be able to determine whether a more special account of them would conduce to the public advantage. I have ever remained firm in my original resolution to suppose no other principle than that of which I have recently availed myself in demonstrating the existence of God and of the soul, and to accept as true nothing that did not appear to me more clear and certain than the demonstrations of the geometers had formerly appeared; and yet I venture to state that not only have I found means to satisfy myself in a short time on all the principal difficulties which are usually treated of in philosophy, but I have also observed certain laws established in nature by God in such a manner, and of which he has impressed on our minds such notions, that after we have reflected sufficiently upon these, we cannot doubt that they are accurately observed in all that exists or takes place in the world and farther, by considering the concatenation of these laws, it appears to me that I have discovered many truths more useful and more important than all I had before learned, or even had expected to learn.

But because I have essayed to expound the chief of these discoveries in a treatise which certain considerations prevent me from publishing, I cannot make the results known more conveniently than by here giving a summary of the contents of this treatise. It was my design to comprise in it all that, before I set myself to write it, I thought I knew of the nature of material objects. But like the painters who, finding themselves unable to represent equally well on a plain surface all the different faces of a solid body, select one of the chief, on which alone they make the light fall, and throwing the rest into the shade, allow them to appear only in so far as they can be seen while looking at the principal one; so, fearing lest I should not be able to compense in my discourse all that was in my mind, I resolved to expound singly, though at considerable length, my opinions regarding light; then to take the opportunity of adding something on the sun and the fixed stars, since light almost wholly proceeds from them; on the heavens since they transmit it; on the planets, comets, and earth, since they reflect it; and particularly on all the bodies that are upon the earth, since they are either colored, or transparent, or luminous; and finally on man, since he is the spectator of these objects. Further, to enable me to cast this variety of subjects somewhat into the shade, and to express my judgment regarding them with greater freedom, without being necessitated to adopt or refute the opinions of the learned, I resolved to leave all the people here to their disputes, and to speak only of what would happen in a new world, if God were now to create somewhere in the imaginary spaces matter sufficient to compose one, and were to agitate variously and confusedly the different parts of this matter, so that there resulted a chaos as disordered as the poets ever feigned, and after that did nothing more than lend his ordinary concurrence to nature, and allow her to act in accordance with the laws which he had established. On this supposition, I, in the first place, described this matter, and essayed to represent it in such a manner that to my mind there can be nothing clearer and more intelligible, except what has been recently said regarding God and the soul; for I even expressly supposed that it possessed none of those forms or qualities which are so debated in the schools, nor in general anything the knowledge of which is not so natural to our minds that no one can so much as imagine himself ignorant of it. Besides, I have pointed out what are the laws of nature; and, with no other principle upon which to found my reasonings except the infinite perfection of God, I endeavored to demonstrate all those about which there

John Locke

An Essay Concerning Humane Understanding

Book Two (*Of Ideas*)
Chapters I, II, III

arguments which are against them do, some of them, rise from common received opinions, I have been forced to take several things for granted; which is hardly avoidable to any one, whose task is to show the falsehood or improbability of any tenet;−−it happening in controversial discourses as it does in assaulting of towns; where, if the ground be but firm whereon the batteries are erected, there is no further inquiry of whom it is borrowed, nor whom it belongs to, so it affords but a fit rise for the present purpose. But in the future part of this Discourse, designing to raise an edifice uniform and consistent with itself, as far as my own experience and observation will assist me, I hope to erect it on such a basis that I shall not need to shore it up with props and buttresses, leaning on borrowed or begged foundations: or at least, if mine prove a castle in the air, I will endeavour it shall be all of a piece and hang together. Wherein I warn the reader not to expect undeniable cogent demonstrations, unless I may be allowed the privilege, not seldom assumed by others, to take my principles for granted; and then, I doubt not, but I can demonstrate too. All that I shall say for the principles I proceed on is, that I can only appeal to men's own unprejudiced experience and observation whether they be true or not; and this is enough for a man who professes no more than to lay down candidly and freely his own conjectures, concerning a subject lying somewhat in the dark, without any other design than an unbiassed inquiry after truth.

BOOK II

OF IDEAS

CHAPTER I.

OF IDEAS IN GENERAL, AND THEIR ORIGINAL.

1. Idea is the Object of Thinking.

Every man being conscious to himself that he thinks; and that which his mind is applied about whilst thinking being the IDEAS that are there, it is past doubt that men have in their minds several ideas,−−such as are those expressed by the words whiteness, hardness, sweetness, thinking, motion, man, elephant, army, drunkenness, and others: it is in the first place then to be inquired, HOW HE COMES BY THEM?

I know it is a received doctrine, that men have native ideas, and original characters, stamped upon their minds in their very first being. This opinion I have at large examined already; and, I suppose what I have said in the foregoing Book will be much more easily admitted, when I have shown whence the understanding may get all the ideas it has; and by what ways and degrees they may come into the mind;−−for which I shall appeal to every one's own observation and experience.

2. All Ideas come from Sensation or Reflection.

Let us then suppose the mind to be, as we say, white paper, void of all characters, without any ideas:−−How comes it to be furnished? Whence comes it by that vast store which the busy and boundless fancy of man has painted on it with an almost endless variety? Whence has it all the MATERIALS of reason and knowledge? To this I answer, in one word, from EXPERIENCE. In that all our knowledge is founded; and from that it ultimately derives itself. Our observation employed either, about external sensible objects, or about the internal operations of our minds perceived and reflected on by ourselves, is that which supplies our understandings with all the MATERIALS of thinking. These two are the fountains of knowledge, from whence all the ideas we have, or can naturally have, do spring.

3. The Objects of Sensation one Source of Ideas

First, our Senses, conversant about particular sensible objects, do convey into the mind several distinct perceptions of things, according to those various ways wherein those objects do affect them. And thus we come by those IDEAS we have of yellow, white, heat, cold, soft, hard, bitter, sweet, and all those which we call sensible qualities; which when I say the senses convey into the mind, I mean, they from external objects convey into the mind what produces there those perceptions. This great source of most of the ideas we have, depending wholly upon our senses, and derived by them to the understanding, I call SENSATION.

4. The Operations of our Minds, the other Source of them.

Secondly, the other fountain from which experience furnisheth the understanding with ideas is,−−the perception of the operations of our own mind within us, as it is employed about the ideas it has got;−−which operations, when the soul comes to reflect on and consider, do furnish the understanding with another set of ideas, which could not be had from things without. And such are perception, thinking, doubting, believing, reasoning, knowing, willing, and all the different actings of our own minds;−−which we being conscious of, and observing in ourselves, do from these receive into our understandings as distinct ideas as we do from bodies affecting our senses. This source of ideas every man has wholly in himself; and though it be not sense, as having nothing to do with external objects, yet it is very like it, and might properly enough be called INTERNAL SENSE. But as I call the other Sensation, so I call this REFLECTION, the ideas it affords being such only as the mind gets by reflecting on its own operations within itself. By reflection then, in the following part of this discourse, I would be understood to mean, that notice which the mind takes of its own operations, and the manner of them, by reason whereof there come to be ideas of these operations in the understanding. These two, I say, viz. external material things, as the objects of SENSATION, and the operations of our own minds within, as the objects of REFLECTION, are to me the only originals from whence all our ideas take their beginnings. The term OPERATIONS here I use in a large sense, as comprehending not barely the actions of the mind about its ideas, but some sort of passions arising sometimes from them, such as is the satisfaction or uneasiness arising from any thought.

5. All our Ideas are of the one or of the other of these.

The understanding seems to me not to have the least glimmering of any ideas which it doth not receive from one of these two. EXTERNAL OBJECTS furnish the mind with the ideas of sensible qualities, which are all those different perceptions they produce in us; and THE MIND furnishes the understanding with ideas of its own operations.

These, when we have taken a full survey of them, and their several modes, and the compositions made out of them we shall find to contain all our whole stock of ideas; and that we have nothing in our minds which did not come in one of these two ways. Let any one examine his own thoughts, and thoroughly search into his understanding; and then let him tell me, whether all the original ideas he has there, are any other than of the objects of his senses, or of the operations of his mind, considered as objects of his reflection. And how great a mass of knowledge soever he imagines to be lodged there, he will, upon taking a strict view, see that he has not any idea in his mind but what one of these two have imprinted;−−though perhaps, with infinite variety compounded and enlarged by the understanding, as we shall see hereafter.

6. Observable in Children.

He that attentively considers the state of a child, at his first coming into the world, will have little reason to think him stored with plenty of ideas, that are to be the matter of his future knowledge. It is BY DEGREES he comes to be furnished with them. And though the ideas of obvious and familiar qualities imprint themselves before the memory begins to keep a register of time or order, yet it is often so late before some unusual qualities come in the way, that there are few men that cannot recollect the beginning of their acquaintance with them. And if it were worth while, no doubt a child might be so ordered as to have but a very few, even of the ordinary ideas, till he were grown up to a man. But all that are born into the world, being surrounded with

bodies that perpetually and diversely affect them, variety of ideas, whether care be taken of it or not, are imprinted on the minds of children. Light and colours are busy at hand everywhere, when the eye is but open; sounds and some tangible qualities fail not to solicit their proper senses, and force an entrance to the mind;−−but yet, I think, it will be granted easily, that if a child were kept in a place where he never saw any other but black and white till he were a man, he would have no more ideas of scarlet or green, than he that from his childhood never tasted an oyster, or a pine−apple, has of those particular relishes.

7. Men are differently furnished with these, according to the different Objects they converse with.

Men then come to be furnished with fewer or more simple ideas from without, according as the objects they converse with afford greater or less variety; and from the operations of their minds within, according as they more or less reflect on them. For, though he that contemplates the operations of his mind, cannot but have plain and clear ideas of them; yet, unless he turn his thoughts that way, and considers them ATTENTIVELY, he will no more have clear and distinct ideas of all the operations of his mind, and all that may be observed therein, than he will have all the particular ideas of any landscape, or of the parts and motions of a clock, who will not turn his eyes to it, and with attention heed all the parts of it. The picture, or clock may be so placed, that they may come in his way every day; but yet he will have but a confused idea of all the parts they are made up of, till he applies himself with attention, to consider them each in particular.

8. Ideas of Reflection later, because they need Attention.

And hence we see the reason why it is pretty late before most children get ideas of the operations of their own minds; and some have not any very clear or perfect ideas of the greatest part of them all their lives. Because, though they pass there continually, yet, like floating visions, they make not deep impressions enough to leave in their mind clear, distinct, lasting ideas, till the understanding turns inward upon itself, reflects on its own operations, and makes them the objects of its own contemplation. Children when they come first into it, are surrounded with a world of new things which, by a constant solicitation of their senses, draw the mind constantly to them; forward to take notice of new, and apt to be delighted with the variety of changing objects. Thus the first years are usually employed and diverted in looking abroad. Men's business in them is to acquaint themselves with what is to be found without; and so growing up in a constant attention to outward sensations, seldom make any considerable reflection on what passes within them, till they come to be of riper years; and some scarce ever at all.

9. The Soul begins to have Ideas when it begins to perceive.

To ask, at what TIME a man has first any ideas, is to ask, when he begins to perceive;−−HAVING IDEAS, and PERCEPTION, being the same thing. I know it is an opinion, that the soul always thinks, and that it has the actual perception of ideas in itself constantly, as long as it exists; and that actual thinking is as inseparable from the soul as actual extension is from the body; which if true, to inquire after the beginning of a man's ideas is the same as to inquire after the beginning of his soul. For, by this account, soul and its ideas, as body and its extension, will begin to exist both at the same time.

10. The Soul thinks not always; for this wants Proofs.

But whether the soul be supposed to exist antecedent to, or coeval with, or some time after the first rudiments of organization, or the beginnings of life in the body, I leave to be disputed by those who have better thought of that matter. I confess myself to have one of those dull souls, that doth not perceive itself always to contemplate ideas; nor can conceive it any more necessary for the soul always to think, than for the body always to move: the perception of ideas being (as I conceive) to the soul, what motion is to the body; not its essence, but one of its operations. And therefore, though thinking be supposed never so much the proper action of the soul, yet it is not necessary to suppose that it should be always thinking, always in action. That, perhaps, is the privilege of the infinite Author and Preserver of all things, who "never slumbers nor sleeps";

but is not competent to any finite being, at least not to the soul of man. We know certainly, by experience, that we SOMETIMES think; and thence draw this infallible consequence,−−that there is something in us that has a power to think. But whether that substance PERPETUALLY thinks or no, we can be no further assured than experience informs us. For, to say that actual thinking is essential to the soul, and inseparable from it, is to beg what is in question, and not to prove it by reason;−−which is necessary to be done, if it be not a self−evident proposition But whether this, "That the soul always thinks," be a self−evident proposition, that everybody assents to at first hearing, I appeal to mankind. It is doubted whether I thought at all last night or no. The question being about a matter of fact, it is begging it to bring, as a proof for it, an hypothesis, which is the very thing in dispute: by which way one may prove anything, and it is but supposing that all watches, whilst the balance beats, think, and it is sufficiently proved, and past doubt, that my watch thought all last night. But he that would not deceive himself, ought to build his hypothesis on matter of fact, and make it out by sensible experience, and not presume on matter of fact, because of his hypothesis, that is, because he supposes it to be so; which way of proving amounts to this, that I must necessarily think all last night, because another supposes I always think, though I myself cannot perceive that I always do so.

But men in love with their opinions may not only suppose what is in question, but allege wrong matter of fact. How else could any one make it an inference of mine, that a thing is not, because we are not sensible of it in our sleep? I do not say there is no SOUL in a man, because he is not sensible of it in his sleep; but I do say, he cannot THINK at any time, waking or sleeping, without being sensible of it. Our being sensible of it is not necessary to anything but to our thoughts; and to them it is; and to them it always will be necessary, till we can think without being conscious of it.

11. It is not always conscious of it.

I grant that the soul, in a waking man, is never without thought, because it is the condition of being awake. But whether sleeping without dreaming be not an affection of the whole man, mind as well as body, may be worth a waking man's consideration; it being hard to conceive that anything should think and not be conscious of it. If the soul doth think in a sleeping man without being conscious of it, I ask whether, during such thinking, it has any pleasure or pain, or be capable of happiness or misery? I am sure the man is not; no more than the bed or earth he lies on. For to be happy or miserable without being conscious of it, seems to me utterly inconsistent and impossible. Or if it be possible that the SOUL can, whilst the body is sleeping, have its thinking, enjoyments, and concerns, its pleasures or pain, apart, which the MAN is not conscious of nor partakes in,−−it is certain that Socrates asleep and Socrates awake is not the same person; but his soul when he sleeps, and Socrates the man, consisting of body and soul, when he is waking, are two persons: since waking Socrates has no knowledge of, or concernment for that happiness or misery of his soul, which it enjoys alone by itself whilst he sleeps, without perceiving anything of it; no more than he has for the happiness or misery of a man in the Indies, whom he knows not. For, if we take wholly away all consciousness of our actions and sensations, especially of pleasure and pain, and the concernment that accompanies it, it will be hard to know wherein to place personal identity.

12. If a sleeping Man thinks without knowing it, the sleeping and waking Man are two Persons.

The soul, during sound sleep, thinks, say these men. Whilst it thinks and perceives, it is capable certainly of those of delight or trouble, as well as any other perceptions; and IT must necessarily be CONSCIOUS of its own perceptions. But it has all this apart: the sleeping MAN, it is plain, is conscious of nothing of all this. Let us suppose, then, the soul of Castor, while he is sleeping, retired from his body; which is no impossible supposition for the men I have here to do with, who so liberally allow life, without a thinking soul, to all other animals. These men cannot then judge it impossible, or a contradiction, that the body should live without the soul; nor that the soul should subsist and think, or have perception, even perception of happiness or misery, without the body. Let us then, I say, suppose the soul of Castor separated during his sleep from his body, to think apart. Let us suppose, too, that it chooses for its scene of thinking the body of another man, v. g. Pollux, who is sleeping without a soul. For, if Castor's soul can think, whilst Castor is asleep, what Castor is never

conscious of, it is no matter what PLACE it chooses to think in. We have here, then, the bodies of two men with only one soul between them, which we will suppose to sleep and wake by turns; and the soul still thinking in the waking man, whereof the sleeping man is never conscious, has never the least perception. I ask, then, whether Castor and Pollux, thus with only one soul between them, which thinks and perceives in one what the other is never conscious of, nor is concerned for, are not two as distinct PERSONS as Castor and Hercules, or as Socrates and Plato were? And whether one of them might not be very happy, and the other very miserable? Just by the same reason, they make the soul and the man two persons, who make the soul think apart what the man is not conscious of. For, I suppose nobody will make identity of persons to consist in the soul's being united to the very same numerical particles of matter. For if that be necessary to identity, it will be impossible, in that constant flux of the particles of our bodies, that any man should be the same person two days, or two moments, together.

13. Impossible to convince those that sleep without dreaming, that they think.

Thus, methinks, every drowsy nod shakes their doctrine, who teach that the soul is always thinking. Those, at least, who do at any time SLEEP WITHOUT DREAMING, can never be convinced that their thoughts are sometimes for four hours busy without their knowing of it; and if they are taken in the very act, waked in the middle of that sleeping contemplation, can give no manner of account of it.

14. That men dream without remembering it, in vain urged.

It will perhaps be said,−−That the soul thinks even in the soundest sleep, but the MEMORY retains it not. That the soul in a sleeping man should be this moment busy a thinking, and the next moment in a waking man not remember nor be able to recollect one jot of all those thoughts, is very hard to be conceived, and would need some better proof than bare assertion to make it be believed. For who can without any more ado, but being barely told so, imagine that the greatest part of men do, during all their lives, for several hours every day, think of something, which if they were asked, even in the middle of these thoughts, they could remember nothing at all of? Most men, I think, pass a great part of their sleep without dreaming. I once knew a man that was bred a scholar, and had no bad memory, who told me he had never dreamed in his life, till he had that fever he was then newly recovered of, which was about the five or six and twentieth year of his age. I suppose the world affords more such instances: at least every one's acquaintance will furnish him with examples enough of such as pass most of their nights without dreaming.

15. Upon this Hypothesis, the Thoughts of a sleeping Man ought to be most rational.

To think often, and never to retain it so much as one moment, is a very useless sort of thinking; and the soul, in such a state of thinking, does very little, if at all, excel that of a looking−glass, which constantly receives variety of images, or ideas, but retains none; they disappear and vanish, and there remain no footsteps of them; the looking−glass is never the better for such ideas, nor the soul for, such thoughts. Perhaps it will be said, that in a waking MAN the materials of the body are employed, and made use of, in thinking; and that the memory of thoughts is retained by the impressions that are made on the brain, and the traces there left after such thinking; but that in the thinking of the SOUL, which is not perceived in a sleeping man, there the soul thinks apart, and making no use of the organs of the body, leaves no impressions on it, and consequently no memory of such thoughts. Not to mention again the absurdity of two distinct persons, which follows from this supposition, I answer, further,−−That whatever ideas the mind can receive and contemplate without the help of the body, it is reasonable to conclude it can retain without the help of the body too; or else the soul, or any separate spirit, will have but little advantage by thinking. If it has no memory of its own thoughts; if it cannot lay them up for its own use, and be able to recall them upon occasion; if it cannot reflect upon what is past, and make use of its former experiences, reasonings, and contemplations, to what, purpose does it think? They who make the soul a thinking thing, at this rate, will not make it a much more noble being than those do whom they condemn, for allowing it to be nothing but the subtilist parts of matter. Characters drawn on dust, that the first breath of wind effaces; or impressions made on a heap of atoms, or animal spirits, are altogether

as useful, and render the subject as noble, as the thoughts of a soul that perish in thinking; that, once out of sight, are gone for ever, and leave no memory of themselves behind them. Nature never makes excellent things for mean or no uses: and it is hardly to be conceived that our infinitely wise Creator should make so admirable a faculty as the power of thinking, that faculty which comes nearest the excellency of his own incomprehensible being, to be so idly and uselessly employed, at least a fourth part of its time here, as to think constantly, without remembering any of those thoughts, without doing any good to itself or others, or being any way useful to any other part of the creation. If we will examine it, we shall not find, I suppose, the motion of dull and senseless matter, any where in the universe, made so little use of and so wholly thrown away.

16. On this Hypothesis, the Soul must have Ideas not derived from Sensation or Reflection, of which there is no Appearance.

It is true, we have sometimes instances of perception whilst we are asleep, and retain the memory of those thoughts: but how extravagant and incoherent for the most part they are; how little conformable to the perfection and order of a rational being, those who are acquainted with dreams need not be told. This I would willingly be satisfied in,−−whether the soul, when it thinks thus apart, and as it were separate from the body, acts less rationally than when conjointly with it, or no. If its separate thoughts be less rational, then these men must say, that the soul owes the perfection of rational thinking to the body: if it does not, it is a wonder that our dreams should be, for the most part, so frivolous and irrational; and that the soul should retain none of its more rational soliloquies and meditations.

17. If I think when I know it not, nobody else can know it.

Those who so confidently tell us that the soul always actually thinks, I would they would also tell us, what those ideas are that are in the soul of a child, before or just at the union with the body, before it hath received any by sensation. The dreams of sleeping men are, as I take it, all made up of the waking man's ideas; though for the most part oddly put together. It is strange, if the soul has ideas of its own that it derived not from sensation or reflection, (as it must have, if it thought before it received any impressions from the body,) that it should never, in its private thinking, (so private, that the man himself perceives it not,) retain any of them the very moment it wakes out of them, and then make the man glad with new discoveries. Who can find it reason that the soul should, in its retirement during sleep, have so many hours' thoughts, and yet never light on any of those ideas it borrowed not from sensation or reflection; or at least preserve the memory of none but such, which, being occasioned from the body, must needs be less natural to a spirit? It is strange the soul should never once in a man's whole life recall over any of its pure native thoughts, and those ideas it had before it borrowed anything from the body; never bring into the waking man's view any other ideas but what have a tang of the cask, and manifestly derive their original from that union. If it always thinks, and so had ideas before it was united, or before it received any from the body, it is not to be supposed but that during sleep it recollects its native ideas; and during that retirement from communicating with the body, whilst it thinks by itself, the ideas it is busied about should be, sometimes at least, those more natural and congenial ones which it had in itself, underived from the body, or its own operations about them: which, since the waking man never remembers, we must from this hypothesis conclude either that the soul remembers something that the man does not; or else that memory belongs only to such ideas as are derived from the body, or the mind's operations about them.

18. How knows any one that the Soul always thinks? For if it be not a self−evident Proposition, it needs Proof.

I would be glad also to learn from these men who so confidently pronounce that the human soul, or, which is all one, that a man always thinks, how they come to know it; nay, how they come to know that they themselves think, when they themselves do not perceive it. This, I am afraid, is to be sure without proofs, and to know without perceiving. It is, I suspect, a confused notion, taken up to serve an hypothesis; and none of those clear truths, that either their own evidence forces us to admit, or common experience makes it impudence to deny. For the most that can be said of it is, that it is possible the soul may always think, but not

always retain it in memory. And I say, it is as possible that the soul may not always think; and much more probable that it should sometimes not think, than that it should often think, and that a long while together, and not be conscious to itself, the next moment after, that it had thought.

19. That a Man should be busy in Thinking, and yet not retain it the next moment, very improbable.

To suppose the soul to think, and the man not to perceive it, is, as has been said, to make two persons in one man. And if one considers well these men's way of speaking, one should be led into a suspicion that they do so. For those who tell us that the SOUL always thinks, do never, that I remember, say that a MAN always thinks. Can the soul think, and not the man? Or a man think, and not be conscious of it? This, perhaps, would be suspected of jargon in others. If they say the man thinks always, but is not always conscious of it, they may as well say his body is extended without having parts. For it is altogether as intelligible to say that a body is extended without parts, as that anything thinks without being conscious of it, or perceiving that it does so. They who talk thus may, with as much reason, if it be necessary to their hypothesis, say that a man is always hungry, but that he does not always feel it; whereas hunger consists in that very sensation, as thinking consists in being conscious that one thinks. If they say that a man is always conscious to himself of thinking, I ask, How they know it? Consciousness is the perception of what passes in a man's own mind. Can another man perceive that I am conscious of anything, when I perceive it not myself? No man's knowledge here can go beyond his experience. Wake a man out of a sound sleep, and ask him what he was that moment thinking of. If he himself be conscious of nothing he then thought on, he must be a notable diviner of thoughts that can assure him that he was thinking. May he not, with more reason, assure him he was not asleep? This is something beyond philosophy; and it cannot be less than revelation, that discovers to another thoughts in my mind, when I can find none there myself. And they must needs have a penetrating sight who can certainly see that I think, when I cannot perceive it myself, and when I declare that I do not; and yet can see that dogs or elephants do not think, when they give all the demonstration of it imaginable, except only telling us that they do so. This some may suspect to be a step beyond the Rosicrucians; it seeming easier to make one's self invisible to others, than to make another's thoughts visible to me, which are not visible to himself. But it is but defining the soul to be "a substance that always thinks," and the business is done. If such definition be of any authority, I know not what it can serve for but to make many men suspect that they have no souls at all; since they find a good part of their lives pass away without thinking. For no definitions that I know, no suppositions of any sect, are of force enough to destroy constant experience; and perhaps it is the affectation of knowing beyond what we perceive, that makes so much useless dispute and noise in the world.

20. No ideas but from Sensation and Reflection, evident, if we observe Children.

I see no reason, therefore, to believe that the soul thinks before the senses have furnished it with ideas to think on; and as those are increased and retained, so it comes, by exercise, to improve its faculty of thinking in the several parts of it; as well as, afterwards, by compounding those ideas, and reflecting on its own operations, it increases its stock, as well as facility in remembering, imagining, reasoning, and other modes of thinking.

21. State of a child on the mother's womb.

He that will suffer himself to be informed by observation and experience, and not make his own hypothesis the rule of nature, will find few signs of a soul accustomed to much thinking in a new−born child, and much fewer of any reasoning at all. And yet it is hard to imagine that the rational soul should think so much, and not reason at all, And he that will consider that infants newly come into the world spend the greatest part of their time in sleep, and are seldom awake but when either hunger calls for the teat, or some pain (the most importunate of all sensations), or some other violent impression on the body, forces the mind to perceive and attend to it;−−he, I say, who considers this, will perhaps find reason to imagine that a FOETUS in the mother's womb differs not much from the state of a vegetable, but passes the greatest part of its time without perception or thought; doing very little but sleep in a place where it needs not seek for food, and is surrounded with liquor, always equally soft, and near of the same temper; where the eyes have no light, and the ears so shut up

are not very susceptible of sounds; and where there is little or no variety, or change of objects, to move the senses.

22. The mind thinks in proportion to the matter it gets from experience to think about.

Follow a child from its birth, and observe the alterations that time makes, and you shall find, as the mind by the senses comes more and more to be furnished with ideas, it comes to be more and more awake; thinks more, the more it has matter to think on. After some time it begins to know the objects which, being most familiar with it, have made lasting impressions. Thus it comes by degrees to know the persons it daily converses with, and distinguishes them from strangers; which are instances and effects of its coming to retain and distinguish the ideas the senses convey to it. And so we may observe how the mind, BY DEGREES, improves in these; and ADVANCES to the exercise of those other faculties of enlarging, compounding, and abstracting its ideas, and of reasoning about them, and reflecting upon all these; of which I shall have occasion to speak more hereafter.

23. A man begins to have ideas when he first has sensation. What sensation is.

If it shall be demanded then, WHEN a man BEGINS to have any ideas, I think the true answer is,−−WHEN HE FIRST HAS ANY SENSATION. For, since there appear not to be any ideas in the mind before the senses have conveyed any in, I conceive that ideas in the understanding are coeval with SENSATION; WHICH IS SUCH AN IMPRESSION OR MOTION MADE IN SOME PART OF THE BODY, AS MAKES IT BE TAKEN NOTICE OF IN THE UNDERSTANDING.

24. The Original of all our Knowledge.

The impressions then that are made on our sense by outward objects that are extrinsical to the mind; and its own operations about these impressions, reflected on by itself, as proper objects to be contemplated by it, are, I conceive, the original of all knowledge. Thus the first capacity of human intellect is,−−that the mind is fitted to receive the impressions made on it; either through the senses by outward objects, or by its own operations when it reflects on them. This is the first step a man makes towards the discovery of anything, and the groundwork whereon to build all those notions which ever he shall have naturally in this world. All those sublime thoughts which tower above the clouds, and reach as high as heaven itself, take their rise and footing here: in all that great extent wherein the mind wanders, in those remote speculations it may seem to be elevated with, it stirs not one jot beyond those ideas which SENSE or REFLECTION have offered for its contemplation.

25. In the Reception of simple Ideas, the Understanding is for the most part passive.

In this part the understanding is merely passive; and whether or no it will have these beginnings, and as it were materials of knowledge, is not in its own power. For the objects of our senses do, many of them, obtrude their particular ideas upon our minds whether we will or not; and the operations of our minds will not let us be without, at least, some obscure notions of them. No man can be wholly ignorant of what he does when he thinks. These simple ideas, when offered to the mind, the understanding can no more refuse to have, nor alter when they are imprinted, nor blot them out and make new ones itself, than a mirror can refuse, alter, or obliterate the images or ideas which the objects set before it do therein produce. As the bodies that surround us do diversely affect our organs, the mind is forced to receive the impressions; and cannot avoid the perception of those ideas that are annexed to them.

CHAPTER II.

OF SIMPLE IDEAS.

1. Uncompounded Appearances.

The better to understand the nature, manner, and extent of our knowledge, one thing is carefully to be observed concerning the ideas we have; and that is, that some of them, are SIMPLE and some COMPLEX.

Though the qualities that affect our senses are, in the things themselves, so united and blended, that there is no separation, no distance between them; yet it is plain, the ideas they produce in the mind enter by the senses simple; and unmixed. For, though the sight and touch often take in from the same object, at the same time, different ideas;−−as a man sees at once motion and colour; the hand feels softness and warmth in the same piece of wax: yet the simple ideas thus united in the same subject, are as perfectly distinct as those that come in by different senses. The coldness and hardness which a man feels in a piece of ice being as distinct ideas in the mind as the smell and whiteness of a lily; or as the taste of sugar, and smell of a rose. And there is nothing can be plainer to a man than the clear and distinct perception he has of those simple ideas; which, being each in itself uncompounded, contains in it nothing but ONE UNIFORM APPEARANCE, OR CONCEPTION IN THE MIND, and is not distinguishable into different ideas.

2. The Mind can neither make nor destroy them.

These simple ideas, the materials of all our knowledge, are suggested and furnished to the mind only by those two ways above mentioned, viz. sensation and reflection. When the understanding is once stored with these simple ideas, it has the power to repeat, compare, and unite them, even to an almost infinite variety, and so can make at pleasure new complex ideas. But it is not in the power of the most exalted wit, or enlarged understanding, by any quickness or variety of thought, to INVENT or FRAME one new simple idea in the mind, not taken in by the ways before mentioned: nor can any force of the understanding DESTROY those that are there. The dominion of man, in this little world of his own understanding being much what the same as it is in the great world of visible things; wherein his power, however managed by art and skill, reaches no farther than to compound and divide the materials that are made to his hand; but can do nothing towards the making the least particle of new matter, or destroying one atom of what is already in being. The same inability will every one find in himself, who shall go about to fashion in his understanding one simple idea, not received in by his senses from external objects, or by reflection from the operations of his own mind about them. I would have any one try to fancy any taste which had never affected his palate; or frame the idea of a scent he had never smelt: and when he can do this, I will also conclude that a blind man hath ideas of colours, and a deaf man true distinct notions of sounds.

3. Only the qualities that affect the senses are imaginable.

This is the reason why−−though we cannot believe it impossible to God to make a creature with other organs, and more ways to convey into the understanding the notice of corporeal things than those five, as they are usually counted, which he has given to man−−yet I think it is not possible for any MAN to imagine any other qualities in bodies, howsoever constituted, whereby they can be taken notice of, besides sounds, tastes, smells, visible and tangible qualities. And had mankind been made but with four senses, the qualities then which are the objects of the fifth sense had been as far from our notice, imagination, and conception, as now any belonging to a sixth, seventh, or eighth sense can possibly be;−−which, whether yet some other creatures, in some other parts of this vast and stupendous universe, may not have, will be a great presumption to deny. He that will not set himself proudly at the top of all things, but will consider the immensity of this fabric, and the great variety that is to be found in this little and inconsiderable part of it which he has to do with, may be apt to think that, in other mansions of it, there may be other and different intelligent beings, of whose faculties he has as little knowledge or apprehension as a worm shut up in one drawer of a cabinet hath of the senses or

understanding of a man; such variety and excellency being suitable to the wisdom and power of the Maker. I have here followed the common opinion of man's having but five senses; though, perhaps, there may be justly counted more;−−but either supposition serves equally to my present purpose.

CHAPTER III.

OF SIMPLE IDEAS OF SENSE.

1. Division of simple ideas.

The better to conceive the ideas we receive from sensation, it may not be amiss for us to consider them, in reference to the different ways whereby they make their approaches to our minds, and make themselves perceivable by us.

FIRST, then, There are some which come into our minds BY ONE SENSE ONLY.

SECONDLY, There are others that convey themselves into the mind BY MORE SENSES THAN ONE.

THIRDLY, Others that are had from REFLECTION ONLY.

FOURTHLY, There are some that make themselves way, and are suggested to the mind BY ALL THE WAYS OF SENSATION AND REFLECTION.

We shall consider them apart under these several heads.

Ideas of one Sense.

There are some ideas which have admittance only through one sense, which is peculiarly adapted to receive them. Thus light and colours, as white, red, yellow, blue; with their several degrees or shades and mixtures, as green, scarlet, purple, sea−green, and the rest, come in only by the eyes. All kinds of noises, sounds, and tones, only by the ears. The several tastes and smells, by the nose and palate. And if these organs, or the nerves which are the conduits to convey them from without to their audience in the brain,−−the mind's presence−room (as I may so call it)−−are any of them so disordered as not to perform their functions, they have no postern to be admitted by; no other way to bring themselves into view, and be perceived by the understanding.

The most considerable of those belonging to the touch, are heat and cold, and solidity: all the rest, consisting almost wholly in the sensible configuration, as smooth and rough; or else, more or less firm adhesion of the parts, as hard and soft, tough and brittle, are obvious enough.

2. Few simple Ideas have Names.

I think it will be needless to enumerate all the particular simple ideas belonging to each sense. Nor indeed is it possible if we would; there being a great many more of them belonging to most of the senses than we have names for. The variety of smells, which are as many almost, if not more, than species of bodies in the world, do most of them want names. Sweet and stinking commonly serve our turn for these ideas, which in effect is little more than to call them pleasing or displeasing; though the smell of a rose and violet, both sweet, are certainly very distinct ideas. Nor are the different tastes, that by our palates we receive ideas of, much better provided with names. Sweet, bitter, sour, harsh, and salt are almost all the epithets we have to denominate that numberless variety of relishes, which are to be found distinct, not only in almost every sort of creatures, but in the different parts of the same plant, fruit, or animal. The same may be said of colours and sounds. I shall,

therefore, in the account of simple ideas I am here giving, content myself to set down only such as are most material to our present purpose, or are in themselves less apt to be taken notice of though they are very frequently the ingredients of our complex ideas; amongst which, I think, I may well account solidity, which therefore I shall treat of in the next chapter.

CHAPTER IV.

IDEA OF SOLIDITY.

1. We receive this Idea from Touch.

The idea of SOLIDITY we receive by our touch: and it arises from the resistance which we find in body to the entrance of any other body into the place it possesses, till it has left it. There is no idea which we receive more constantly from sensation than solidity. Whether we move or rest, in what posture soever we are, we always feel something under us that supports us, and hinders our further sinking downwards; and the bodies which we daily handle make us perceive that, whilst they remain between them, they do, by an insurmountable force, hinder the approach of the parts of our hands that press them. THAT WHICH THUS HINDERS THE APPROACH OF TWO BODIES, WHEN THEY ARE MOVED ONE TOWARDS ANOTHER, I CALL SOLIDITY. I will not dispute whether this acceptation of the word solid be nearer to its original signification than that which mathematicians use it in. It suffices that I think the common notion of solidity will allow, if not justify, this use of it; but if any one think it better to call it IMPENETRABILITY, he has my consent. Only I have thought the term solidity the more proper to express this idea, not only because of its vulgar use in that sense, but also because it carries something more of positive in it than impenetrability; which is negative, and is perhaps more a consequence of solidity, than solidity itself. This, of all other, seems the idea most intimately connected with, and essential to body; so as nowhere else to be found or imagined, but only in matter. And though our senses take no notice of it, but in masses of matter, of a bulk sufficient to cause a sensation in us: yet the mind, having once got this idea from such grosser sensible bodies, traces it further, and considers it, as well as figure, in the minutest particle of matter that can exist; and finds it inseparably inherent in body, wherever or however modified.

2. Solidity fills Space.

This is the idea which belongs to body, whereby we conceive it to fill space. The idea of which filling of space is,−−that where we imagine any space taken up by a solid substance, we conceive it so to possess it, that it excludes all other solid substances; and will for ever hinder any other two bodies, that move towards one another in a straight line, from coming to touch one another, unless it removes from between them in a line not parallel to that which they move in. This idea of it, the bodies which we ordinarily handle sufficiently furnish us with.

3. Distinct from Space.

This resistance, whereby it keeps other bodies out of the space which it possesses, is so great, that no force, how great soever, can surmount it. All the bodies in the world, pressing a drop of water on all sides, will never be able to overcome the resistance which it will make, soft as it is, to their approaching one another, till it be removed out of their way: whereby our idea of solidity is distinguished both from pure space, which is capable neither of resistance nor motion; and from the ordinary idea of hardness. For a man may conceive two bodies at a distance, so as they may approach one another, without touching or displacing any solid thing, till their superficies come to meet; whereby, I think, we have the clear idea of space without solidity. For (not to go so far as annihilation of any particular body) I ask, whether a man cannot have the idea of the motion of one single body alone, without any other succeeding immediately into its place? I think it is evident he can: the idea of motion in one body no more including the idea of motion in another, than the idea of a square

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there is nothing more requisite than an attentive perception of what passes in my own understanding.

23. But the attainment of all THESE ADVANTAGES doth PRESUPPOSE AN ENTIRE DELIVERANCE FROM THE DECEPTION OF WORDS, which I dare hardly promise myself; so difficult a thing it is to dissolve an union so early begun, and confirmed by so long a habit as that betwixt words and ideas. Which difficulty seems to have been very much increased by the doctrine of ABSTRACTION. For, so long as men thought abstract ideas were annexed to their words, it doth not seem strange that they should use words for ideas--it being found an impracticable thing to lay aside the word, and RETAIN THE ABSTRACT IDEA IN THE MIND, WHICH IN ITSELF WAS PERFECTLY INCONCEIVABLE. This seems to me the principal cause why those men who have so emphatically recommended to others the laying aside all use of words in their meditations, and contemplating their bare ideas, have yet failed to perform it themselves. Of late many have been very sensible of the absurd opinions and insignificant disputes which grow out of the abuse of words. And, in order to remedy these evils, they advise well, that we attend to the ideas signified, and draw off our attention from the words which signify them. But, how good soever this advice may be they have given others, it is plain they could not have a due regard to it themselves, so long as they thought the only immediate use of words was to signify ideas, and that the immediate signification of every general name was a DETERMINATE ABSTRACT IDEA.

24. But, THESE BEING KNOWN TO BE MISTAKES, A MAN MAY with greater ease PREVENT HIS BEING IMPOSED ON BY WORDS. He that knows he has no other than particular ideas, will not puzzle himself in vain to find out and conceive the abstract idea annexed to any name. And he that knows names do not always stand for ideas will spare himself the labour of looking for ideas where there are none to be had. It were, therefore, to be wished that everyone would use his utmost endeavours to obtain a clear view of the ideas he would consider, separating from them all that dress and incumbrance of words which so much contribute to blind the judgment and divide the attention. In vain do we extend our view into the heavens and pry into the entrails of the earth, in vain do we consult the writings of learned men and trace the dark footsteps of antiquity--we need only draw the curtain of words, to hold the fairest tree of knowledge, whose fruit is excellent, and within the reach of our hand.

25. Unless we take care TO CLEAR THE FIRST PRINCIPLES OF KNOWLEDGE FROM THE embarras and DELUSION OF WORDS, we may make infinite reasonings upon them to no purpose; we may draw consequences from consequences, and be never the wiser. The farther we go, we shall only lose ourselves the more irrecoverably, and be the deeper entangled in difficulties and mistakes. Whoever therefore designs to read the following sheets, I entreat him to make my words the occasion of his own thinking, and endeavour to attain the same train of thoughts in reading that I had in writing them. By this means it will be easy for him to discover the truth or falsity of what I say. He will be out of all danger of being deceived by my words, and I do not see how he can be led into an error by considering his own naked, undisguised ideas.

OF THE PRINCIPLES OF HUMAN KNOWLEDGE

1. OBJECTS OF HUMAN KNOWLEDGE.--It is evident to any one who takes a survey of the objects of human knowledge, that they are either IDEAS actually imprinted on the senses; or else such as are perceived by attending to the passions and operations of the mind; or lastly, ideas formed by help of memory and imagination--either compounding, dividing, or barely representing those originally perceived in the aforesaid ways. By sight I have the ideas of light and colours, with their several degrees and variations. By touch I perceive hard and soft, heat and cold, motion and resistance, and of all these more and less either as to quantity or degree. Smelling furnishes me with odours; the palate with tastes; and hearing conveys sounds to the mind in all their variety of tone and composition. And as several of these are observed to accompany each other, they come to be marked by one name, and so to be reputed as one thing. Thus, for example a certain colour, taste, smell, figure and consistence having been observed to go together, are accounted one distinct thing, signified by the name APPLE. Other collections of ideas constitute a stone, a tree, a book, and the like sensible things--which as they are pleasing or disagreeable excite the passions of love, hatred, joy, grief, and

so forth.

2. MIND--SPIRIT--SOUL.--But, besides all that endless variety of ideas or objects of knowledge, there is likewise something which knows or perceives them, and exercises divers operations, as willing, imagining, remembering, about them. This perceiving, active being is what I call MIND, SPIRIT, SOUL, or MYSELF. By which words I do not denote any one of my ideas, but a thing entirely distinct from them, WHEREIN THEY EXIST, or, which is the same thing, whereby they are perceived--for the existence of an idea consists in being perceived.

3. HOW FAR THE ASSENT OF THE VULGAR CONCEDED.--That neither our thoughts, nor passions, nor ideas formed by the imagination, exist WITHOUT the mind, is what EVERYBODY WILL ALLOW. And it seems no less evident that the various sensations or ideas imprinted on the sense, however blended or combined together (that is, whatever objects they compose), cannot exist otherwise than IN a mind perceiving them. I think an intuitive knowledge may be obtained of this by any one that shall attend to WHAT IS MEANT BY THE TERM EXIST, when applied to sensible things. The table I write on I say exists, that is, I see and feel it; and if I were out of my study I should say it existed--meaning thereby that if I was in my study I might perceive it, or that some other spirit actually does perceive it.[Note.] There was an odour, that is, it was smelt; there was a sound, that is, it was heard; a colour or figure, and it was perceived by sight or touch. This is all that I can understand by these and the like expressions. For as to what is said of the absolute existence of unthinking things without any relation to their being perceived, that seems perfectly unintelligible. Their ESSE is PERCIPI, nor is it possible they should have any existence out of the minds or thinking things which perceive them.

[Note: First argument in support of the author's theory.]

4. THE VULGAR OPINION INVOLVES A CONTRADICTION.--It is indeed an opinion STRANGELY prevailing amongst men, that houses, mountains, rivers, and in a word all sensible objects, have an existence, natural or real, distinct from their being perceived by the understanding. But, with how great an assurance and acquiescence soever this principle may be entertained in the world, yet whoever shall find in his heart to call it in question may, if I mistake not, perceive it to involve a manifest contradiction. For, what are the fore-mentioned objects but the things we perceive by sense? and what do we PERCEIVE BESIDES OUR OWN IDEAS OR SENSATIONS? and is it not plainly repugnant that any one of these, or any combination of them, should exist unperceived?

5. CAUSE OF THIS PREVALENT ERROR.--If we thoroughly examine this tenet it will, perhaps, be found at bottom to depend on the doctrine of ABSTRACT IDEAS. For can there be a nicer strain of abstraction than to distinguish the existence of sensible objects from their being perceived, so as to conceive them existing unperceived? Light and colours, heat and cold, extension and figures--in a word the things we see and feel--what are they but so many sensations, notions, ideas, or impressions on the sense? and is it possible to separate, even in thought, any of these from perception? For my part, I might as easily divide a thing from itself. I may, indeed, divide in my thoughts, or conceive apart from each other, those things which, perhaps I never perceived by sense so divided. Thus, I imagine the trunk of a human body without the limbs, or conceive the smell of a rose without thinking on the rose itself. So far, I will not deny, I can abstract--if that may properly be called ABSTRACTION which extends only to the conceiving separately such objects as it is possible may really exist or be actually perceived asunder. But my conceiving or imagining power does not extend beyond the possibility of real existence or perception. Hence, as it is impossible for me to see or feel anything without an actual sensation of that thing, so is it impossible for me to conceive in my thoughts any sensible thing or object distinct from the sensation or perception of it.[Note.]

[Note: "In truth the object and the sensation are the same thing, and cannot therefore be abstracted from each other--Edit 1710."]

6. Some truths there are so near and obvious to the mind that a man need only open his eyes to see them. Such I take this important one to be, viz., that all the choir of heaven and furniture of the earth, in a word all those bodies which compose the mighty frame of the world, have not any subsistence without a mind, that their BEING (ESSE) is to be perceived or known; that consequently so long as they are not actually perceived by me, or do not exist in my mind or that of any other CREATED SPIRIT, they must either have no existence at all, OR ELSE SUBSIST IN THE MIND OF SOME ETERNAL SPIRIT--it being perfectly unintelligible, and involving all the absurdity of abstraction, to attribute to any single part of them an existence independent of a spirit [Note.]. To be convinced of which, the reader need only reflect, and try to separate in his own thoughts the being of a sensible thing from its being perceived.

[Note: "To make this appear with all the light and evidence of an axiom, it seems sufficient if I can but awaken the reflection of the reader, that he may take an impartial view of his own meaning, and in turn his thoughts upon the subject itself, free and disengaged from all embarrass of words and prepossession in favour of received mistakes."--Edit 1710]

7. SECOND ARGUMENT.[Note.]--From what has been said it follows there is NOT ANY OTHER SUBSTANCE THAN SPIRIT, or that which perceives. But, for the fuller proof of this point, let it be considered the sensible qualities are colour, figure, motion, smell, taste, etc., i.e. the ideas perceived by sense. Now, for an idea to exist in an unperceiving thing is a manifest contradiction, for TO HAVE AN IDEA IS ALL ONE AS TO PERCEIVE; that therefore wherein colour, figure, and the like qualities exist must perceive them; hence it is clear there can be no UNTHINKING substance or SUBSTRATUM of those ideas.

[Note: Vide sect. iii. and xxv.]

8. OBJECTION.--ANSWER.--But, say you, though the ideas themselves do not exist without the mind, yet there may be things LIKE them, whereof they are copies or resemblances, which things exist without the mind in an unthinking substance. I ANSWER, an idea can be like nothing but an idea; a colour or figure can be like nothing but another colour or figure. If we look but never so little into our thoughts, we shall find it impossible for us to conceive a likeness except only between our ideas. Again, I ask whether those supposed originals or external things, of which our ideas are the pictures or representations, be themselves perceivable or no? If they are, THEN THEY ARE IDEAS and we have gained our point; but if you say they are not, I appeal to any one whether it be sense to assert a colour is like something which is invisible; hard or soft, like something which is intangible; and so of the rest.

9. THE PHILOSOPHICAL NOTION OF MATTER INVOLVES A CONTRADICTION.--Some there are who make a DISTINCTION betwixt PRIMARY and SECONDARY qualities. By the former they mean extension, figure, motion, rest, solidity or impenetrability, and number; by the latter they denote all other sensible qualities, as colours, sounds, tastes, and so forth. The ideas we have of these they acknowledge not to be the resemblances of anything existing without the mind, or unperceived, but they will have our ideas of the primary qualities to be patterns or images of things which exist without the mind, in an unthinking substance which they call MATTER. By MATTER, therefore, we are to understand an inert, senseless substance, in which extension, figure, and motion DO ACTUALLY SUBSIST. But it is evident from what we have already shown, that extension, figure, and motion are ONLY IDEAS EXISTING IN THE MIND, and that an idea can be like nothing but another idea, and that consequently neither they nor their archetypes can exist in an UNPERCEIVING substance. Hence, it is plain that that the very notion of what is called MATTER or CORPOREAL SUBSTANCE, involves a contradiction in it.[Note.]

[Note: "Insomuch that I should not think it necessary to spend more time in exposing its absurdity. But because the tenet of the existence of matter seems to have taken so deep a root in the minds of philosophers, and draws after it so many ill consequences, I choose rather to be thought prolix and tedious, than omit anything that might conduce to the full discovery and extirpation of the prejudice."--Edit 1710.]

10. ARGUMENTUM AD HOMINEM.--They who assert that figure, motion, and the rest of the primary or original qualities do exist without the mind in unthinking substances, do at the same time acknowledge that colours, sounds, heat cold, and suchlike secondary qualities, do not--which they tell us are sensations existing IN THE MIND ALONE, that depend on and are occasioned by the different size, texture, and motion of the minute particles of matter. This they take for an undoubted truth, which they can demonstrate beyond all exception. Now, if it be certain that those original qualities ARE INSEPARABLY UNITED WITH THE OTHER SENSIBLE QUALITIES, and not, even in thought, capable of being abstracted from them, it plainly follows that they exist only in the mind. But I desire any one to reflect and try whether he can, by any abstraction of thought, conceive the extension and motion of a body without all other sensible qualities. For my own part, I see evidently that it is not in my power to frame an idea of a body extended and moving, but I must withal give it some colour or other sensible quality which is ACKNOWLEDGED to exist only in the mind. In short, extension, figure, and motion, abstracted from all other qualities, are inconceivable. Where therefore the other sensible qualities are, there must these be also, to wit, in the mind and nowhere else.

11. A SECOND ARGUMENT AD HOMINEM.--Again, GREAT and SMALL, SWIFT and SLOW, ARE ALLOWED TO EXIST NOWHERE WITHOUT THE MIND, being entirely RELATIVE, and changing as the frame or position of the organs of sense varies. The extension therefore which exists without the mind is neither great nor small, the motion neither swift nor slow, that is, they are nothing at all. But, say you, they are extension in general, and motion in general: thus we see how much the tenet of extended movable substances existing without the mind depends on the strange doctrine of ABSTRACT IDEAS. And here I cannot but remark how nearly the vague and indeterminate description of Matter or corporeal substance, which the modern philosophers are run into by their own principles, resembles that antiquated and so much ridiculed notion of MATERIA PRIMA, to be met with in Aristotle and his followers. Without extension solidity cannot be conceived; since therefore it has been shown that extension exists not in an unthinking substance, the same must also be true of solidity.

12. That NUMBER is entirely THE CREATURE OF THE MIND, even though the other qualities be allowed to exist without, will be evident to whoever considers that the same thing bears a different denomination of number as the mind views it with different respects. Thus, the same extension is one, or three, or thirty-six, according as the mind considers it with reference to a yard, a foot, or an inch. Number is so visibly relative, and dependent on men's understanding, that it is strange to think how any one should give it an absolute existence without the mind. We say one book, one page, one line, etc.; all these are equally units, though some contain several of the others. And in each instance, it is plain, the unit relates to some particular combination of ideas arbitrarily put together by the mind.

13. UNITY I know some will have to be A SIMPLE OR UNCOMPOUNDED IDEA, accompanying all other ideas into the mind. That I have any such idea answering the word UNITY I do not find; and if I had, methinks I could not miss finding it: on the contrary, it should be the most familiar to my understanding, since it is said to accompany all other ideas, and to be perceived by all the ways of sensation and reflexion. To say no more, it is an ABSTRACT IDEA.

14. A THIRD ARGUMENT AD HOMINEM.--I shall farther add, that, after the same manner as modern philosophers prove certain sensible qualities to have no existence in Matter, or without the mind, the same thing may be likewise proved of all other sensible qualities whatsoever. Thus, for instance, it is said that heat and cold are affections only of the mind, and not at all patterns of real beings, existing in the corporeal substances which excite them, for that the same body which appears cold to one hand seems warm to another. Now, why may we not as well argue that figure and extension are not patterns or resemblances of qualities existing in Matter, because to the same eye at different stations, or eyes of a different texture at the same station, they appear various, and cannot therefore be the images of anything SETTLED AND DETERMINATE WITHOUT THE MIND? Again, it is proved that SWEETNESS is not really in the sapid thing, because the thing remaining unaltered the sweetness is changed into bitter, as in case of a fever or otherwise vitiated palate. Is it not as reasonable to say that MOTION is not without the mind, since if the

succession of ideas in the mind become swifter, the motion, it is acknowledged, shall appear slower without any alteration in any external object?

15. NOT CONCLUSIVE AS TO EXTENSION.--In short, let any one consider those arguments which are thought manifestly to prove that colours and taste exist only in the mind, and he shall find they may with equal force be brought to prove the same thing of extension, figure, and motion. Though it must be confessed this method of arguing does not so much prove that there is no extension or colour in an outward object, as that we do not know by SENSE which is the TRUE extension or colour of the object. But the arguments foregoing plainly show it to be impossible that any colour or extension at all, or other sensible quality whatsoever, should exist in an UNTHINKING subject without the mind, or in truth, that there should be any such thing as an outward object.

16. But let us examine a little the received opinion.--It is said EXTENSION is a MODE or accident OF MATTER, and that Matter is the SUBSTRATUM that supports it. Now I desire that you would explain to me what is meant by Matter's SUPPORTING extension. Say you, I have no idea of Matter and therefore cannot explain it. I answer, though you have no positive, yet, if you have any meaning at all, you must at least have a relative idea of Matter; though you know not what it is, yet you must be supposed to know what relation it bears to accidents, and what is meant by its supporting them. It is evident SUPPORT cannot here be taken in its usual or literal sense--as when we say that pillars support a building; in what sense therefore must it be taken? [Note.]

[Note: "For my part, I am not able to discover any sense at all that can be applicable to it."--Edit 1710.]

17. PHILOSOPHICAL MEANING OF "MATERIAL SUBSTANCE" DIVISIBLE INTO TWO PARTS.--If we inquire into what the most accurate philosophers declare themselves to mean by MATERIAL SUBSTANCE, we shall find them acknowledge they have no other meaning annexed to those sounds but the idea of BEING IN GENERAL, together WITH THE RELATIVE NOTION OF ITS SUPPORTING ACCIDENTS. The general idea of Being appeareth to me the most abstract and incomprehensible of all other; and as for its supporting accidents, this, as we have just now observed, cannot be understood in the common sense of those words; it must therefore be taken in some other sense, but what that is they do not explain. So that when I consider the TWO PARTS or branches which make the signification of the words MATERIAL SUBSTANCE, I am convinced there is no distinct meaning annexed to them. But why should we trouble ourselves any farther, in discussing this material SUBSTRATUM or support of figure and motion, and other sensible qualities? Does it not suppose they have an existence without the mind? And is not this a direct repugnancy, and altogether inconceivable?

18. THE EXISTENCE OF EXTERNAL BODIES WANTS PROOF.--But, though it were possible that solid, figured, movable substances may exist without the mind, corresponding to the ideas we have of bodies, yet HOW IS IT POSSIBLE FOR US TO KNOW THIS? Either we must know it by sense or by reason. As for our senses, by them we have the knowledge ONLY OF OUR SENSATIONS, ideas, or those things that are immediately perceived by sense, call them what you will: but they do not inform us that things exist without the mind, or unperceived, like to those which are perceived. This the materialists themselves acknowledge. It remains therefore that if we have any knowledge at all of external things, it must be by REASON, inferring their existence from what is immediately perceived by sense. But what reason can induce us to believe the existence of bodies without the mind, from what we perceive, since the very patrons of Matter themselves do not pretend there is ANY NECESSARY CONNEXION BETWIXT THEM AND OUR IDEAS? I say it is granted on all hands (and what happens in dreams, phrensies, and the like, puts it beyond dispute) that IT IS POSSIBLE WE MIGHT BE AFFECTED WITH ALL THE IDEAS WE HAVE NOW, THOUGH THERE WERE NO BODIES EXISTING WITHOUT RESEMBLING THEM. Hence, it is evident the supposition of external bodies is not necessary for the producing our ideas; since it is granted they are produced sometimes, and might possibly be produced always in the same order, we see them in at present, without their concurrence.

19. THE EXISTENCE OF EXTERNAL BODIES AFFORDS NO EXPLICATION OF THE MANNER IN WHICH OUR IDEAS ARE PROCUCED.--But, though we might possibly have all our sensations without them, yet perhaps it may be thought EASIER to conceive and explain the MANNER of their production, by supposing external bodies in their likeness rather than otherwise; and so it might be at least probable there are such things as bodies that excite their ideas in our minds. But neither can this be said; for, though we give the materialists their external bodies, they by their own confession are never the nearer knowing how our ideas are produced; since they own themselves unable to comprehend in what manner BODY CAN ACT UPON SPIRIT, or how it is possible it should imprint any idea in the mind. Hence it is evident the production of ideas or sensations in our minds can be no reason why we should suppose Matter or corporeal substances, SINCE THAT IS ACKNOWLEDGED TO REMAIN EQUALLY INEXPLICABLE WITH OR WITHOUT THIS SUPPOSITION. If therefore it were possible for bodies to exist without the mind, yet to hold they do so, must needs be a very precarious opinion; since it is to suppose, without any reason at all, that God has created innumerable beings THAT ARE ENTIRELY USELESS, AND SERVE TO NO MANNER OF PURPOSE.

20. DILEMMA.--In short, if there were external bodies, it is impossible we should ever come to know it; and if there were not, we might have the very same reasons to think there were that we have now. Suppose--what no one can deny possible--an intelligence without the help of external bodies, to be affected with the same train of sensations or ideas that you are, imprinted in the same order and with like vividness in his mind. I ask whether that intelligence has not all the reason to believe the existence of corporeal substances, represented by his ideas, and exciting them in his mind, that you can possibly have for believing the same thing? Of this there can be no question--which one consideration were enough to make any reasonable person suspect the strength of whatever arguments be may think himself to have, for the existence of bodies without the mind.

21. Were it necessary to add any FURTHER PROOF AGAINST THE EXISTENCE OF MATTER after what has been said, I could instance several of those errors and difficulties (not to mention impieties) which have sprung from that tenet. It has occasioned numberless controversies and disputes in philosophy, and not a few of far greater moment in religion. But I shall not enter into the detail of them in this place, as well because I think arguments A POSTERIORI are unnecessary for confirming what has been, if I mistake not, sufficiently demonstrated A PRIORI, as because I shall hereafter find occasion to speak somewhat of them.

22. I am afraid I have given cause to think I am needlessly prolix in handling this subject. For, to what purpose is it to dilate on that which may be demonstrated with the utmost evidence in a line or two, to any one that is capable of the least reflexion? It is but looking into your own thoughts, and so trying whether you can conceive it possible for a sound, or figure, or motion, or colour to exist without the mind or unperceived. This easy trial may perhaps make you see that what you contend for is a downright contradiction. Insomuch that I am content to put the whole upon this issue:--If you can but CONCEIVE it possible for one extended movable substance, or, in general, for any one idea, or anything like an idea, to exist otherwise than in a mind perceiving it, I shall readily give up the cause. And, as for all that COMPAGES of external bodies you contend for, I shall grant you its existence, THOUGH (1.) YOU CANNOT EITHER GIVE ME ANY REASON WHY YOU BELIEVE IT EXISTS [Vide sect. lviii.], OR (2.) ASSIGN ANY USE TO IT WHEN IT IS SUPPOSED TO EXIST [Vide sect. lx.]. I say, the bare possibility of your opinions being true shall pass for an argument that it is so. [Note: i.e. although your argument be deficient in the two requisites of an hypothesis.--Ed.]

23. But, say you, surely there is nothing easier than for me to imagine trees, for instance, in a park, or books existing in a closet, and nobody by to perceive them. I answer, you may so, there is no difficulty in it; but what is all this, I beseech you, more than framing in your mind certain ideas which you call BOOKS and TREES, and the same time omitting to frame the idea of any one that may perceive them? BUT DO NOT YOU YOURSELF PERCEIVE OR THINK OF THEM ALL THE WHILE? This therefore is nothing to the purpose; it only shows you have the power of imagining or forming ideas in your mind: but it does not show that you can conceive it possible the objects of your thought may exist without the mind. To make out this, IT

IS NECESSARY THAT YOU CONCEIVE THEM EXISTING UNCONCEIVED OR UNTHOUGHT OF, WHICH IS A MANIFEST REPUGNANCY. When we do our utmost to conceive the existence of external bodies, we are all the while only contemplating our own ideas. But the mind taking no notice of itself, is deluded to think it can and does conceive bodies existing unthought of or without the mind, though at the same time they are apprehended by or exist in itself. A little attention will discover to any one the truth and evidence of what is here said, and make it unnecessary to insist on any other proofs against the existence of material substance.

24. THE ABSOLUTE EXISTENCE OF UNTHINKING THINGS ARE WORDS WITHOUT A MEANING.--It is very obvious, upon the least inquiry into our thoughts, to know whether it is possible for us to understand what is meant by the ABSOLUTE EXISTENCE OF SENSIBLE OBJECTS IN THEMSELVES, OR WITHOUT THE MIND. To me it is evident those words mark out either a direct contradiction, or else nothing at all. And to convince others of this, I know no readier or fairer way than to entreat they would calmly attend to their own thoughts; and if by this attention the emptiness or repugnancy of those expressions does appear, surely nothing more is requisite for the conviction. It is on this therefore that I insist, to wit, that the ABSOLUTE existence of unthinking things are words without a meaning, or which include a contradiction. This is what I repeat and inculcate, and earnestly recommend to the attentive thoughts of the reader.

25. THIRD ARGUMENT.[Note: Vide sect. iii. and vii.]--REFUTATION OF LOCKE.--All our ideas, sensations, notions, or the things which we perceive, by whatsoever names they may be distinguished, are visibly inactive--there is nothing of power or agency included in them. So that ONE IDEA or object of thought CANNOT PRODUCE or make ANY ALTERATION IN ANOTHER. To be satisfied of the truth of this, there is nothing else requisite but a bare observation of our ideas. For, since they and every part of them exist only in the mind, it follows that there is nothing in them but what is perceived: but whoever shall attend to his ideas, whether of sense or reflexion, will not perceive in them any power or activity; there is, therefore, no such thing contained in them. A little attention will discover to us that the very being of an idea implies passiveness and inertness in it, insomuch that it is impossible for an idea to do anything, or, strictly speaking, to be the cause of anything: neither can it be the resemblance or pattern of any active being, as is evident from sect. 8. Whence it plainly follows that extension, figure, and motion cannot be the cause of our sensations. To say, therefore, that these are the effects of powers resulting from the configuration, number, motion, and size of corpuscles, must certainly be false. [Note: Vide sect. cii.]

26. CAUSE OF IDEAS.--We perceive a continual succession of ideas, some are anew excited, others are changed or totally disappear. There is therefore some cause of these ideas, whereon they depend, and which produces and changes them. That this cause cannot be any quality or idea or combination of ideas, is clear from the preceding section. I must therefore be a substance; but it has been shown that there is no corporeal or material substance: it remains therefore that the CAUSE OF IDEAS is an incorporeal active substance or Spirit.

27. NO IDEA OF SPIRIT.--A spirit is one simple, undivided, active being--as it perceives ideas it is called the UNDERSTANDING, and as it produces or otherwise operates about them it is called the WILL. Hence there can be no idea formed of a soul or spirit; for all ideas whatever, being passive and inert (vide sect. 25), they cannot represent unto us, by way of image or LIKENESS, that which acts. A little attention will make it plain to any one, that to have an idea which shall be like that active principle of motion and change of ideas is absolutely impossible. Such is the nature of SPIRIT, or that which acts, that it cannot be of itself perceived, BUT ONLY BY THE EFFECTS WHICH IT PRODUCETH. If any man shall doubt of the truth of what is here delivered, let him but reflect and try if he can frame the idea of any power or active being, and whether he has ideas of two principal powers, marked by the names WILL and UNDERSTANDING, distinct from each other as well as from a third idea of Substance or Being in general, with a relative notion of its supporting or being the subject of the aforesaid powers--which is signified by the name SOUL or SPIRIT. This is what some hold; but, so far as I can see, the words WILL [Note: "Understanding, mind."--Edit 1710.],

SOUL, SPIRIT, do not stand for different ideas, or, in truth, for any idea at all, but for something which is very different from ideas, and which, being an agent, cannot be like unto, or represented by, any idea whatsoever. Though it must be owned at the same time that we have some notion of soul, spirit, and the operations of the mind: such as willing, loving, hating--inasmuch as we know or understand the meaning of these words.

28. I find I can excite ideas in my mind at pleasure, and vary and shift the scene as oft as I think fit. It is no more than willing, and straightway this or that idea arises in my fancy; and by the same power it is obliterated and makes way for another. This making and unmaking of ideas doth very properly denominate the mind active. Thus much is certain and grounded on experience; but when we think of unthinking agents or of exciting ideas exclusive of volition, we only amuse ourselves with words.

29. IDEAS OF SENSATION DIFFER FROM THOSE OF REFLECTION OR MEMORY.--But, whatever power I may have over MY OWN thoughts, I find the ideas actually perceived by Sense have not a like dependence on my will. When in broad daylight I open my eyes, it is not in my power to choose whether I shall see or no, or to determine what particular objects shall present themselves to my view; and so likewise as to the hearing and other senses; the ideas imprinted on them are not creatures of my will. There is THEREFORE SOME OTHER WILL OR SPIRIT that PRODUCES THEM.

30. LAWS OF NATURE.--The ideas of Sense are more strong, lively, and DISTINCT than those of the imagination; they have likewise a steadiness, order, and coherence, and are not excited at random, as those which are the effects of human wills often are, but in a regular train or series, the admirable connexion whereof sufficiently testifies the wisdom and benevolence of its Author. Now THE SET RULES OR ESTABLISHED METHODS WHEREIN THE MIND WE DEPEND ON EXCITES IN US THE IDEAS OF SENSE, ARE CALLED THE LAWS OF NATURE; and these we learn by experience, which teaches us that such and such ideas are attended with such and such other ideas, in the ordinary course of things.

31. KNOWLEDGE OF THEM NECESSARY FOR THE CONDUCT OF WORLDLY AFFAIRS.--This gives us a sort of foresight which enables us to regulate our actions for the benefit of life. And without this we should be eternally at a loss; we could not know how to act anything that might procure us the least pleasure, or remove the least pain of sense. That food nourishes, sleep refreshes, and fire warms us; that to sow in the seed-time is the way to reap in the harvest; and in general that to obtain such or such ends, such or such means are conducive--all this we know, NOT BY DISCOVERING ANY NECESSARY CONNEXION BETWEEN OUR IDEAS, but only by the observation of the settled laws of nature, without which we should be all in uncertainty and confusion, and a grown man no more know how to manage himself in the affairs of life than an infant just born.

32. And yet THIS consistent UNIFORM WORKING, which so evidently displays the goodness and wisdom of that Governing Spirit whose Will constitutes the laws of nature, is so far from leading our thoughts to Him, that it rather SENDS THEM A WANDERING AFTER SECOND CAUSES. For, when we perceive certain ideas of Sense constantly followed by other ideas and WE KNOW THIS IS NOT OF OUR OWN DOING, we forthwith attribute power and agency to the ideas themselves, and make one the cause of another, than which nothing can be more absurd and unintelligible. Thus, for example, having observed that when we perceive by sight a certain round luminous figure we at the same time perceive by touch the idea or sensation called HEAT, we do from thence conclude the sun to be the cause of heat. And in like manner perceiving the motion and collision of bodies to be attended with sound, we are inclined to think the latter the effect of the former.

33. OF REAL THINGS AND IDEAS OR CHIMERAS.--The ideas imprinted on the Senses by the Author of nature are called REAL THINGS; and those excited in the imagination being less regular, vivid, and constant, are more properly termed IDEAS, or IMAGES OF THINGS, which they copy and represent. But then our sensations, be they never so vivid and distinct, are nevertheless IDEAS, that is, they exist in the mind, or are perceived by it, as truly as the ideas of its own framing. The ideas of Sense are allowed to have more reality in

them, that is, to be more (1)STRONG, (2)ORDERLY, and (3)COHERENT than the creatures of the mind; but this is no argument that they exist without the mind. They are also (4)LESS DEPENDENT ON THE SPIRIT [Note: Vide sect. xxix.--Note.], or thinking substance which perceives them, in that they are excited by the will of another and more powerful spirit; yet still they are IDEAS, and certainly no IDEA, whether faint or strong, can exist otherwise than in a mind perceiving it.

34. FIRST GENERAL OBJECTION.--ANSWER.--Before we proceed any farther it is necessary we spend some time in answering objections which may probably be made against the principles we have hitherto laid down. In doing of which, if I seem too prolix to those of quick apprehensions, I hope it may be pardoned, since all men do not equally apprehend things of this nature, and I am willing to be understood by every one.

FIRST, then, it will be objected that by the foregoing principles ALL THAT IS REAL AND SUBSTANTIAL IN NATURE IS BANISHED OUT OF THE WORLD, and instead thereof a chimerical scheme of ideas takes place. All things that exist, exist only in the mind, that is, they are purely notional. What therefore becomes of the sun, moon and stars? What must we think of houses, rivers, mountains, trees, stones; nay, even of our own bodies? Are all these but so many chimeras and illusions on the fancy? To all which, and whatever else of the same sort may be objected, I ANSWER, that by the principles premised we are not deprived of any one thing in nature. Whatever we see, feel, hear, or anywise conceive or understand remains as secure as ever, and is as real as ever. There is a RERUM NATURA, and the distinction between realities and chimeras retains its full force. This is evident from sect. 29, 30, and 33, where we have shown what is meant by REAL THINGS in opposition to CHIMERAS or ideas of our own framing; but then they both equally exist in the mind, and in that sense they are alike IDEAS.

35. THE EXISTENCE OF MATTER, AS UNDERSTOOD BY PHILOSOPHERS, DENIED.[Vide sect. lxxxiv.]--I do not argue against the existence of any one thing that we can apprehend either by sense or reflexion. That the things I see with my eyes and touch with my hands do exist, really exist, I make not the least question. The only thing whose existence we deny IS THAT WHICH PHILOSOPHERS CALL MATTER or corporeal substance. And in doing of this there is no damage done to the rest of mankind, who, I dare say, will never miss it. The Atheist indeed will want the colour of an empty name to support his impiety; and the Philosophers may possibly find they have lost a great handle for trifling and disputation.

36. READILY EXPLAINED.--If any man thinks this detracts from the existence or reality of things, he is very far from understanding what has been premised in the plainest terms I could think of. Take here an abstract of what has been said:--There are spiritual substances, minds, or human souls, which will or excite ideas in themselves at pleasure; but these are faint, weak, and unsteady in respect of others they perceive by sense--which, being impressed upon them according to certain rules or laws of nature, speak themselves the effects of a mind more powerful and wise than human spirits. These latter are said to have more REALITY in them than the former:--by which is meant that they are more affecting, orderly, and distinct, and that they are not fictions of the mind perceiving them. And in this sense the sun that I see by day is the real sun, and that which I imagine by night is the idea of the former. In the sense here given of REALITY it is evident that every vegetable, star, mineral, and in general each part of the mundane system, is as much a REAL BEING by our principles as by any other. Whether others mean anything by the term REALITY different from what I do, I entreat them to look into their own thoughts and see.

37. THE PHILOSOPHIC, NOT THE VULGAR SUBSTANCE, TAKEN AWAY.--I will be urged that thus much at least is true, to wit, that we take away all corporeal substances. To this my answer is, that if the word SUBSTANCE be taken in the vulgar sense--for a combination of sensible qualities, such as extension, solidity, weight, and the like--this we cannot be accused of taking away: but if it be taken in a philosophic sense--for the SUPPORT of accidents or QUALITIES WITHOUT THE MIND--then indeed I acknowledge that we take it away, if one may be said to take away that which never had any existence, not even in the imagination.

38. But, say you, it sounds very harsh to say we eat and drink ideas, and are clothed with ideas. I acknowledge it does so--the word IDEA not being used in common discourse to signify the several combinations of sensible qualities which are called THINGS; and it is certain that any expression which varies from the familiar use of language will seem harsh and ridiculous. But this doth not concern the truth of the proposition, which in other words is no more than to say, we are fed and clothed with those things which we perceive immediately by our senses. The hardness or softness, the colour, taste, warmth, figure, or suchlike qualities, which combined together constitute the several sorts of victuals and apparel, have been shown to exist only in the mind that perceives them; and this is all that is meant by calling them IDEAS; which word if it was as ordinarily used as THING, would sound no harsher nor more ridiculous than it. I am not for disputing about the propriety, but the truth of the expression. If therefore you agree with me that we eat and drink and are clad with the immediate objects of sense, which cannot exist unperceived or without the mind, I shall readily grant it is more proper or conformable to custom that they should be called things rather than ideas.

39. THE TERM IDEA PREFERABLE TO THING.--If it be demanded why I make use of the word IDEA, and do not rather in compliance with custom call them THINGS. I answer, I do it for two reasons:--first, because the term THING in contra-distinction to IDEA, is generally supposed to denote somewhat existing without the mind; secondly, because THING has a more comprehensive signification than IDEA, including SPIRIT or thinking things as well as IDEAS. Since therefore the objects of sense exist only in the mind, and are withal thoughtless and inactive, I chose to mark them by the word IDEA, which implies those properties.

40. THE EVIDENCE OF THE SENSES NOT DIS**CREDIT**

ED.--But, say what we can, some one perhaps may be apt to reply, he will still believe his senses, and never suffer any arguments, how plausible soever, to prevail over the certainty of them. Be it so; assert the evidence of sense as high as you please, we are willing to do the same. That what I see, hear, and feel DOTH EXIST, THAT IS to say, IS PERCEIVED BY ME, I no more doubt than I do of my own being. But I do not see how the testimony of sense can be alleged as a proof for the existence of anything which is not perceived by sense. We are not for having any man turn SCEPTIC and disbelieve his senses; on the contrary, we give them all the stress and assurance imaginable; nor are there any principles more opposite to Scepticism than those we have laid down [Note.], as shall be hereafter clearly shown.

[Note: They extirpate the very root of scepticism, "the fallacy of the senses."--Ed.]

41. SECOND OBJECTION.--ANSWER.--Secondly, it will be OBJECTED that there is a great difference betwixt real fire for instance, and the idea of fire, betwixt dreaming or imagining oneself burnt, and actually being so: if you suspect it to be only the idea of fire which you see, do but put your hand into it and you will be convinced with a witness. This and the like may be urged in opposition to our tenets. To all which the ANSWER is evident from what has been already said; and I shall only add in this place, that if real fire be very different from the idea of fire, so also is the real pain that it occasions very different from the idea of the same pain, and yet nobody will pretend that real pain either is, or can possibly be, in an unperceiving thing, or without the mind, any more than its idea.

42. THIRD OBJECTION.--ANSWER.--Thirdly, it will be objected that we see things actually without or at distance from us, and which consequently do not exist in the mind; it being absurd that those things which are seen at the distance of several miles should be as near to us as our own thoughts. In answer to this, I desire it may be considered that in a DREAM we do oft perceive things as existing at a great distance off, and yet for all that, those things are acknowledged to have their existence only in the mind.

43. But, for the fuller clearing of this point, it may be worth while to consider how it is that we perceive distance and things placed at a distance by sight. For, that we should in truth see EXTERNAL space, and bodies actually existing in it, some nearer, others farther off, seems to carry with it some opposition to what has been said of their existing nowhere without the mind. The consideration of this difficulty it was that gave

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Sections II - IV

every day made even by those who philosophize the most negligently: And nothing can be more requisite than to enter upon the enterprize with thorough care and attention; that, if it lie within the compass of human understanding, it may at last be happily achieved; if not, it may, however, be rejected with some confidence and security. This last conclusion, surely, is not desirable; nor ought it to be embraced too rashly. For how much must we diminish from the beauty and value of this species of philosophy, upon such a supposition? Moralists have hitherto been accustomed, when they considered the vast multitude and diversity of those actions that excite our approbation or dislike, to search for some common principle, on which this variety of sentiments might depend. And though they have sometimes carried the matter too far, by their passion for some one general principle; it must, however, be confessed, that they are excusable in expecting to find some general principles, into which all the vices and virtues were justly to be resolved. The like has been the endeavour of critics, logicians, and even politicians: Nor have their attempts been wholly unsuccessful; though perhaps longer time, greater accuracy, and more ardent application may bring these sciences still nearer their perfection. To throw up at once all pretensions of this kind may justly be deemed more rash, precipitate, and dogmatical, than even the boldest and most affirmative philosophy, that has ever attempted to impose its crude dictates and principles on mankind.

10. What though these reasonings concerning human nature seem abstract, and of difficult comprehension? This affords no presumption of their falsehood. On the contrary, it seems impossible, that what has hitherto escaped so many wise and profound philosophers can be very obvious and easy. And whatever pains these researches may cost us, we may think ourselves sufficiently rewarded, not only in point of profit but of pleasure, if, by that means, we can make any addition to our stock of knowledge, in subjects of such unspeakable importance.

But as, after all, the abstractedness of these speculations is no recommendation, but rather a disadvantage to them, and as this difficulty may perhaps be surmounted by care and art, and the avoiding of all unnecessary detail, we have, in the following enquiry, attempted to throw some light upon subjects, from which uncertainty has hitherto deterred the wise, and obscurity the ignorant. Happy, if we can unite the boundaries of the different species of philosophy, by reconciling profound enquiry with clearness, and truth with novelty! And still more happy, if, reasoning in this easy manner, we can undermine the foundations of an abstruse philosophy, which seems to have hitherto served only as a shelter to superstition, and a cover to absurdity and error!

SECTION II.

OF THE ORIGIN OF IDEAS.

11. Every one will readily allow, that there is a considerable difference between the perceptions of the mind, when a man feels the pain of excessive heat, or the pleasure of moderate warmth, and when he afterwards recalls to his memory this sensation, or anticipates it by his imagination. These faculties may mimic or copy the perceptions of the senses; but they never can entirely reach the force and vivacity of the original sentiment. The utmost we say of them, even when they operate with greatest vigour, is, that they represent their object in so lively a manner, that we could *almost* say we feel or see it: But, except the mind be disordered by disease or madness, they never can arrive at such a pitch of vivacity, as to render these perceptions altogether undistinguishable. All the colours of poetry, however splendid, can never paint natural objects in such a manner as to make the description be taken for a real landskip. The most lively thought is still inferior to the dullest sensation.

We may observe a like distinction to run through all the other perceptions of the mind. A man in a fit of anger, is actuated in a very different manner from one who only thinks of that emotion. If you tell me, that any person is in love, I easily understand your meaning, and form a just conception of his situation; but never can mistake that conception for the real disorders and agitations of the passion. When we reflect on our past sentiments and affections, our thought is a faithful mirror, and copies its objects truly; but the colours which it

employs are faint and dull, in comparison of those in which our original perceptions were clothed. It requires no nice discernment or metaphysical head to mark the distinction between them.

12. Here therefore we may divide all the perceptions of the mind into two classes or species, which are distinguished by their different degrees of force and vivacity. The less forcible and lively are commonly denominated *Thoughts* or *Ideas*. The other species want a name in our language, and in most others; I suppose, because it was not requisite for any, but philosophical purposes, to rank them under a general term or appellation. Let us, therefore, use a little freedom, and call them *Impressions*; employing that word in a sense somewhat different from the usual. By the term *impression*, then, I mean all our more lively perceptions, when we hear, or see, or feel, or love, or hate, or desire, or will. And impressions are distinguished from ideas, which are the less lively perceptions, of which we are conscious, when we reflect on any of those sensations or movements above mentioned.

13. Nothing, at first view, may seem more unbounded than the thought of man, which not only escapes all human power and authority, but is not even restrained within the limits of nature and reality. To form monsters, and join incongruous shapes and appearances, costs the imagination no more trouble than to conceive the most natural and familiar objects. And while the body is confined to one planet, along which it creeps with pain and difficulty; the thought can in an instant transport us into the most distant regions of the universe; or even beyond the universe, into the unbounded chaos, where nature is supposed to lie in total confusion. What never was seen, or heard of, may yet be conceived; nor is any thing beyond the power of thought, except what implies an absolute contradiction.

But though our thought seems to possess this unbounded liberty, we shall find, upon a nearer examination, that it is really confined within very narrow limits, and that all this creative power of the mind amounts to no more than the faculty of compounding, transposing, augmenting, or diminishing the materials afforded us by the senses and experience. When we think of a golden mountain, we only join two consistent ideas, *gold*, and *mountain*, with which we were formerly acquainted. A virtuous horse we can conceive; because, from our own feeling, we can conceive virtue; and this we may unite to the figure and shape of a horse, which is an animal familiar to us. In short, all the materials of thinking are derived either from our outward or inward sentiment: the mixture and composition of these belongs alone to the mind and will. Or, to express myself in philosophical language, all our ideas or more feeble perceptions are copies of our impressions or more lively ones.

14. To prove this, the two following arguments will, I hope, be sufficient. First, when we analyze our thoughts or ideas however compounded or sublime, we always find that they resolve themselves into such simple ideas as were copied from a precedent feeling or sentiment. Even those ideas, which, at first view, seem the most wide of this origin, are found, upon a nearer scrutiny, to be derived from it. The idea of God, as meaning an infinitely intelligent, wise, and good Being, arises from reflecting on the operations of our own mind, and augmenting, without limit, those qualities of goodness and wisdom. We may prosecute this enquiry to what length we please; where we shall always find, that every idea which we examine is copied from a similar impression. Those who would assert that this position is not universally true nor without exception, have only one, and that an easy method of refuting it; by producing that idea, which, in their opinion, is not derived from this source. It will then be incumbent on us, if we would maintain our doctrine, to produce the impression, or lively perception, which corresponds to it.

15. Secondly. If it happen, from a defect of the organ, that a man is not susceptible of any species of sensation, we always find that he is as little susceptible of the correspondent ideas. A blind man can form no notion of colours; a deaf man of sounds. Restore either of them that sense in which he is deficient; by opening this new inlet for his sensations, you also open an inlet for the ideas; and he finds no difficulty in conceiving these objects. The case is the same, if the object, proper for exciting any sensation, has never been applied to the organ. A Laplander or Negro has no notion of the relish of wine. And though there are few or no instances of a like deficiency in the mind, where a person has never felt or is wholly incapable of a sentiment or passion

that belongs to his species; yet we find the same observation to take place in a less degree. A man of mild manners can form no idea of inveterate revenge or cruelty; nor can a selfish heart easily conceive the heights of friendship and generosity. It is readily allowed, that other beings may possess many senses of which we can have no conception; because the ideas of them have never been introduced to us in the only manner by which an idea can have access to the mind, to wit, by the actual feeling and sensation.

16. There is, however, one contradictory phenomenon, which may prove that it is not absolutely impossible for ideas to arise, independent of their correspondent impressions. I believe it will readily be allowed, that the several distinct ideas of colour, which enter by the eye, or those of sound, which are conveyed by the ear, are really different from each other; though, at the same time, resembling. Now if this be true of different colours, it must be no less so of the different shades of the same colour; and each shade produces a distinct idea, independent of the rest. For if this should be denied, it is possible, by the continual gradation of shades, to run a colour insensibly into what is most remote from it; and if you will not allow any of the means to be different, you cannot, without absurdity, deny the extremes to be the same. Suppose, therefore, a person to have enjoyed his sight for thirty years, and to have become perfectly acquainted with colours of all kinds except one particular shade of blue, for instance, which it never has been his fortune to meet with. Let all the different shades of that colour, except that single one, be placed before him, descending gradually from the deepest to the lightest; it is plain that he will perceive a blank, where that shade is wanting, and will be sensible that there is a greater distance in that place between the contiguous colours than in any other. Now I ask, whether it be possible for him, from his own imagination, to supply this deficiency, and raise up to himself the idea of that particular shade, though it had never been conveyed to him by his senses? I believe there are few but will be of opinion that he can: and this may serve as a proof that the simple ideas are not always, in every instance, derived from the correspondent impressions; though this instance is so singular, that it is scarcely worth our observing, and does not merit that for it alone we should alter our general maxim.

17. Here, therefore, is a proposition, which not only seems, in itself, simple and intelligible; but, if a proper use were made of it, might render every dispute equally intelligible, and banish all that jargon, which has so long taken possession of metaphysical reasonings, and drawn disgrace upon them. All ideas, especially abstract ones, are, naturally faint and obscure: the mind has but a slender hold of them: they are apt to be confounded with other resembling ideas; and when we have often employed any term, though without a distinct meaning, we are apt to imagine it has a determinate idea annexed to it. On the contrary, all impressions, that is, all sensations, either outward or inward, are strong and vivid: the limits between them are more exactly determined: nor is it easy to fall into any error or mistake with regard to them. When we entertain, therefore, any suspicion that a philosophical term is employed without any meaning or idea (as is but too frequent), we need but enquire, *from what impression is that supposed idea derived*? And if it be impossible to assign any, this will serve to confirm our suspicion. By bringing ideas into so clear a light we may reasonably hope to remove all dispute, which may arise, concerning their nature and reality.[1]

[1] It is probable that no more was meant by those, who denied innate ideas, than that all ideas were copies of our impressions; though it must be confessed, that the terms, which they employed, were not chosen with such caution, nor so exactly defined, as to prevent all mistakes about their doctrine. For what is meant by *innate*? If innate be equivalent to natural, then all the perceptions and ideas of the mind must be allowed to be innate or natural, in whatever sense we take the latter word, whether in opposition to what is uncommon, artificial, or miraculous. If by innate be meant, contemporary to our birth, the dispute seems to be frivolous; nor is it worth while to enquire at what time thinking begins, whether before, at, or after our birth. Again, the word *idea*, seems to be commonly taken in a very loose sense, by LOCKE and others; as standing for any of our perceptions, our sensations and passions, as well as thoughts. Now in this sense, I should desire to know, what can be meant by asserting, that self-love, or resentment of injuries, or the passion between the sexes is not innate!

But admitting these terms, *impressions* and *ideas*, in the sense above explained, and understanding by *innate*, what is original or copied from no precedent perception, then may we assert that all our impressions are

innate, and our ideas not innate.

To be ingenuous, I must own it to be my opinion, that LOCKE was betrayed into this question by the schoolmen, who, making use of undefined terms, draw out their disputes to a tedious length, without ever touching the point in question. A like ambiguity and circumlocution seem to run through that philosopher's reasonings on this as well as most other subjects.

SECTION III.

OF THE ASSOCIATION OF IDEAS.

18. It is evident that there is a principle of connexion between the different thoughts or ideas of the mind, and that, in their appearance to the memory or imagination, they introduce each other with a certain degree of method and regularity. In our more serious thinking or discourse this is so observable that any particular thought, which breaks in upon the regular tract or chain of ideas, is immediately remarked and rejected. And even in our wildest and most wandering reveries, nay in our very dreams, we shall find, if we reflect, that the imagination ran not altogether at adventures, but that there was still a connexion upheld among the different ideas, which succeeded each other. Were the loosest and freest conversation to be transcribed, there would immediately be observed something which connected it in all its transitions. Or where this is wanting, the person who broke the thread of discourse might still inform you, that there had secretly revolved in his mind a succession of thought, which had gradually led him from the subject of conversation. Among different languages, even where we cannot suspect the least connexion or communication, it is found, that the words, expressive of ideas, the most compounded, do yet nearly correspond to each other: a certain proof that the simple ideas, comprehended in the compound ones, were bound together by some universal principle, which had an equal influence on all mankind.

19. Though it be too obvious to escape observation, that different ideas are connected together; I do not find that any philosopher has attempted to enumerate or class all the principles of association; a subject, however, that seems worthy of curiosity. To me, there appear to be only three principles of connexion among ideas, namely, *Resemblance*, *Contiguity* in time or place, and *Cause or Effect*.

That these principles serve to connect ideas will not, I believe, be much doubted. A picture naturally leads our thoughts to the original[2]: the mention of one apartment in a building naturally introduces an enquiry or discourse concerning the others[3]: and if we think of a wound, we can scarcely forbear reflecting on the pain which follows it[4]. But that this enumeration is complete, and that there are no other principles of association except these, may be difficult to prove to the satisfaction of the reader, or even to a man's own satisfaction. All we can do, in such cases, is to run over several instances, and examine carefully the principle which binds the different thoughts to each other, never stopping till we render the principle as general as possible[5]. The more instances we examine, and the more care we employ, the more assurance shall we acquire, that the enumeration, which we form from the whole, is complete and entire.

[2] Resemblance.

[3] Contiguity.

[4] Cause and effect.

[5] For instance, Contrast or Contrariety is also a connexion among Ideas: but it may, perhaps, be considered as a mixture of *Causation* and *Resemblance*. Where two objects are contrary, the one destroys the other; that is, the cause of its annihilation, and the idea of the annihilation of an object, implies the idea of its former existence.

SECTION IV.

SCEPTICAL DOUBTS CONCERNING THE OPERATIONS OF THE UNDERSTANDING.

PART I.

20. All the objects of human reason or enquiry may naturally be divided into two kinds, to wit, *Relations of Ideas*, and *Matters of Fact*. Of the first kind are the sciences of Geometry, Algebra, and Arithmetic; and in short, every affirmation which is either intuitively or demonstratively certain. _That the square of the hypothenuse is equal to the square of the two sides_, is a proposition which expresses a relation between these figures. _That three times five is equal to the half of thirty_, expresses a relation between these numbers. Propositions of this kind are discoverable by the mere operation of thought, without dependence on what is anywhere existent in the universe. Though there never were a circle or triangle in nature, the truths demonstrated by Euclid would for ever retain their certainty and evidence.

21. Matters of fact, which are the second objects of human reason, are not ascertained in the same manner; nor is our evidence of their truth, however great, of a like nature with the foregoing. The contrary of every matter of fact is still possible; because it can never imply a contradiction, and is conceived by the mind with the same facility and distinctness, as if ever so conformable to reality. _That the sun will not rise to-morrow_ is no less intelligible a proposition, and implies no more contradiction than the affirmation, *that it will rise*. We should in vain, therefore, attempt to demonstrate its falsehood. Were it demonstratively false, it would imply a contradiction, and could never be distinctly conceived by the mind.

It may, therefore, be a subject worthy of curiosity, to enquire what is the nature of that evidence which assures us of any real existence and matter of fact, beyond the present testimony of our senses, or the records of our memory. This part of philosophy, it is observable, has been little cultivated, either by the ancients or moderns; and therefore our doubts and errors, in the prosecution of so important an enquiry, may be the more excusable; while we march through such difficult paths without any guide or direction. They may even prove useful, by exciting curiosity, and destroying that implicit faith and security, which is the bane of all reasoning and free enquiry. The discovery of defects in the common philosophy, if any such there be, will not, I presume, be a discouragement, but rather an incitement, as is usual, to attempt something more full and satisfactory than has yet been proposed to the public.

22. All reasonings concerning matter of fact seem to be founded on the relation of *Cause and Effect*. By means of that relation alone we can go beyond the evidence of our memory and senses. If you were to ask a man, why he believes any matter of fact, which is absent; for instance, that his friend is in the country, or in France; he would give you a reason; and this reason would be some other fact; as a letter received from him, or the knowledge of his former resolutions and promises. A man finding a watch or any other machine in a desert island, would conclude that there had once been men in that island. All our reasonings concerning fact are of the same nature. And here it is constantly supposed that there is a connexion between the present fact and that which is inferred from it. Were there nothing to bind them together, the inference would be entirely precarious. The hearing of an articulate voice and rational discourse in the dark assures us of the presence of some person: Why? because these are the effects of the human make and fabric, and closely connected with it. If we anatomize all the other reasonings of this nature, we shall find that they are founded on the relation of cause and effect, and that this relation is either near or remote, direct or collateral. Heat and light are collateral effects of fire, and the one effect may justly be inferred from the other.

23. If we would satisfy ourselves, therefore, concerning the nature of that evidence, which assures us of matters of fact, we must enquire how we arrive at the knowledge of cause and effect.

I shall venture to affirm, as a general proposition, which admits of no exception, that the knowledge of this relation is not, in any instance, attained by reasonings *a priori*; but arises entirely from experience, when we find that any particular objects are constantly conjoined with each other. Let an object be presented to a man of ever so strong natural reason and abilities; if that object be entirely new to him, he will not be able, by the most accurate examination of its sensible qualities, to discover any of its causes or effects. Adam, though his rational faculties be supposed, at the very first, entirely perfect, could not have inferred from the fluidity and transparency of water that it would suffocate him, or from the light and warmth of fire that it would consume him. No object ever discovers, by the qualities which appear to the senses, either the causes which produced it, or the effects which will arise from it; nor can our reason, unassisted by experience, ever draw any inference concerning real existence and matter of fact.

24. This proposition, _that causes and effects are discoverable, not by reason but by experience_, will readily be admitted with regard to such objects, as we remember to have once been altogether unknown to us; since we must be conscious of the utter inability, which we then lay under, of foretelling what would arise from them. Present two smooth pieces of marble to a man who has no tincture of natural philosophy; he will never discover that they will adhere together in such a manner as to require great force to separate them in a direct line, while they make so small a resistance to a lateral pressure. Such events, as bear little analogy to the common course of nature, are also readily confessed to be known only by experience; nor does any man imagine that the explosion of gunpowder, or the attraction of a loadstone, could ever be discovered by arguments *a priori*. In like manner, when an effect is supposed to depend upon an intricate machinery or secret structure of parts, we make no difficulty in attributing all our knowledge of it to experience. Who will assert that he can give the ultimate reason, why milk or bread is proper nourishment for a man, not for a lion or a tiger?

But the same truth may not appear, at first sight, to have the same evidence with regard to events, which have become familiar to us from our first appearance in the world, which bear a close analogy to the whole course of nature, and which are supposed to depend on the simple qualities of objects, without any secret structure of parts. We are apt to imagine that we could discover these effects by the mere operation of our reason, without experience. We fancy, that were we brought on a sudden into this world, we could at first have inferred that one Billiard-ball would communicate motion to another upon impulse; and that we needed not to have waited for the event, in order to pronounce with certainty concerning it. Such is the influence of custom, that, where it is strongest, it not only covers our natural ignorance, but even conceals itself, and seems not to take place, merely because it is found in the highest degree.

25. But to convince us that all the laws of nature, and all the operations of bodies without exception, are known only by experience, the following reflections may, perhaps, suffice. Were any object presented to us, and were we required to pronounce concerning the effect, which will result from it, without consulting past observation; after what manner, I beseech you, must the mind proceed in this operation? It must invent or imagine some event, which it ascribes to the object as its effect; and it is plain that this invention must be entirely arbitrary. The mind can never possibly find the effect in the supposed cause, by the most accurate scrutiny and examination. For the effect is totally different from the cause, and consequently can never be discovered in it. Motion in the second Billiard-ball is a quite distinct event from motion in the first; nor is there anything in the one to suggest the smallest hint of the other. A stone or piece of metal raised into the air, and left without any support, immediately falls: but to consider the matter *a priori*, is there anything we discover in this situation which can beget the idea of a downward, rather than an upward, or any other motion, in the stone or metal? And as the first imagination or invention of a particular effect, in all natural operations, is arbitrary, where we consult not experience; so must we also esteem the supposed tie or connexion between the cause and effect, which binds them together, and renders it impossible that any other effect could result from the operation of that cause. When I see, for instance, a Billiard-ball moving in a straight line towards another; even suppose motion in the second ball should by accident be suggested to me, as the result of their contact or impulse; may I not conceive, that a hundred different events might as well follow from that cause? May not both these balls remain at absolute rest? May not the first ball return in a straight line, or leap off

from the second in any line or direction? All these suppositions are consistent and conceivable. Why then should we give the preference to one, which is no more consistent or conceivable than the rest? All our reasonings *a priori* will never be able to show us any foundation for this preference.

In a word, then, every effect is a distinct event from its cause. It could not, therefore, be discovered in the cause, and the first invention or conception of it, *a priori*, must be entirely arbitrary. And even after it is suggested, the conjunction of it with the cause must appear equally arbitrary; since there are always many other effects, which, to reason, must seem fully as consistent and natural. In vain, therefore, should we pretend to determine any single event, or infer any cause or effect, without the assistance of observation and experience.

26. Hence we may discover the reason why no philosopher, who is rational and modest, has ever pretended to assign the ultimate cause of any natural operation, or to show distinctly the action of that power, which produces any single effect in the universe. It is confessed, that the utmost effort of human reason is to reduce the principles, productive of natural phenomena, to a greater simplicity, and to resolve the many particular effects into a few general causes, by means of reasonings from analogy, experience, and observation. But as to the causes of these general causes, we should in vain attempt their discovery; nor shall we ever be able to satisfy ourselves, by any particular explication of them. These ultimate springs and principles are totally shut up from human curiosity and enquiry. Elasticity, gravity, cohesion of parts, communication of motion by impulse; these are probably the ultimate causes and principles which we shall ever discover in nature; and we may esteem ourselves sufficiently happy, if, by accurate enquiry and reasoning, we can trace up the particular phenomena to, or near to, these general principles. The most perfect philosophy of the natural kind only staves off our ignorance a little longer: as perhaps the most perfect philosophy of the moral or metaphysical kind serves only to discover larger portions of it. Thus the observation of human blindness and weakness is the result of all philosophy, and meets us at every turn, in spite of our endeavours to elude or avoid it.

27. Nor is geometry, when taken into the assistance of natural philosophy, ever able to remedy this defect, or lead us into the knowledge of ultimate causes, by all that accuracy of reasoning for which it is so justly celebrated. Every part of mixed mathematics proceeds upon the supposition that certain laws are established by nature in her operations; and abstract reasonings are employed, either to assist experience in the discovery of these laws, or to determine their influence in particular instances, where it depends upon any precise degree of distance and quantity. Thus, it is a law of motion, discovered by experience, that the moment or force of any body in motion is in the compound ratio or proportion of its solid contents and its velocity; and consequently, that a small force may remove the greatest obstacle or raise the greatest weight, if, by any contrivance or machinery, we can increase the velocity of that force, so as to make it an overmatch for its antagonist. Geometry assists us in the application of this law, by giving us the just dimensions of all the parts and figures which can enter into any species of machine; but still the discovery of the law itself is owing merely to experience, and all the abstract reasonings in the world could never lead us one step towards the knowledge of it. When we reason *a priori*, and consider merely any object or cause, as it appears to the mind, independent of all observation, it never could suggest to us the notion of any distinct object, such as its effect; much less, show us the inseparable and inviolable connexion between them. A man must be very sagacious who could discover by reasoning that crystal is the effect of heat, and ice of cold, without being previously acquainted with the operation of these qualities.

PART II.

28. But we have not yet attained any tolerable satisfaction with regard to the question first proposed. Each solution still gives rise to a new question as difficult as the foregoing, and leads us on to farther enquiries. When it is asked, _What is the nature of all our reasonings concerning matter of fact?_ the proper answer seems to be, that they are founded on the relation of cause and effect. When again it is asked, _What is the foundation of all our reasonings and conclusions concerning that relation?_ it may be replied in one word,

Experience. But if we still carry on our sifting humour, and ask, _What is the foundation of all conclusions from experience?_ this implies a new question, which may be of more difficult solution and explication. Philosophers, that give themselves airs of superior wisdom and sufficiency, have a hard task when they encounter persons of inquisitive dispositions, who push them from every corner to which they retreat, and who are sure at last to bring them to some dangerous dilemma. The best expedient to prevent this confusion, is to be modest in our pretensions; and even to discover the difficulty ourselves before it is objected to us. By this means, we may make a kind of merit of our very ignorance.

I shall content myself, in this section, with an easy task, and shall pretend only to give a negative answer to the question here proposed. I say then, that, even after we have experience of the operations of cause and effect, our conclusions from that experience are *not* founded on reasoning, or any process of the understanding. This answer we must endeavour both to explain and to defend.

29. It must certainly be allowed, that nature has kept us at a great distance from all her secrets, and has afforded us only the knowledge of a few superficial qualities of objects; while she conceals from us those powers and principles on which the influence of those objects entirely depends. Our senses inform us of the colour, weight, and consistence of bread; but neither sense nor reason can ever inform us of those qualities which fit it for the nourishment and support of a human body. Sight or feeling conveys an idea of the actual motion of bodies; but as to that wonderful force or power, which would carry on a moving body for ever in a continued change of place, and which bodies never lose but by communicating it to others; of this we cannot form the most distant conception. But notwithstanding this ignorance of natural powers[6] and principles, we always presume, when we see like sensible qualities, that they have like secret powers, and expect that effects, similar to those which we have experienced, will follow from them. If a body of like colour and consistence with that bread, which we have formerly eat, be presented to us, we make no scruple of repeating the experiment, and foresee, with certainty, like nourishment and support. Now this is a process of the mind or thought, of which I would willingly know the foundation. It is allowed on all hands that there is no known connexion between the sensible qualities and the secret powers; and consequently, that the mind is not led to form such a conclusion concerning their constant and regular conjunction, by anything which it knows of their nature. As to past *Experience*, it can be allowed to give *direct* and *certain* information of those precise objects only, and that precise period of time, which fell under its cognizance: but why this experience should be extended to future times, and to other objects, which for aught we know, may be only in appearance similar; this is the main question on which I would insist. The bread, which I formerly eat, nourished me; that is, a body of such sensible qualities was, at that time, endued with such secret powers: but does it follow, that other bread must also nourish me at another time, and that like sensible qualities must always be attended with like secret powers? The consequence seems nowise necessary. At least, it must be acknowledged that there is here a consequence drawn by the mind; that there is a certain step taken; a process of thought, and an inference, which wants to be explained. These two propositions are far from being the same, _I have found that such an object has always been attended with such an effect, *and* I foresee, that other objects, which are, in appearance, similar, will be attended with similar effects_. I shall allow, if you please, that the one proposition may justly be inferred from the other: I know, in fact, that it always is inferred. But if you insist that the inference is made by a chain of reasoning, I desire you to produce that reasoning. The connexion between these propositions is not intuitive. There is required a medium, which may enable the mind to draw such an inference, if indeed it be drawn by reasoning and argument. What that medium is, I must confess, passes my comprehension; and it is incumbent on those to produce it, who assert that it really exists, and is the origin of all our conclusions concerning matter of fact.

[6] The word, Power, is here used in a loose and popular sense. The more accurate explication of it would give additional evidence to this argument. See Sect. 7.

30. This negative argument must certainly, in process of time, become altogether convincing, if many penetrating and able philosophers shall turn their enquiries this way and no one be ever able to discover any connecting proposition or intermediate step, which supports the understanding in this conclusion. But as the

question is yet new, every reader may not trust so far to his own penetration, as to conclude, because an argument escapes his enquiry, that therefore it does not really exist. For this reason it may be requisite to venture upon a more difficult task; and enumerating all the branches of human knowledge, endeavour to show that none of them can afford such an argument.

All reasonings may be divided into two kinds, namely, demonstrative reasoning, or that concerning relations of ideas, and moral reasoning, or that concerning matter of tact and existence. That there are no demonstrative arguments in the case seems evident; since it implies no contradiction that the course of nature may change, and that an object, seemingly like those which we have experienced, may be attended with different or contrary effects. May I not clearly and distinctly conceive that a body, falling from the clouds, and which, in all other respects, resembles snow, has yet the taste of salt or feeling of fire? Is there any more intelligible proposition than to affirm, that all the trees will flourish in December and January, and decay in May and June? Now whatever is intelligible, and can be distinctly conceived, implies no contradiction, and can never be proved false by any demonstrative argument or abstract reasoning *à priori*.

If we be, therefore, engaged by arguments to put trust in past experience, and make it the standard of our future judgement, these arguments must be probable only, or such as regard matter of fact and real existence, according to the division above mentioned. But that there is no argument of this kind, must appear, if our explication of that species of reasoning be admitted as solid and satisfactory. We have said that all arguments concerning existence are founded on the relation of cause and effect; that our knowledge of that relation is derived entirely from experience; and that all our experimental conclusions proceed upon the supposition that the future will be conformable to the past. To endeavour, therefore, the proof of this last supposition by probable arguments, or arguments regarding existence, must be evidently going in a circle, and taking that for granted, which is the very point in question.

31. In reality, all arguments from experience are founded on the similarity which we discover among natural objects, and by which we are induced to expect effects similar to those which we have found to follow from such objects. And though none but a fool or madman will ever pretend to dispute the authority of experience, or to reject that great guide of human life, it may surely be allowed a philosopher to have so much curiosity at least as to examine the principle of human nature, which gives this mighty authority to experience, and makes us draw advantage from that similarity which nature has placed among different objects. From causes which appear *similar* we expect similar effects. This is the sum of all our experimental conclusions. Now it seems evident that, if this conclusion were formed by reason, it would be as perfect at first, and upon one instance, as after ever so long a course of experience. But the case is far otherwise. Nothing so like as eggs; yet no one, on account of this appearing similarity, expects the same taste and relish in all of them. It is only after a long course of uniform experiments in any kind, that we attain a firm reliance and security with regard to a particular event. Now where is that process of reasoning which, from one instance, draws a conclusion, so different from that which it infers from a hundred instances that are nowise different from that single one? This question I propose as much for the sake of information, as with an intention of raising difficulties. I cannot find, I cannot imagine any such reasoning. But I keep my mind still open to instruction, if any one will vouchsafe to bestow it on me.

32. Should it be said that, from a number of uniform experiments, we *infer* a connexion between the sensible qualities and the secret powers; this, I must confess, seems the same difficulty, couched in different terms. The question still recurs, on what process of argument this *inference* is founded? Where is the medium, the interposing ideas, which join propositions so very wide of each other? It is confessed that the colour, consistence, and other sensible qualities of bread appear not, of themselves, to have any connexion with the secret powers of nourishment and support. For otherwise we could infer these secret powers from the first appearance of these sensible qualities, without the aid of experience; contrary to the sentiment of all philosophers, and contrary to plain matter of fact. Here, then, is our natural state of ignorance with regard to the powers and influence of all objects. How is this remedied by experience? It only shows us a number of uniform effects, resulting from certain objects, and teaches us that those particular objects, at that particular

time, were endowed with such powers and forces. When a new object, endowed with similar sensible qualities, is produced, we expect similar powers and forces, and look for a like effect. From a body of like colour and consistence with bread we expect like nourishment and support. But this surely is a step or progress of the mind, which wants to be explained. When a man says, _I have found, in all past instances, such sensible qualities conjoined with such secret powers. *And when he says,* Similar sensible qualities will always be conjoined with similar secret powers_, he is not guilty of a tautology, nor are these propositions in any respect the same. You say that the one proposition is an inference from the other. But you must confess that the inference is not intuitive; neither is it demonstrative: Of what nature is it, then? To say it is experimental, is begging the question. For all inferences from experience suppose, as their foundation, that the future will resemble the past, and that similar powers will be conjoined with similar sensible qualities. If there be any suspicion that the course of nature may change, and that the past may be no rule for the future, all experience becomes useless, and can give rise to no inference or conclusion. It is impossible, therefore, that any arguments from experience can prove this resemblance of the past to the future; since all these arguments are founded on the supposition of that resemblance. Let the course of things be allowed hitherto ever so regular; that alone, without some new argument or inference, proves not that, for the future, it will continue so. In vain do you pretend to have learned the nature of bodies from your past experience. Their secret nature, and consequently all their effects and influence, may change, without any change in their sensible qualities. This happens sometimes, and with regard to some objects: Why may it not happen always, and with regard to all objects? What logic, what process of argument secures you against this supposition? My practice, you say, refutes my doubts. But you mistake the purport of my question. As an agent, I am quite satisfied in the point; but as a philosopher, who has some share of curiosity, I will not say scepticism, I want to learn the foundation of this inference. No reading, no enquiry has yet been able to remove my difficulty, or give me satisfaction in a matter of such importance. Can I do better than propose the difficulty to the public, even though, perhaps, I have small hopes of obtaining a solution? We shall at least, by this means, be sensible of our ignorance, if we do not augment our knowledge.

33. I must confess that a man is guilty of unpardonable arrogance who concludes, because an argument has escaped his own investigation, that therefore it does not really exist. I must also confess that, though all the learned, for several ages, should have employed themselves in fruitless search upon any subject, it may still, perhaps, be rash to conclude positively that the subject must, therefore, pass all human comprehension. Even though we examine all the sources of our knowledge, and conclude them unfit for such a subject, there may still remain a suspicion, that the enumeration is not complete, or the examination not accurate. But with regard to the present subject, there are some considerations which seem to remove all this accusation of arrogance or suspicion of mistake.

It is certain that the most ignorant and stupid peasants--nay infants, nay even brute beasts--improve by experience, and learn the qualities of natural objects, by observing the effects which result from them. When a child has felt the sensation of pain from touching the flame of a candle, he will be careful not to put his hand near any candle; but will expect a similar effect from a cause which is similar in its sensible qualities and appearance. If you assert, therefore, that the understanding of the child is led into this conclusion by any process of argument or ratiocination, I may justly require you to produce that argument; nor have you any pretence to refuse so equitable a demand. You cannot say that the argument is abstruse, and may possibly escape your enquiry; since you confess that it is obvious to the capacity of a mere infant. If you hesitate, therefore, a moment, or if, after reflection, you produce any intricate or profound argument, you, in a manner, give up the question, and confess that it is not reasoning which engages us to suppose the past resembling the future, and to expect similar effects from causes which are, to appearance, similar. This is the proposition which I intended to enforce in the present section. If I be right, I pretend not to have made any mighty discovery. And if I be wrong, I must acknowledge myself to be indeed a very backward scholar; since I cannot now discover an argument which, it seems, was perfectly familiar to me long before I was out of my cradle.

SECTION V.

Immanuel Kant

The Critique of Pure Reason

Introduction

true popularity devote themselves to its exposition, it may also, in a short time, secure for itself the necessary elegance of statement.

Konigsberg, *April* 1787.

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INTRODUCTION

1. THE DISTINCTION BETWEEN PURE AND EMPIRICAL KNOWLEDGE

THERE can be no doubt that all our knowledge begins with experience. For how should our faculty of knowledge be awakened into action did not objects affecting our senses partly of themselves produce representations, partly arouse the activity of our understanding to compare these representations, and, by combining or separating them, work up the raw material of the sensible impressions into that knowledge of objects which is entitled experience? In the order of time, therefore, we have no knowledge antecedent to experience, and with experience all our knowledge begins.

But though all our knowledge begins with experience, it does not follow that it all arises out of experience.

I. THE IDEA OF TRANSCENDENTAL PHILOSOPHY

Experience is, beyond all doubt, the first product to which our understanding gives rise, in working up the raw material of sensible impressions. Experience is therefore our first instruction, and in its progress is so inexhaustible in new information, that in the interconnected lives of all future generations there will never be any lack of new knowledge that can be thus ingathered. Nevertheless, it is by no means

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the sole field to which our understanding is confined.

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For it

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may well be that even our empirical knowledge is made up of what we receive through impressions and of what our own faculty of knowledge (sensible impressions serving merely as the occasion) supplies from itself. If our faculty of knowledge makes any such addition, it may be that we are not in a position to distinguish it from the raw material, until with long practice of attention we have become skilled in separating it. This, then, is a question which at least calls for closer examination, and does not allow of any off-hand answer: -- whether there is any knowledge that is thus independent of experience and even of all impressions of the senses. Such knowledge is entitled *a priori*, and distinguished from the

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empirical, which has its sources *a posteriori*, that is, in experience.

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Experience tells us, indeed, what is, but not that it must necessarily be so, and not otherwise. It therefore gives us no true universality; and reason, which is so insistent upon this kind of knowledge, is therefore more stimulated by it than satisfied. Such universal modes of knowledge, which at the same time possess the character of inner necessity, must in themselves, independently of experience, be clear and certain. They are therefore entitled knowledge *a priori*; whereas, on the other hand, that which is borrowed solely from experience is, as we say, known only *a posteriori*, or empirically.

Now we find, what is especially noteworthy, that even into our experiences there enter modes of knowledge which must have their origin *a priori*, and which perhaps serve only to give coherence to our sense-representations. For if we eliminate from our experiences everything which belongs to the senses, there still remain certain original concepts and certain judgments derived from them, which must have arisen completely *a priori*, independently of experience, inasmuch as they enable us to say, or at least lead us to believe that we can say, in regard to the objects which appear to the senses, more than mere experience would teach -- giving to assertions true universality and strict necessity, such as mere empirical knowledge cannot supply.

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The expression '*a priori*' does not, however, indicate with sufficient precision the full meaning of our question. For it has been customary to say, even of much knowledge that is derived from empirical sources, that we have it or are capable of having it *a priori*, meaning thereby that we do not derive it immediately from experience, but from a universal rule -- a rule which is itself, however, borrowed by us from experience. Thus we would say of a man who undermined the foundations of his house, that he might have known *a priori* that it would fall, that is, that he need not have waited for the experience of its actual falling. But still he could not know this completely *a priori*. For he had first to learn through experience that bodies are heavy, and therefore fall when their supports are withdrawn.

In what follows, therefore, we shall understand by *a priori* knowledge, not knowledge independent of this or that experience, but knowledge absolutely independent of all experience. Opposed to it is empirical knowledge, which is knowledge possible only *a posteriori*, that is, through experience. *A priori* modes of knowledge are entitled pure when there is no admixture of anything empirical. Thus, for instance, the proposition, 'every alteration has its cause', while an *a priori* proposition, is not a pure proposition, because alteration is a concept which can be derived only from experience.

II. WE ARE IN POSSESSION OF CERTAIN MODES OF A PRIORI KNOWLEDGE, AND EVEN THE COMMON UNDERSTANDING IS NEVER WITHOUT THEM

What we here require is a criterion by which to distinguish with certainty between pure and empirical knowledge. Experience teaches us that a thing is so and so, but not that it cannot be otherwise. First, then, if we have a proposition which in being thought is thought as *necessary*, it is an *a priori* judgment; and if, besides, it is not derived from any proposition except one which also has the validity of a necessary judgment, it is an absolutely *a priori* judgment. Secondly,

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experience never confers on its judgments true or strict but only assumed and comparative *universality*, through induction. We can properly only say, therefore, that so far as we have hitherto observed, there is no exception to this or that rule. If, then, a judgment is thought with strict universality, that is, in such manner that no exception is allowed as possible, it is not derived from experience, but is valid absolutely *a priori*. Empirical universality is only an arbitrary extension of a validity holding in most cases to one which holds in all, for instance, in the proposition, 'all bodies are heavy'. When, on the other hand, strict universality is essential to a a judgment, this indicates a special source of knowledge, namely, a faculty of *a priori* knowledge. Necessity and strict universality are thus sure criteria of *a priori* knowledge, and are inseparable from one another. But since in the employment of these criteria the contingency of judgments is sometimes more easily shown than their empirical limitation, or, as sometimes also happens, their unlimited universality can be more convincingly proved than their necessity, it is advisable to use the two criteria separately, each by itself being infallible.

Now it is easy to show that there actually are in human knowledge judgments which are necessary and in the strictest sense universal, and which are therefore pure *a priori* judgments. If an example from the sciences be desired, we have only to look to any of the propositions of mathematics; if we seek an example from the understanding in its quite ordinary employment, the proposition, 'every alteration must have a cause', will serve our purpose. In the latter case, indeed, the very concept of a cause so manifestly contains the concept of a necessity of connection with an effect and of the strict universality of the rule, that the concept would be altogether lost if we attempted to derive it, as Hume has done, from a repeated association of that which happens with that which precedes, and from a custom of connecting representations, a custom originating in this repeated association, and constituting

therefore a merely subjective necessity. Even without appeal-
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ing to such examples, it is possible to show that pure *a priori* principles are indispensable for the possibility of experience, and so to prove their existence *a priori*. For whence could experience derive its certainty, if all the rules, according to which it proceeds, were always themselves empirical, and therefore contingent? Such rules could hardly be regarded as first principles. At present, however, we may be content to have established the fact that our faculty of knowledge does have a pure employment, and to have shown what are the criteria of such an employment.

Such *a priori* origin is manifest in certain concepts, no less than in judgments. If we remove from our empirical concept of a body, one by one, every feature in it which is [merely] empirical, the colour, the hardness or softness, the weight, even the impenetrability, there still remains the space which the body (now entirely vanished) occupied, and this cannot be removed. Again, if we remove from our empirical concept of any object, corporeal or incorporeal, all properties which experience has taught us, we yet cannot take away that property through which the object is thought as substance or as inhering in a substance (although this concept of substance is more determinate than that of an object in general). Owing, therefore, to the necessity with which this concept of substance forces itself upon us, we have no option save to admit that it has its seat in our faculty of *a priori* knowledge.

III. PHILOSOPHY STANDS IN NEED OF A SCIENCE WHICH SHALL DETERMINE THE POSSIBILITY, THE PRINCIPLES, AND THE EXTENT OF ALL *A PRIORI* KNOWLEDGE

But what is still more extraordinary than all the preceding is this, that certain modes of knowledge leave the field of all possible experiences and have the appearance of extending the scope of our judgments beyond all limits of experience, and this by means of concepts to which no corresponding object can ever be given in experience.

It is precisely by means of the latter modes of knowledge, in a realm beyond the world of the senses, where experience
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can yield neither guidance nor correction, that our reason carries on those enquiries which owing to their importance we consider to be far more excellent, and in their purpose far more lofty, than all that the understanding can learn in the field of appearances. Indeed we prefer to run every risk of error rather than desist from such urgent enquiries, on the ground of their dubious character, or from disdain and indifference. These unavoidable problems set by pure reason itself are *God, freedom*, and *immortality*. The science which, with all its preparations, is in its final intention directed solely to their solution is metaphysics; and its procedure is at first dogmatic, that is, it confidently sets itself to this task without any previous examination of the capacity or incapacity of reason for so great an undertaking.

Now it does indeed seem natural that, as soon as we have left the ground of experience, we should, through careful enquiries, assure ourselves as to the foundations of any building that we propose to erect, not making use of any knowledge that we possess without first determining whence it has come, and not trusting to principles without knowing their origin. It is natural, that is to say, that the question should first be considered, how the understanding can arrive at all this knowledge *a priori*, and what extent, validity, and worth it may have. Nothing, indeed, could be more natural, if by the term 'natural' we signify what fittingly and reasonably ought to happen. But if we mean by 'natural' what ordinarily happens, then on the contrary nothing is more natural and more intelligible than the fact that this enquiry has been so long neglected. For one part of this knowledge, the mathematical, has long been of established reliability, and so gives rise to a favourable presumption as regards the other part, which may yet be of quite different nature. Besides, once we are outside the circle of experience, we can be sure of not being *contradicted* by

experience. The charm of extending our knowledge is so great that nothing short of encountering a direct contradiction can suffice to arrest us in our course; and this can be avoided, if we are careful in our fabrications -- which none the less will still remain fabrications. Mathematics gives us a shin-
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ing example of how far, independently of experience, we can progress in *a priori* knowledge. It does, indeed, occupy itself with objects and with knowledge solely in so far as they allow of being exhibited in intuition. But this circumstance is easily overlooked, since the intuition, in being thought, can itself be given *a priori*, and is therefore hardly to be distinguished from a bare and pure concept. Misled by such a proof of the power of reason, the demand for the extension of knowledge recognises no limits. The light dove, cleaving the air in her free flight, and feeling its resistance, might imagine that its flight would be still easier in empty space. It was thus that Plato left the world of the senses, as setting too narrow limits to the understanding, and ventured out beyond it on the wings of the ideas, in the empty space of the pure understanding. He did not observe that with all his efforts he made no advance -- meeting no resistance that might, as it were, serve as a support upon which he could take a stand, to which he could apply his powers, and so set his understanding in motion. It is, indeed, the common fate of human reason to complete its speculative structures as speedily as may be, and only afterwards to enquire whether the foundations are reliable. All sorts of excuses will then be appealed to, in order to reassure us of their solidity, or rather indeed to enable us to dispense altogether with so late and so dangerous an enquiry. But what keeps us, during the actual building, free from all apprehension and suspicion, and flatters us with a seeming thoroughness, is this other circumstance, namely, that a great, perhaps the greatest, part of the business of our reason consists in analysis of the concepts which we already have of objects. This analysis supplies us with a considerable body of knowledge, which, while nothing but explanation or elucidation of what has already been thought in our concepts, though in a confused manner, is yet prized as being, at least as regards its form, new insight. But so far as the matter or content is concerned, there has been no extension of our previously possessed concepts, but only an analysis of them. Since this procedure yields real knowledge *a priori*, which
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progresses in an assured and useful fashion, reason is so far misled as surreptitiously to introduce, without itself being aware of so doing, assertions of an entirely different order, in which it attaches to given concepts others completely foreign to them, and moreover attaches them *a priori*. And yet it is not known how reason can be in position to do this. Such a question is never so much as thought of. I shall therefore at once proceed to deal with the difference between these two kinds of knowledge.

IV. THE DISTINCTION BETWEEN ANALYTIC AND SYNTHETIC JUDGMENTS

In all judgments in which the relation of a subject to the predicate is thought (I take into consideration affirmative judgments only, the subsequent application to negative judgments being easily made), this relation is possible in two different ways. Either the predicate to the subject A, as something which is (covertly) contained in this concept A; or outside the concept A, although it does indeed stand in connection with it. In the one case I entitle the judgment analytic, in the other synthetic. Analytic judgments (affirmative) are therefore those in which the connection of the predicate with the subject is thought through identity; those in which this connection is thought without identity should be entitled synthetic. The former, as adding nothing through the predicate to the concept of the subject, but merely breaking it up into those constituent concepts that have all along been thought in it, although confusedly, can also be entitled explicative. The latter, on the other hand, add to the concept of the subject a predicate which has not been in any wise thought

in it, and which no analysis could possibly extract from it; and they may therefore be entitled ampliative. If I say, for instance, 'All bodies are extended', this is an analytic judgment. For I do not require to go beyond the concept which I connect with 'body' in order to find extension as bound up with it. To
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meet with this predicate, I have merely to analyse the concept, that is, to become conscious to myself of the manifold which I always think in that concept. The judgment is therefore analytic. But when I say, 'All bodies are heavy', the predicate is something quite different from anything that I think in the mere concept of body in general; and the addition of such a predicate therefore yields a synthetic judgment.
* Judgments of experience, as such, are one and all synthetic. For it would be absurd to found an analytic judgment on experience. Since, in framing the judgment, I must not go outside my concept, there is no need to appeal to the testimony of experience in its support. That a body is extended is a proposition that holds *a priori* and is not empirical. For, before appealing to experience, I have already in the concept of body all the conditions required for my judgment. I have only to extract from it, in accordance with the principle of contradiction, the required predicate, and in so doing can at the same time become conscious of the necessity of the judgment -- and that is what experience could never have taught me. On the other hand, though I do not include in the concept of a body in general the predicate 'weight', none the less this concept indicates an object of experience through one of its parts, and I can add to that part other parts of this same experience, as in this way belonging together with the concept.
*Thus it is evident: 1. that through analytic judgments our knowledge is not in any way extended, and that the concept which I already have is merely set forth and made intelligible to me; 2. that in synthetic judgments I must have besides the concept of the subject something else (X), upon which the understanding may rely, if it is to know that a predicate, not contained in this concept, nevertheless belongs to it.
In the case of empirical judgments, judgments of experience, there is no difficulty whatsoever in meeting this demand. This X is the complete experience of the object which I think through the concept A -- a concept which forms only one part of this experience.
P 049
From the start
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I can apprehend the concept of body analytically through the characters of extension, impenetrability, figure, etc. , all of which are thought in the concept. Now, however, looking back on the experience from which I have derived this concept of body, and finding weight to be invariably connected with the above characters, I attach it as a predicate to the concept; and in doing so I attach it synthetically, and am therefore extending my knowledge. The possibility of the synthesis of the predicate 'weight' with the concept of 'body' thus rests upon experience. While the one concept is not contained in the other, they yet belong to one another, though only contingently, as parts of a whole, namely, of an experience which is itself a synthetic combination of intuitions.
But in *a priori* synthetic judgments this help is entirely lacking. [I do not here have the advantage of looking around in the field of experience.] Upon what, then, am I to rely, when I seek to go beyond the concept A, and to know that another concept B is connected with it? Through what is the synthesis made possible? Let us take the proposition, 'Everything which happens has its cause'. In the concept of 'something which happens', I do indeed think an existence which is preceded by a time, etc. , and from this concept analytic judgments may be obtained.
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For though I do not include in the concept
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of a body in general the predicate 'weight', the concept none the less indicates the complete experience through one of its

parts; and to this part, as belonging to it, I can therefore add other parts of the same experience. By prior analysis I can apprehend the concept of body through the characters of extension, impenetrability, figure, etc. , all of which are thought in this concept. To extend my knowledge, I then look back to the experience from which I have derived this concept of body, and find that weight is always connected with the above characters. Experience is thus the X which lies outside the concept A, and on which rests the possibility of the synthesis of the predicate 'weight' (B) with the concept (A).

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But the concept of a 'cause' lies entirely outside the other concept, and signifies something different

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from 'that which happens', and is not therefore in any way contained in this latter representation. How come I then to predicate of that which happens something quite different, and to apprehend that the concept of cause, though not contained in it, yet belongs, and indeed necessarily belongs to it? What is here the unknown = X which gives support to the understanding when it believes that it can discover outside the concept A a predicate B foreign to this concept, which it yet at the same time considers to be connected with it? It cannot be experience, because the suggested principle has connected the second representation with the first, not only with greater universality, but also with the character of necessity, and therefore completely *a priori* and on the basis of mere concepts. Upon such synthetic, that is, ampliative principles, all our *a priori* speculative knowledge must ultimately rest; analytic judgments are very important, and indeed necessary, but only for obtaining that clearness in the concepts which is requisite for such a sure and wide synthesis as will lead to a genuinely new addition to all previous knowledge.

* A certain mystery lies here concealed; and only upon its solution can the advance into the limitless field of the knowledge yielded by pure understanding be made sure and trustworthy. What we must do is to discover, in all its proper universality, the ground of the possibility of *a priori* synthetic judgments, to obtain insight into the conditions which make

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each kind of such judgments possible, and to mark out all this knowledge, which forms a genus by itself, not in any cursory outline, but in a system, with completeness and in a manner sufficient for any use, according to its original sources, divisions, extent, and limits. So much, meantime, as regards what is peculiar in synthetic judgments.

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* If it had occurred to any of the ancients even to raise this question, this by itself would, up to our own time, have been a powerful influence against all systems of pure reason, and would have saved us so many of those vain attempts, which have been blindly undertaken without knowledge of what it is that requires to be done.

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V. IN ALL THEORETICAL SCIENCES OF REASON SYNTHETIC *A PRIORI* JUDGMENTS ARE CONTAINED AS PRINCIPLES

1. *All mathematical judgments, without exception, are synthetic*. This fact, though incontestably certain and in its consequences very important, has hitherto escaped the notice of those who are engaged in the analysis of human reason, and is, indeed, directly opposed to all their conjectures. For as it was found that all mathematical inferences proceed in accordance with the principle of contradiction (which the nature of all apodeictic certainty requires), it was supposed that the fundamental propositions of the science can themselves be known to be true through that principle. This is an erroneous view. For though a synthetic proposition can indeed be discerned in accordance with the principle of contradiction, this can only be if another synthetic proposition is presupposed, and if it can then be apprehended as following from this other proposition; it can never be so discerned in and by itself. First of all, it has to be noted that mathematical propositions, strictly so called, are always judgments *a priori*, not

empirical; because they carry with them necessity, which cannot be derived from experience. If this be demurred to, I am willing to limit my statement to *pure* mathematics, the very concept of which implies that it does not contain empirical, but only pure *a priori* knowledge.

We might, indeed, at first suppose that the proposition 7 & 5 = 12 is a merely analytic proposition, and follows by the principle of contradiction from the concept of a sum of 7 and 5. But if we look more closely we find that the concept of the sum of 7 and 5 contains nothing save the union of the two numbers into one, and in this no thought is being taken

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as to what that single number may be which combines both. The concept of 12 is by no means already thought in merely thinking this union of 7 and 5; and I may analyse my concept of such a possible sum as long as I please, still I shall never find the 12 in it. We have to go outside these concepts, and call in the aid of the intuition which corresponds to one of them, our five fingers, for instance, or, as Segner does in his *Arithmetic*, five points, adding to the concept of 7, unit by unit, the five given in intuition. For starting with the number 7, and for the concept of 5 calling in the aid of the fingers of my hand as intuition, I now add one by one to the number 7 the units which I previously took together to form the number 5, and with the aid of that figure [the hand] see the number 12 come into being. That 5 should be added to 7, I have indeed already thought in the concept of a sum = 7 & 5, but not that this sum is equivalent to the number 12. Arithmetical propositions are therefore always synthetic. This is still more evident if we take larger numbers. For it is then obvious that, however we might turn and twist our concepts, we could never, by the mere analysis of them, and without the aid of intuition, discover what [the number is that] is the sum.

Just as little is any fundamental proposition of pure geometry analytic. That the straight line between two points is the shortest, is a synthetic proposition. For my concept of *straight* contains nothing of quantity, but only of quality. The concept of the shortest is wholly an addition, and cannot be derived, through any process of analysis, from the concept of the straight line. Intuition, therefore, must here be called in; only by its aid is the synthesis possible. What here causes us commonly to believe that the predicate of such apodeictic judgments is already contained in our concept, and that the judgment is therefore analytic, is merely the ambiguous character of the terms used. We are required to join in thought a certain predicate to a given concept, and this neces-

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sity is inherent in the concepts themselves. But the question is not what we *ought* to join in thought to the given concept, but what we *actually* think in it, even if only obscurely; and it is then manifest that, while the predicate is indeed attached necessarily to the concept, it is so in virtue of an intuition which must be added to the concept, not as thought in the concept itself.

Some few fundamental propositions, presupposed by the geometrician, are, indeed, really analytic, and rest on the principle of contradiction. But, as identical propositions, they serve only as links in the chain of method and not as principles; for instance, *a* = a; the whole is equal to itself; or (*a & b*) *a*, that is, the whole is greater than its part. And even these propositions, though they are valid according to pure concepts, are only admitted in mathematics because they can be exhibited in intuition.

2. *Natural science (physics) contains* a priori *synthetic judgments as principles*. I need cite only two such judgments: that in all changes of the material world the quantity of matter remains unchanged; and that in all communication of motion, action and reaction must always be equal. Both propositions, it is evident, are not only necessary, and therefore in their origin *a priori*, but also synthetic. For in the concept of matter I do not think its permanence, but only its presence in the space which it occupies. I go outside and beyond the concept of matter, joining to it *a priori* in thought something which I

have not thought *in* it. The proposition is not, therefore, analytic, but synthetic, and yet is thought *a priori*; and so likewise are the other propositions of the pure part of natural science.

3. *Metaphysics*, even if we look upon it as having hitherto failed in all its endeavours, is yet, owing to the nature of human reason, a quite indispensable science, and *ought to contain* a priori *synthetic knowledge*. For its business is not merely to analyse concepts which we make for ourselves *a priori* of things, and thereby to clarify them analytically, but to extend our *a priori* knowledge. And for this purpose we must employ principles which add to the given concept something that was not contained in it, and through *a priori* synthetic judgments venture out so far that experience is quite

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unable to follow us, as, for instance, in the proposition, that the world must have a first beginning, and such like. Thus metaphysics consists, at least *in intention*, entirely of *a priori* synthetic propositions.

VI. THE GENERAL PROBLEM OF PURE REASON

Much is already gained if we can bring a number of investigations under the formula of a single problem. For we not only lighten our own task, by defining it accurately, but make it easier for others, who would test our results, to judge whether or not we have succeeded in what we set out to do.

Now the proper problem of pure reason is contained in the question: How are *a priori* synthetic judgments possible?

That metaphysics has hitherto remained in so vacillating a state of uncertainty and contradiction, is entirely due to the fact that this problem, and perhaps even the distinction between analytic and synthetic judgments, has never previously been considered. Upon the solution of this problem, or upon a sufficient proof that the possibility which it desires to have explained does in fact not exist at all, depends the success or failure of metaphysics. Among philosophers, David Hume came nearest to envisaging this problem, but still was very far from conceiving it with sufficient definiteness and universality. He occupied himself exclusively with the synthetic proposition regarding the connection of an effect with its cause (*principium causalitatis*), and he believed himself to have shown that such an *a priori* proposition is entirely impossible. If we accept his conclusions, then all that we call metaphysics is a mere delusion whereby we fancy ourselves to have rational insight into what, in actual fact, is borrowed solely from experience, and under the influence of custom has taken the illusory semblance of necessity. If he had envisaged our problem in all its universality, he would never have been guilty of this statement, so destructive of all pure philosophy. For he would then have recognised that, according to his own argument, pure mathematics, as certainly containing *a priori* synthetic propositions, would also not be possible; and from such an assertion his good sense would have saved him.

In the solution of the above problem, we are at the same

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time deciding as to the possibility of the employment of pure reason in establishing and developing all those sciences which contain a theoretical *a priori* knowledge of objects, and have therefore to answer the questions:

How is pure mathematics possible?

How is pure science of nature possible?

Since these sciences actually exist, it is quite proper to ask *how* they are possible; for that they must be possible is proved by the fact that they exist. But the poor progress which has hitherto been made in metaphysics, and the fact that no system yet propounded can, in view of the essential purpose of metaphysics, be said really to exist, leaves everyone sufficient ground for doubting as to its possibility.

Yet, in a certain sense, this *kind of knowledge* is to be looked upon as given; that is to say, metaphysics actually exists, if not as a science, yet still as natural disposition (*metaphysica naturalis*). For human reason, without being moved merely by the idle desire for extent and variety of knowledge, proceeds impetuously, driven on by an inward need, to questions such as cannot be answered by any empirical employ-

ment of reason, or by principles thence derived. Thus in all men, as soon as their reason has become ripe for speculation, there has always existed and will always continue to exist some kind of metaphysics. And so we have the question:
How is metaphysics, as natural disposition, possible?
that is, how from the nature of universal human reason do those questions arise which pure reason propounds to itself, and which it is impelled by its own need to answer as best it can?
* Many may still have doubts as regards pure natural science. We have only, however, to consider the various propositions that are to be found at the beginning of (empirical) physics, properly so called, those, for instance, relating to the permanence in the quantity of matter, to inertia, to the equality of action and reaction, etc. , in order to be soon convinced that they constitute a *physica pura*, or *rationalis*, which well deserves, as an independent science, to be separately dealt with in its whole extent, be that narrow or wide.
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But since all attempts which have hitherto been made to answer these natural questions -- for instance, whether the
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world has a beginning or is from eternity -- have always met with unavoidable contradictions, we cannot rest satisfied with the mere natural disposition to metaphysics, that is, with the pure faculty of reason itself, from which, indeed, some sort of metaphysics (be it what it may) always arises. It must be possible for reason to attain to certainty whether we know or do not know the objects of metaphysics, that is, to come to a decision either in regard to the objects of its enquiries or in regard to the capacity or incapacity of reason to pass any judgment upon them, so that we may either with confidence extend our pure reason or set to it sure and determinate limits. This last question, which arises out of the previous general problem, may, rightly stated, take the form:
How is metaphysics, as science, possible?
Thus the critique of reason, in the end, necessarily leads to scientific knowledge; while its dogmatic employment, on the other hand, lands us in dogmatic assertions to which other assertions, equally specious, can always be opposed -- that is, in *scepticism*.
This science cannot be of any very formidable prolixity, since it has to deal not with the objects of reason, the variety of which is inexhaustible, but only with itself and the problems which arise entirely from within itself, and which are imposed upon it by its own nature, not by the nature of things which are distinct from it. When once reason has learnt completely to understand its own power in respect of objects which can be presented to it in experience, it should easily be able to determine, with completeness and certainty, the extent and the limits of its attempted employment beyond the bounds of all experience.
We may, then, and indeed we must, regard as abortive all attempts, hitherto made, to establish a metaphysic *dogmatically*. For the analytic part in any such attempted system, namely, the mere analysis of the concepts that inhere in our reason *a priori*, is by no means the aim of, but only a preparation for, metaphysics proper, that is, the extension of its *a priori* synthetic knowledge. For such a purpose, the analysis of concepts is useless, since it merely shows what is contained in these concepts, not how we arrive at them *a priori*. A solution
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of this latter problem is required, that we may be able to determine the valid employment of such concepts in regard to the objects of all knowledge in general. Nor is much self-denial needed to give up these claims, seeing that the undeniable, and in the dogmatic procedure of reason also unavoidable, contradictions of reason with itself have long since undermined the authority of every metaphysical system yet propounded. Greater firmness will be required if we are not to be deterred by inward difficulties and outward opposition from endeavouring, through application of a method entirely different from any hitherto employed, at last to bring to a prosperous and fruitful growth a science indispensable to human reason -- a

science whose every branch may be cut away but whose root cannot be destroyed.

VII. THE IDEA AND DIVISION OF A SPECIAL SCIENCE, UNDER THE TITLE "CRITIQUE OF PURE REASON"

In view of all these considerations, we arrive at the idea of a special science which can be entitled the Critique of Pure Reason. * For reason is the faculty which supplies the principles of *a priori* knowledge. Pure reason is, therefore, that which contains the principles whereby we know anything absolutely *a priori*. An organon of pure reason would be the sum-total of those principles according to which all modes of pure *a priori* knowledge can be acquired and actually brought into being. The exhaustive application of such an organon would give rise to a system of pure reason. But as this would be asking rather much, and as it is still doubtful whether, and in what cases, any extension of our knowledge be here possible, we

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can regard a science of the mere examination of pure reason, of its sources and limits, as the *propaedeutic* to the system of pure reason.

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*Any knowledge is entitled pure, if it be not mixed with anything extraneous. But knowledge is more particularly to be called absolutely pure, if no experience or sensation whatsoever be mingled with it, and if it be therefore possible completely *a priori*.

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As such, it should be called a critique, not a doctrine, of pure reason. Its utility, in speculation, ought properly to be only negative, not to extend, but only to clarify our reason, and keep it free from errors -- which is already a very great gain. I entitle *transcendental* all knowledge which is occupied not so much with objects as with the mode of our knowledge of objects in so far as this mode of knowledge is to be possible *a priori*. A system of such concepts might be entitled transcendental philosophy. But that is still, at this stage, too large an undertaking. For since such a science must contain, with completeness, both kinds of *a priori* knowledge, the analytic no less than the synthetic, it is, so far as our present purpose is concerned, much too comprehensive. We have to carry the analysis so far only as is indispensably necessary in order to comprehend, in their whole extent, the principles of *a priori* synthesis, with which alone we are called upon to deal. It is upon this enquiry, which should be entitled not a doctrine, but only a transcendental critique, that we are now engaged. Its purpose is not to extend knowledge, but only to correct it, and to supply a touchstone of the value, or lack of value, of all *a priori* knowledge. Such a critique is therefore a preparation, so far as may be possible, for an organon; and should this turn out not to be possible, then at least for a canon, according to which, in due course, the complete system of the philosophy of pure reason -- be it in extension or merely in limitation of its knowledge -- may be carried into execution, analytically as well as synthetically. That such a system is possible, and indeed that it may not be of such great extent as to cut us off from the hope of entirely completing it, may already be gathered from the fact that what here constitutes our subject-matter is not the nature of things, which is inexhaustible, but the understanding which passes judgment upon the nature of things; and this understanding, again, only in respect of its *a priori* knowledge. These *a priori* possessions of the understanding, since they

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have not to be sought for without, cannot remain hidden from of our apprehending them in their completeness of judging them. Still less may the reader here expect a critique of books and systems of pure reason; we are concerned only with the critique of the faculty of pure reason itself. Only in so far as we build upon this foundation do we have a reliable touchstone for estimating the philosophical value of old and new works in this field. Otherwise the unqualified historian or critic is passing judgments upon the groundless assertions of others by means of his own, which are equally groundless.

Transcendental philosophy is only the idea of a science, for which the critique of pure reason has to lay down the complete architectonic plan. That is to say, it has to guarantee, as following from principles, the completeness and certainty of the structure in all its parts. It is the system of all principles of pure reason. And if this critique is not itself to be entitled a transcendental philosophy, it is solely because, to be a complete system, it would also have to contain an exhaustive analysis of the whole of *a priori* human knowledge. Our critique must, indeed, supply a complete enumeration of all the fundamental concepts that go to constitute such pure knowledge. But it is not required to give an exhaustive analysis of these concepts, nor a complete review of those that can be derived from them. Such a demand would be unreasonable, partly because this analysis would not be appropriate to our main purpose, inasmuch as there is no such uncertainty in regard to analysis as we encounter in the case of synthesis, for the sake of which alone our whole critique is undertaken; and partly because it would be inconsistent with the unity of our plan to assume responsibility for the completeness of such an analysis and derivation, when in view of our purpose we can be excused from doing so. The analysis of these *a priori* concepts, which later we shall have to enumerate, and the derivation of other concepts from them, can easily, how-

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ever, be made complete when once they have been established as exhausting the principles of synthesis, and if in this essential respect nothing be lacking in them.

The critique of pure reason therefore will contain all that is essential in transcendental philosophy. While it is the complete idea of transcendental philosophy, it is not equivalent to that latter science; for it carries the analysis only so far as is requisite for the complete examination of knowledge which is *a priori* and synthetic.

What has chiefly to be kept in view in the division of such a science, is that no concepts be allowed to enter which contain in themselves anything empirical, or, in other words, that it consist in knowledge wholly *a priori*. Accordingly, although the highest principles and fundamental concepts of morality are *a priori* knowledge, they have no place in transcendental philosophy, because, although they do not lay at the foundation of their precepts the concepts of pleasure and pain, of the desires and inclinations, etc. , all of which are of empirical origin, yet in the construction of a system of pure morality these empirical concepts must necessarily be brought into the concept of duty, as representing either a hindrance, which we have to overcome, or an allurement, which must not be made into a motive. Transcendental philosophy is therefore a philosophy of pure and merely speculative reason. All that is practical, so far as it contains motives, relates to feelings, and these belong to the empirical sources of knowledge.

If we are to make a systematic division of the science which we are engaged in presenting, it must have first a *doctrine of the elements*, and secondly, a *doctrine of the method of pure reason*. Each of these chief divisions will have its subdivisions, but the grounds of these we are not yet in a position to explain. By way of introduction or anticipation we need only say that there are two stems of human knowledge, namely, *sensibility* and *understanding*, which perhaps spring from a common, but to us unknown, root. Through the former, objects are given to us; through the latter, they are

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thought. Now in so far as sensibility may be found to contain *a priori* representations constituting the condition under which objects are given to us, it will belong to transcendental philosophy. And since the conditions under which alone the objects of human knowledge are given must precede those under which they are thought, the transcendental doctrine of sensibility will constitute the first part of the science of the elements.

Bertrand Russell

The Problems of Philosophy

Chapters 1, 2

CHAPTER I

APPEARANCE AND REALITY

Is there any knowledge in the world which is so certain that no reasonable man could doubt it? This question, which at first sight might not seem difficult, is really one of the most difficult that can be asked. When we have realized the obstacles in the way of a straightforward and confident answer, we shall be well launched on the study of philosophy−−for philosophy is merely the attempt to answer such ultimate questions, not carelessly and dogmatically, as we do in ordinary life and even in the sciences, but critically, after exploring all that makes such questions puzzling, and after realizing all the vagueness and confusion that underlie our ordinary ideas.

In daily life, we assume as certain many things which, on a closer scrutiny, are found to be so full of apparent contradictions that only a great amount of thought enables us to know what it is that we really may believe. In the search for certainty, it is natural to begin with our present experiences, and in some sense, no doubt, knowledge is to be derived from them. But any statement as to what it is that our immediate experiences make us know is very likely to be wrong. It seems to me that I am now sitting in a chair, at a table of a certain shape, on which I see sheets of paper with writing or print. By turning my head I see out of the window buildings and clouds and the sun. I believe that the sun is about ninety−three million miles from the earth; that it is a hot globe many times bigger than the earth; that, owing to the earth's rotation, it rises every morning, and will continue to do so for an indefinite time in the future. I believe that, if any other normal person comes into my room, he will see the same chairs and tables and books and papers as I see, and that the table which I see is the same as the table which I feel pressing against my arm. All this seems to be so evident as to be hardly worth stating, except in answer to a man who doubts whether I know anything. Yet all this may be reasonably doubted, and all of it requires much careful discussion before we can be sure that we have stated it in a form that is wholly true.

To make our difficulties plain, let us concentrate attention on the table. To the eye it is oblong, brown and shiny, to the touch it is smooth and cool and hard; when I tap it, it gives out a wooden sound. Any one else who sees and feels and hears the table will agree with this description, so that it might seem as if no difficulty would arise; but as soon as we try to be more precise our troubles begin. Although I believe that the table is 'really' of the same colour all over, the parts that reflect the light look much brighter than the other parts, and some parts look white because of reflected light. I know that, if I move, the parts that reflect the light will be different, so that the apparent distribution of colours on the table will change. It follows that if several people are looking at the table at the same moment, no two of them will see exactly the same distribution of colours, because no two can see it from exactly the same point of view, and any change in the point of view makes some change in the way the light is reflected.

For most practical purposes these differences are unimportant, but to the painter they are all−important: the painter has to unlearn the habit of thinking that things seem to have the colour which common sense says they 'really' have, and to learn the habit of seeing things as they appear. Here we have already the beginning of one of the distinctions that cause most trouble in philosophy−−the distinction between 'appearance' and 'reality', between what things seem to be and what they are. The painter wants to know what things seem to be, the practical man and the philosopher want to know what they are; but the philosopher's wish to know this is stronger than the practical man's, and is more troubled by knowledge as to the difficulties of answering the question.

To return to the table. It is evident from what we have found, that there is no colour which pre−eminently appears to be *the* colour of the table, or even of any one particular part of the table−−it appears to be of different colours from different points of view, and there is no reason for regarding some of these as more

really its colour than others. And we know that even from a given point of view the colour will seem different by artificial light, or to a colour−blind man, or to a man wearing blue spectacles, while in the dark there will be no colour at all, though to touch and hearing the table will be unchanged. This colour is not something which is inherent in the table, but something depending upon the table and the spectator and the way the light falls on the table. When, in ordinary life, we speak of *the* colour of the table, we only mean the sort of colour which it will seem to have to a normal spectator from an ordinary point of view under usual conditions of light. But the other colours which appear under other conditions have just as good a right to be considered real; and therefore, to avoid favouritism, we are compelled to deny that, in itself, the table has any one particular colour.

The same thing applies to the texture. With the naked eye one can see the grain, but otherwise the table looks smooth and even. If we looked at it through a microscope, we should see roughnesses and hills and valleys, and all sorts of differences that are imperceptible to the naked eye. Which of these is the 'real' table? We are naturally tempted to say that what we see through the microscope is more real, but that in turn would be changed by a still more powerful microscope. If, then, we cannot trust what we see with the naked eye, why should we trust what we see through a microscope? Thus, again, the confidence in our senses with which we began deserts us.

The shape of the table is no better. We are all in the habit of judging as to the 'real' shapes of things, and we do this so unreflectingly that we come to think we actually see the real shapes. But, in fact, as we all have to learn if we try to draw, a given thing looks different in shape from every different point of view. If our table is 'really' rectangular, it will look, from almost all points of view, as if it had two acute angles and two obtuse angles. If opposite sides are parallel, they will look as if they converged to a point away from the spectator; if they are of equal length, they will look as if the nearer side were longer. All these things are not commonly noticed in looking at a table, because experience has taught us to construct the 'real' shape from the apparent shape, and the 'real' shape is what interests us as practical men. But the 'real' shape is not what we see; it is something inferred from what we see. And what we see is constantly changing in shape as we move about the room; so that here again the senses seem not to give us the truth about the table itself, but only about the appearance of the table.

Similar difficulties arise when we consider the sense of touch. It is true that the table always gives us a sensation of hardness, and we feel that it resists pressure. But the sensation we obtain depends upon how hard we press the table and also upon what part of the body we press with; thus the various sensations due to various pressures or various parts of the body cannot be supposed to reveal *directly* any definite property of the table, but at most to be *signs* of some property which perhaps *causes* all the sensations, but is not actually apparent in any of them. And the same applies still more obviously to the sounds which can be elicited by rapping the table.

Thus it becomes evident that the real table, if there is one, is not the same as what we immediately experience by sight or touch or hearing. The real table, if there is one, is not *immediately* known to us at all, but must be an inference from what is immediately known. Hence, two very difficult questions at once arise; namely, (1) Is there a real table at all? (2) If so, what sort of object can it be?

It will help us in considering these questions to have a few simple terms of which the meaning is definite and clear. Let us give the name of 'sense−data' to the things that are immediately known in sensation: such things as colours, sounds, smells, hardnesses, roughnesses, and so on. We shall give the name 'sensation' to the experience of being immediately aware of these things. Thus, whenever we see a colour, we have a sensation *of* the colour, but the colour itself is a sense−datum, not a sensation. The colour is that *of* which we are immediately aware, and the awareness itself is the sensation. It is plain that if we are to know anything about the table, it must be by means of the sense−data−−brown colour, oblong shape, smoothness, etc.−−which we associate with the table; but, for the reasons which have been given, we cannot say that the table is the sense−data, or even that the sense−data are directly properties of the table. Thus a problem arises as to the

relation of the sense−data to the real table, supposing there is such a thing.

The real table, if it exists, we will call a 'physical object'. Thus we have to consider the relation of sense−data to physical objects. The collection of all physical objects is called 'matter'. Thus our two questions may be re−stated as follows: (1) Is there any such thing as matter? (2) If so, what is its nature?

The philosopher who first brought prominently forward the reasons for regarding the immediate objects of our senses as not existing independently of us was Bishop Berkeley (1685−1753). His _Three Dialogues between Hylas and Philonous, in Opposition to Sceptics and Atheists_, undertake to prove that there is no such thing as matter at all, and that the world consists of nothing but minds and their ideas. Hylas has hitherto believed in matter, but he is no match for Philonous, who mercilessly drives him into contradictions and paradoxes, and makes his own denial of matter seem, in the end, as if it were almost common sense. The arguments employed are of very different value: some are important and sound, others are confused or quibbling. But Berkeley retains the merit of having shown that the existence of matter is capable of being denied without absurdity, and that if there are any things that exist independently of us they cannot be the immediate objects of our sensations.

There are two different questions involved when we ask whether matter exists, and it is important to keep them clear. We commonly mean by 'matter' something which is opposed to 'mind', something which we think of as occupying space and as radically incapable of any sort of thought or consciousness. It is chiefly in this sense that Berkeley denies matter; that is to say, he does not deny that the sense−data which we commonly take as signs of the existence of the table are really signs of the existence of *something* independent of us, but he does deny that this something is non−mental, that it is neither mind nor ideas entertained by some mind. He admits that there must be something which continues to exist when we go out of the room or shut our eyes, and that what we call seeing the table does really give us reason for believing in something which persists even when we are not seeing it. But he thinks that this something cannot be radically different in nature from what we see, and cannot be independent of seeing altogether, though it must be independent of *our* seeing. He is thus led to regard the 'real' table as an idea in the mind of God. Such an idea has the required permanence and independence of ourselves, without being−−as matter would otherwise be−−something quite unknowable, in the sense that we can only infer it, and can never be directly and immediately aware of it.

Other philosophers since Berkeley have also held that, although the table does not depend for its existence upon being seen by me, it does depend upon being seen (or otherwise apprehended in sensation) by *some* mind−−not necessarily the mind of God, but more often the whole collective mind of the universe. This they hold, as Berkeley does, chiefly because they think there can be nothing real−−or at any rate nothing known to be real except minds and their thoughts and feelings. We might state the argument by which they support their view in some such way as this: 'Whatever can be thought of is an idea in the mind of the person thinking of it; therefore nothing can be thought of except ideas in minds; therefore anything else is inconceivable, and what is inconceivable cannot exist.'

Such an argument, in my opinion, is fallacious; and of course those who advance it do not put it so shortly or so crudely. But whether valid or not, the argument has been very widely advanced in one form or another; and very many philosophers, perhaps a majority, have held that there is nothing real except minds and their ideas. Such philosophers are called 'idealists'. When they come to explaining matter, they either say, like Berkeley, that matter is really nothing but a collection of ideas, or they say, like Leibniz (1646−1716), that what appears as matter is really a collection of more or less rudimentary minds.

But these philosophers, though they deny matter as opposed to mind, nevertheless, in another sense, admit matter. It will be remembered that we asked two questions; namely, (1) Is there a real table at all? (2) If so, what sort of object can it be? Now both Berkeley and Leibniz admit that there is a real table, but Berkeley says it is certain ideas in the mind of God, and Leibniz says it is a colony of souls. Thus both of them answer our first question in the affirmative, and only diverge from the views of ordinary mortals in their answer to our

second question. In fact, almost all philosophers seem to be agreed that there is a real table: they almost all agree that, however much our sense−data−−colour, shape, smoothness, etc.−−may depend upon us, yet their occurrence is a sign of something existing independently of us, something differing, perhaps, completely from our sense−data, and yet to be regarded as causing those sense−data whenever we are in a suitable relation to the real table.

Now obviously this point in which the philosophers are agreed−−the view that there *is* a real table, whatever its nature may be−−is vitally important, and it will be worth while to consider what reasons there are for accepting this view before we go on to the further question as to the nature of the real table. Our next chapter, therefore, will be concerned with the reasons for supposing that there is a real table at all.

Before we go farther it will be well to consider for a moment what it is that we have discovered so far. It has appeared that, if we take any common object of the sort that is supposed to be known by the senses, what the senses *immediately* tell us is not the truth about the object as it is apart from us, but only the truth about certain sense−data which, so far as we can see, depend upon the relations between us and the object. Thus what we directly see and feel is merely 'appearance', which we believe to be a sign of some 'reality' behind. But if the reality is not what appears, have we any means of knowing whether there is any reality at all? And if so, have we any means of finding out what it is like?

Such questions are bewildering, and it is difficult to know that even the strangest hypotheses may not be true. Thus our familiar table, which has roused but the slightest thoughts in us hitherto, has become a problem full of surprising possibilities. The one thing we know about it is that it is not what it seems. Beyond this modest result, so far, we have the most complete liberty of conjecture. Leibniz tells us it is a community of souls: Berkeley tells us it is an idea in the mind of God; sober science, scarcely less wonderful, tells us it is a vast collection of electric charges in violent motion.

Among these surprising possibilities, doubt suggests that perhaps there is no table at all. Philosophy, if it cannot *answer* so many questions as we could wish, has at least the power of *asking* questions which increase the interest of the world, and show the strangeness and wonder lying just below the surface even in the commonest things of daily life.

CHAPTER II

THE EXISTENCE OF MATTER

In this chapter we have to ask ourselves whether, in any sense at all, there is such a thing as matter. Is there a table which has a certain intrinsic nature, and continues to exist when I am not looking, or is the table merely a product of my imagination, a dream−table in a very prolonged dream? This question is of the greatest importance. For if we cannot be sure of the independent existence of objects, we cannot be sure of the independent existence of other people's bodies, and therefore still less of other people's minds, since we have no grounds for believing in their minds except such as are derived from observing their bodies. Thus if we cannot be sure of the independent existence of objects, we shall be left alone in a desert−−it may be that the whole outer world is nothing but a dream, and that we alone exist. This is an uncomfortable possibility; but although it cannot be strictly proved to be false, there is not the slightest reason to suppose that it is true. In this chapter we have to see why this is the case.

Before we embark upon doubtful matters, let us try to find some more or less fixed point from which to start. Although we are doubting the physical existence of the table, we are not doubting the existence of the sense−data which made us think there was a table; we are not doubting that, while we look, a certain colour and shape appear to us, and while we press, a certain sensation of hardness is experienced by us. All this, which is psychological, we are not calling in question. In fact, whatever else may be doubtful, some at least of our immediate experiences seem absolutely certain.

Descartes (1596−1650), the founder of modern philosophy, invented a method which may still be used with profit−−the method of systematic doubt. He determined that he would believe nothing which he did not see quite clearly and distinctly to be true. Whatever he could bring himself to doubt, he would doubt, until he saw reason for not doubting it. By applying this method he gradually became convinced that the only existence of which he could be *quite* certain was his own. He imagined a deceitful demon, who presented unreal things to his senses in a perpetual phantasmagoria; it might be very improbable that such a demon existed, but still it was possible, and therefore doubt concerning things perceived by the senses was possible.

But doubt concerning his own existence was not possible, for if he did not exist, no demon could deceive him. If he doubted, he must exist; if he had any experiences whatever, he must exist. Thus his own existence was an absolute certainty to him. 'I think, therefore I am,' he said (_Cogito, ergo sum_); and on the basis of this certainty he set to work to build up again the world of knowledge which his doubt had laid in ruins. By inventing the method of doubt, and by showing that subjective things are the most certain, Descartes performed a great service to philosophy, and one which makes him still useful to all students of the subject.

But some care is needed in using Descartes' argument. 'I think, therefore I am' says rather more than is strictly certain. It might seem as though we were quite sure of being the same person to−day as we were yesterday, and this is no doubt true in some sense. But the real Self is as hard to arrive at as the real table, and does not seem to have that absolute, convincing certainty that belongs to particular experiences. When I look at my table and see a certain brown colour, what is quite certain at once is not '*I* am seeing a brown colour', but rather, 'a brown colour is being seen'. This of course involves something (or somebody) which (or who) sees the brown colour; but it does not of itself involve that more or less permanent person whom we call ' I'. So far as immediate certainty goes, it might be that the something which sees the brown colour is quite momentary, and not the same as the something which has some different experience the next moment.

Thus it is our particular thoughts and feelings that have primitive certainty. And this applies to dreams and hallucinations as well as to normal perceptions: when we dream or see a ghost, we certainly do have the sensations we think we have, but for various reasons it is held that no physical object corresponds to these sensations. Thus the certainty of our knowledge of our own experiences does not have to be limited in any way to allow for exceptional cases. Here, therefore, we have, for what it is worth, a solid basis from which to begin our pursuit of knowledge.

The problem we have to consider is this: Granted that we are certain of our own sense−data, have we any reason for regarding them as signs of the existence of something else, which we can call the physical object? When we have enumerated all the sense−data which we should naturally regard as connected with the table, have we said all there is to say about the table, or is there still something else−−something not a sense−datum, something which persists when we go out of the room? Common sense unhesitatingly answers that there is. What can be bought and sold and pushed about and have a cloth laid on it, and so on, cannot be a *mere* collection of sense−data. If the cloth completely hides the table, we shall derive no sense−data from the table, and therefore, if the table were merely sense−data, it would have ceased to exist, and the cloth would be suspended in empty air, resting, by a miracle, in the place where the table formerly was. This seems plainly absurd; but whoever wishes to become a philosopher must learn not to be frightened by absurdities.

One great reason why it is felt that we must secure a physical object in addition to the sense−data, is that we want the same object for different people. When ten people are sitting round a dinner−table, it seems preposterous to maintain that they are not seeing the same tablecloth, the same knives and forks and spoons and glasses. But the sense−data are private to each separate person; what is immediately present to the sight of one is not immediately present to the sight of another: they all see things from slightly different points of view, and therefore see them slightly differently. Thus, if there are to be public neutral objects, which can be in some sense known to many different people, there must be something over and above the private and particular sense−data which appear to various people. What reason, then, have we for believing that there are such public neutral objects?

The first answer that naturally occurs to one is that, although different people may see the table slightly differently, still they all see more or less similar things when they look at the table, and the variations in what they see follow the laws of perspective and reflection of light, so that it is easy to arrive at a permanent object underlying all the different people's sense−data. I bought my table from the former occupant of my room; I could not buy *his* sense−data, which died when he went away, but I could and did buy the confident expectation of more or less similar sense−data. Thus it is the fact that different people have similar sense−data, and that one person in a given place at different times has similar sense−data, which makes us suppose that over and above the sense−data there is a permanent public object which underlies or causes the sense−data of various people at various times.

Now in so far as the above considerations depend upon supposing that there are other people besides ourselves, they beg the very question at issue. Other people are represented to me by certain sense−data, such as the sight of them or the sound of their voices, and if I had no reason to believe that there were physical objects independent of my sense−data, I should have no reason to believe that other people exist except as part of my dream. Thus, when we are trying to show that there must be objects independent of our own sense−data, we cannot appeal to the testimony of other people, since this testimony itself consists of sense−data, and does not reveal other people's experiences unless our own sense−data are signs of things existing independently of us. We must therefore, if possible, find, in our own purely private experiences, characteristics which show, or tend to show, that there are in the world things other than ourselves and our private experiences.

In one sense it must be admitted that we can never prove the existence of things other than ourselves and our experiences. No logical absurdity results from the hypothesis that the world consists of myself and my thoughts and feelings and sensations, and that everything else is mere fancy. In dreams a very complicated world may seem to be present, and yet on waking we find it was a delusion; that is to say, we find that the sense−data in the dream do not appear to have corresponded with such physical objects as we should naturally infer from our sense−data. (It is true that, when the physical world is assumed, it is possible to find physical causes for the sense−data in dreams: a door banging, for instance, may cause us to dream of a naval engagement. But although, in this case, there is a physical cause for the sense−data, there is not a physical object corresponding to the sense−data in the way in which an actual naval battle would correspond.) There is no logical impossibility in the supposition that the whole of life is a dream, in which we ourselves create all the objects that come before us. But although this is not logically impossible, there is no reason whatever to suppose that it is true; and it is, in fact, a less simple hypothesis, viewed as a means of accounting for the facts of our own life, than the common−sense hypothesis that there really are objects independent of us, whose action on us causes our sensations.

The way in which simplicity comes in from supposing that there really are physical objects is easily seen. If the cat appears at one moment in one part of the room, and at another in another part, it is natural to suppose that it has moved from the one to the other, passing over a series of intermediate positions. But if it is merely a set of sense−data, it cannot have ever been in any place where I did not see it; thus we shall have to suppose that it did not exist at all while I was not looking, but suddenly sprang into being in a new place. If the cat exists whether I see it or not, we can understand from our own experience how it gets hungry between one meal and the next; but if it does not exist when I am not seeing it, it seems odd that appetite should grow during non−existence as fast as during existence. And if the cat consists only of sense−data, it cannot be hungry, since no hunger but my own can be a sense−datum to me. Thus the behaviour of the sense−data which represent the cat to me, though it seems quite natural when regarded as an expression of hunger, becomes utterly inexplicable when regarded as mere movements and changes of patches of colour, which are as incapable of hunger as a triangle is of playing football.

But the difficulty in the case of the cat is nothing compared to the difficulty in the case of human beings. When human beings speak−−that is, when we hear certain noises which we associate with ideas, and simultaneously see certain motions of lips and expressions of face−−it is very difficult to suppose that what

we hear is not the expression of a thought, as we know it would be if we emitted the same sounds. Of course similar things happen in dreams, where we are mistaken as to the existence of other people. But dreams are more or less suggested by what we call waking life, and are capable of being more or less accounted for on scientific principles if we assume that there really is a physical world. Thus every principle of simplicity urges us to adopt the natural view, that there really are objects other than ourselves and our sense−data which have an existence not dependent upon our perceiving them.

Of course it is not by argument that we originally come by our belief in an independent external world. We find this belief ready in ourselves as soon as we begin to reflect: it is what may be called an *instinctive* belief. We should never have been led to question this belief but for the fact that, at any rate in the case of sight, it seems as if the sense−datum itself were instinctively believed to be the independent object, whereas argument shows that the object cannot be identical with the sense−datum. This discovery, however−−which is not at all paradoxical in the case of taste and smell and sound, and only slightly so in the case of touch−−leaves undiminished our instinctive belief that there *are* objects *corresponding* to our sense−data. Since this belief does not lead to any difficulties, but on the contrary tends to simplify and systematize our account of our experiences, there seems no good reason for rejecting it. We may therefore admit−−though with a slight doubt derived from dreams−−that the external world does really exist, and is not wholly dependent for its existence upon our continuing to perceive it.

The argument which has led us to this conclusion is doubtless less strong than we could wish, but it is typical of many philosophical arguments, and it is therefore worth while to consider briefly its general character and validity. All knowledge, we find, must be built up upon our instinctive beliefs, and if these are rejected, nothing is left. But among our instinctive beliefs some are much stronger than others, while many have, by habit and association, become entangled with other beliefs, not really instinctive, but falsely supposed to be part of what is believed instinctively.

Philosophy should show us the hierarchy of our instinctive beliefs, beginning with those we hold most strongly, and presenting each as much isolated and as free from irrelevant additions as possible. It should take care to show that, in the form in which they are finally set forth, our instinctive beliefs do not clash, but form a harmonious system. There can never be any reason for rejecting one instinctive belief except that it clashes with others; thus, if they are found to harmonize, the whole system becomes worthy of acceptance.

It is of course *possible* that all or any of our beliefs may be mistaken, and therefore all ought to be held with at least some slight element of doubt. But we cannot have *reason* to reject a belief except on the ground of some other belief. Hence, by organizing our instinctive beliefs and their consequences, by considering which among them is most possible, if necessary, to modify or abandon, we can arrive, on the basis of accepting as our sole data what we instinctively believe, at an orderly systematic organization of our knowledge, in which, though the *possibility* of error remains, its likelihood is diminished by the interrelation of the parts and by the critical scrutiny which has preceded acquiescence.

This function, at least, philosophy can perform. Most philosophers, rightly or wrongly, believe that philosophy can do much more than this−−that it can give us knowledge, not otherwise attainable, concerning the universe as a whole, and concerning the nature of ultimate reality. Whether this be the case or not, the more modest function we have spoken of can certainly be performed by philosophy, and certainly suffices, for those who have once begun to doubt the adequacy of common sense, to justify the arduous and difficult labours that philosophical problems involve.

CHAPTER III

THE NATURE OF MATTER

Ludwig Wittgenstein

Philosophical Investigations

Paragraphs 1 – 50

A longer but non-complete version of the text is available at
http://www.galilean-library.org/pi1.html

1. "When they (my elders) named some object, and accordingly moved towards something, I saw this and I grasped that that the thing was called by the sound they uttered when they meant to point it out. Their intention was shown by their bodily movements, as it were the natural language of all peoples; the expression of the face, the play of the eyes, the movement of other parts of the body, and the tone of the voice which expresses our state of mind in seeking, having, rejecting, or avoiding something. Thus, as I heard words repeatedly used in their proper places in various sentences, I gradually learnt to understand what objects they signified; and after I had trained my mouth to form these signs, I used them to express my own desires."

These words, it seems to me, give us a particular picture of the essence of human language. It is this: the individual words in language name objects--sentences are combinations of such names.--In this picture of language we find the roots of the following idea: Every word has a meaning. The meaning is correlated with the word. It is the object for which the word stands.

Augustine does not speak of there being any difference between kinds of word. If you describe the learning of language in this way you are, I believe, thinking primarily of nouns like 'table', 'chair', 'bread', and of people's names, and only secondarily of the names of certain actions and properties; and of the remaining kinds of word as something that will take care of itself.

Now think of the following use of language: I send someone shopping. I give him a slip marked 'five red apples'. He takes the slip to the shopkeeper, who opens the drawer marked 'apples', then he looks up the word 'red' in a table and finds a colour sample opposite it; then he says the series of cardinal numbers--I assume that he knows them by heart--up to the word 'five' and for each number he takes an apple of the same colour as the sample out of the drawer.--It is in this and similar ways that one operates with words--"But how does he know where and how he is to look up the word 'red' and what he is to do with the word 'five'?" --- Well, I assume that he 'acts' as I have described. Explanations come to an end somewhere.-- But what is the meaning of the word 'five'? --No such thing was in question here, only how the word 'five' is used.

2. That philosophical concept of meaning has its place in a primitive idea of the way language functions. But one can also say that it is the idea of a language more primitive than ours.

Let us imagine a language ...The language is meant to serve for communication between a builder A and an assistant B. A is building with building-stones; there are blocks, pillars, slabs and beams. B has to pass the stones, and that in the order in which A needs them. For this purpose they use a language consisting of the words 'block', 'pillar', 'slab', 'beam'. A calls them out; --B brings the stone which he has learnt to bring at such-and-such a call. -- Conceive this as a complete primitive language.

3. Augustine, we might say, does describe a system of communication; only not everything that we call language is this system. And one has to say this in many cases where the question arises 'Is this an appropriate description or not?' The answer is: 'Yes, it is appropriate, but only for this narrowly circumscribed region, not for the whole of what you were claiming to describe."

It is as if someone were to say: "A game consists in moving objects about on a surface according to certain rules..." --and we replied: You seem to be thinking of board games, but there are others. You can make your definition correct by expressly restricting it to those games.

4. Imagine a script in which the letters were used to stand for sounds, and also as signs of emphasis and punctuation. (A script can be conceived as a language for describing sound-patterns.) Now imagine someone interpreting that script as if there were simple a correspondence of letters to sounds and as if the letters had not also completely different functions. Augustine's conception of language is like such an over-simple conception of the script.

5. If we look at the example in (1), we may perhaps get an inkling how much this general notion of the meaning of a word surrounds the working of language with a haze which makes clear vision impossible. It disperses the fog to study the phenomena of language in primitive kinds of application in which one can command a clear view of the aim and functioning of the words.

A child uses such primitive forms of language when it learns to talk. Here the teaching of language is not explanation, but training.

6. We could imagine that the language of was the whole language of A and B; even the whole language of a tribe. The children are brought up to perform these actions, to use these words as they do so, and to react in this way to the words of others. An important part of the training will consist in the teacher's pointing to the objects, directing the child's attention to them, and at the same time uttering a word; for instance, the word "slab" as he points to that shape.

(I do not want to call this "ostensive definition", because the child cannot as yet ask what the name is. I will call it "ostensive teaching of words".----- I say that it will form an important part of the training, because it is so with human beings; not because it could not be imagine otherwise.)

This ostensive teaching of words can be said to establish an association between the word and the thing. But what does this mean? Well, it can mean various things: but one very likely thinks first of all that a picture of the object comes before the child's mind when it hears the word. But now, if this does happen---is it the purpose of the word?

---Yes, it can be the purpose.--- I can imagine such a use of words (of series of sounds). (Uttering a word is like striking a note on the keyboard of the imagination.) But in the language of it is not the purpose of the words to evoke images. (It may, of course, be discovered that that helps to attain the actual purpose.)

But if the ostensive teaching has this effect, ---am I to say that it effects an understanding of the word? Don't you understand the call "Slab!" if you act upon it in such-and-such a way?--- Doubtless the ostensive teaching helped to bring this about; but only together with a particular training. With different training the same ostensive teaching of these words would have effected a quite different understanding.

"I set the brake up by connecting up rod and lever."---Yes, given the whole of the rest of the mechanism. Only in conjunction with that is it a brake-lever, and separated from its support it is not even a lever; it may be anything, or nothing.

7. In the practice of the use of language one party calls out the words, the other acts on them. In instruction in the language the following process will occur: the learner names the objects; that is, he utters the word when the teacher points to the stone. ---And there will be this still simpler exercise: the pupil repeats the words after the teacher--- both of these being processes resembling language.

We can also think of the whole process of using words in as one of those games by means of which children learn their native language. I will call these games "language-games" and will sometimes speak of a primitive language as a language-game.

And the processes of naming the stones and of repeating words after someone might also be called language-games. Think of much of the use words in games like ring-a-ring-a-roses.

I shall also call the whole, consisting of language and the actions into which it is woven, the "language-game".

8. Let us now look at an expansion of language. Besides the four words "block", "pillar", etc., let it contain a series of words used as the shopkeeper in used the numerals (it can be the series of letters of the alphabet); further, let there be two words, which may as well be "there" and "this" (because this roughly indicates their purpose), that are used in connexion with a pointing gesture; and finally a number of colour samples. A gives an order like: "d---slab---there". At the same time he shews the assistant a colour sample, and when he says "there" he points to a place on the building site. From the stock of slabs B takes one for each letter of the alphabet up to "d", of the same colour as the sample, and brings them to the place indicated by A. ---On other occasions A gives the order "this---there". At "this" he points to a building stone. And so on.

9. When a child learns this language, it has to learn the series of 'numerals' a, b, c, ... by heart. And it has to learn their use. ---Will this training include ostensive teaching of the words?--- Well, people will, for example, point to slabs and count: "a, b, c slabs". --- Something more like the ostensive teaching of the words "block", "pillar", etc. would be the ostensive teaching of numerals that serve not to count but to refer to groups of objects that can be taken in at a glance. Children do learn the use of the first or six cardinal numerals in this way.

Are "there" and "this" also taught ostensively? ---Imagine how one might perhaps teach their use. One will point to places and things---but in this case the pointing occurs in the use of the words too and not merely in learning the use.---

10. Now what do the words of this language signify? ---What is supposed to shew what they signify, if not the kind of use they have? And we have already described that. So we are asking for the expression "This word signifies this" to be made a part of the description. In other words the description ought to take the form: "The word . . . .signifies . . . ."

Of course, one can reduce the description of the use of the word "slab" to the statement that this word signifies this object. This will be done when, for example, it is merely a matter of

removing the mistaken idea that the word "slab" refers to the shape of building-stone that we in fact call a "block" ---but the kind of 'refering' this is, that is to say the use of these words for the rest, is already known.

Equally one can say that the signs "a", "b", etc. signify numbers; when for example this removes the mistaken idea that "a", "b", "c", play the part actually played in language by "block", "slab", "pillar". And one can also say that "c" means this number and not that one; when for example this serves to explain that the letters are to be used in the order a, b, c, d, etc. and not in the order a, b, d, c.

But assimilating the descriptions of the uses of the words in this way cannot make the uses themselves any more like one another. For, as we see, they are absolutely unlike.

21. Imagine a language-game in which A asks and B reports the number of slabs or blocks in a pile, or the colours and shapes of the building-stones that are stacked in such-and-such a place.--- Such a report might run: "Five slabs". Now what is the difference between the report or statement "Five slabs" and the order "Five slabs!"?---Well, it is the part which uttering these words plays in the language-game.

No doubt the tone of voice and the look with which they are uttered, and much else besides, will also be different. But we could also imagine the tone's being the same---for an order and a report can be spoken in a variety of tones of voice and with various expressions of face---the difference being only in the application. (Of course, we might use the words "statement" and "command" to stand for grammatical forms of sentence and intonations; we do in fact call "Isn't the weather glorious to-day?" a question, although it is used as a statement.) We could imagine a language in which all statements had the form and tone of rhetorical questions; or every command the form of the question "Would you like to. . .?". Perhaps it will then be said: "What he says has the form of a question but is really a command",---that is, has the function of a command in the technique of using the language. (Similarly one says "You will do this" not as a prophecy but as a command. What makes it the one or the other?)

22. Frege's idea that every assertion contains an assumption, which is the thing that is asserted, really rests on the possibility found in our language of writing every statement in the form: "It is assert that such-and-such is the case."--- But "that such-and-such is the case" is not a sentence in our language---so far it is not a move in the language-game. And if I write, not "It is asserted that . . . .", but "It is asserted: such-and-such is the case", the words "It is asserted" simply become superfluous.

We might very well also write every statement in the form of a question followed by a "Yes"; for instance: "Is it raining? Yes!" Would this shew that every statement contained a question?

Of course we have the right to use an assertion sign in contrast with a question-mark, for example, or if we want to distinguish an assertion from a fiction or a supposition. It is only a mistake if one thinks that the assertion consists of two actions, entertaining and asserting (assigning the truth-value, or something of the kind), and that in performing these actions we follow the prepositional sign roughly as we sing from the musical score. Reading the written sentence loud or soft is indeed comparable with singing from a musical score, but 'meaning' (thinking) the sentence that is read is not.

Frege's assertion sign marks the beginning of the sentence. Thus its function is like that of full-stop. It distinguishes the whole period from a clause within the period. If I hear someone say "it's raining" but do not know whether I have heard the beginning and the end of the period, so far this sentence does not serve to tell me anything.

23. But how many kinds of sentence are there? Say assertion, question, and command?---There are countless kinds: countless different kinds of use of what we call "symbols", "words", "sentences". And this multiplicity is not something fixed, given once for all; but new types of language, new language- games, as we may say, come into existence, and others become obsolete and get forgotten. (We can get a rough picture of this from the changes in mathematics.)

Here the term "language-game" is meant to bring into prominence the fact that the speaking of language is part of an activity, or of a form of life. Review the multiplicity of language-game in the following examples, and in others:

* Giving orders, and obeying them---
* Describing the appearance of an object, or giving its measurements---
* Constructing an object from a description (a drawing)---* Reporting an event---* Speculating about an event---
* Forming and testing a hypothesis---
* Presenting the results of an experiment in tables and diagrams---
* Making up a story; and reading it---
* Play-acting---
* Singing catches---
* Guessing riddles---
* Making a joke; telling it---
* Solving a problem in practical arithmetic---
* Translating from one language into another---
* Asking, thanking, cursing, greeting, praying.

---It is interesting to compare the multiplicity of the tools in language and of the ways they are used, the multiplicity of kinds of word and sentence, with what logicians have said about the structure of language.(Including the author of the Tractatus Logico-Philosophicus.)

24. If you do not keep the multiplicity of language-games in view you will perhaps be inclined to ask questions like: "What is a question?"---Is it the statement that I do not know such-and-such, or the statement that I wish the other person would tell me. . . .? Or is it the description of my mental state of uncertainty?---And is the cry "Help!" such a description?

Think how many different kinds of thing are called "description": description of a body's position by means of its co-ordinates; description of a facial expression; description of a sensation of touch; of a mood.

Of course it is possible to substitute the form of statement or description for the usual form of question: " I want to know whether . . . ." or "I am in doubt whether . . . ."---but this does not bring the different language-games any closer together. The significance of such possibilities of transformation, for example of turning all statements into sentences beginning "I think" or "I believe" (and thus, as it were, into descriptions of my inner life) will become clearer in another place. (Solipsism.)

25. It is sometimes said that animals do not talk because they lack the mental capacity. And this means: "they do not think, and that is why they do not talk." But---they simply do not talk. Or to put it better: they do not use language---if we except the most primitive forms of language.--- Commanding, questioning, recounting, chatting, are as much a part of our natural history as walking, eating, drinking, playing.

26. One thinks that learning language consists in giving names to objects. Viz, to human beings, to shapes, to colours. to pains. to moods, to numbers, etc. To repeat-naming is something like attaching a label to a thing. One can say that this is preparatory to the use of a word. But what is it a preparation for?

27. "We name things and then we can talk about them: can refer to them in talk." 'As if what we did next were given with the mere act of naming. As if there were only one thing called "talking about a thing". Whereas in fact we do the most various things with our sentences. Think of exclamations alone, with their completely different functions.

* Water!
* Away!
* Ow!
* Help!
* Fine!
* No!

; Are you inclined still to call these words "names of objects"?

In languages and there was no such thing as asking something's name. This, with its correlate, ostensive definition, is, we might say, a language-game on its own. That is really to say: we are brought up, trained, to ask: "What is that called?"-upon which the name is given. And there is also a language-game of inventing a name for something, and hence of saying, "This is ...." and then using the new name. (Thus, for example, children give names to their dolls and then talk about them and to them. Think in this connexion how singular is the use of a person's name to call him!)

28. Now one can ostensively define a proper name, the name of a colour, the name of a material, a numeral, the name of a point of the compass and so on. The definition of the number two, "That is called 'two' "--pointing to two nuts-is perfectly exact. --But how can two be defined like that? The person one gives the definition to doesn't know what one wants to call "two"; he will suppose that "two" is the name given to this group of nuts! He may suppose this; but perhaps he does not. He might make the opposite mistake; when I want to assign a name to this group of nuts, he might understand it as a numeral. And he might equally well take the name of a person, of which I give an ostensive definition, as that of a colour, of a race, or even of a point of the compass. That is to say: an ostensive definition can be variously interpreted in every case.

29. Perhaps you say: two can only be ostensively defined in this way: "This *number* is called 'two' ". For the word "number" here shews what place in language, in grammar, we assign to the word. But this means that the word "number" must be explained before the ostensive definition can be understood.

--The word "number" in the definition does indeed shew this place; does shew the post at which we station the word. And we can prevent misunderstandings by saying: "This colour is called so-and-so", "This length is called so-and-so", and so on. That is to say: misunderstandings are sometimes averted in this way. But is there only one way of taking the word "colour" or "length"?-Well, they just need defining.-Defining, then, by means of other words! And what about the last definition in this chain? (Do not say: "There isn't a 'last' definition". That is just as if you chose to say: "There isn't a last house in this road; one can always build an additional one".)

Whether the word "number" is necessary in the ostensive definition depends on whether without it the other person takes the definition otherwise than I wish. And that will depend on the circumstances under which it is given, and on the person I give it to.

And how he 'takes' the definition is seen in the use that he makes of the word defined.

30. So one might say: the ostensive definition explains the use--the meaning--of the word when the overall role of the word in language is clear. Thus if I know that someone means to explain a colour-word to me the ostensive definition "That is called 'sepia' " will help me to understand the word.

--And you can say this, so long as you do not forget that all sorts of problems attach to the words "to know" or "to be clear".

One has already to know (or be able to do) something in order to be capable of asking a thing's name. But what does one have to know?

footnote: Could one define the word "red" by pointing to something that was not red? That would be as if one were supposed to explain the word "modest" to someone whose English was weak, and one pointed to an arrogant man and said "That man is not modest". That it is ambiguous is no argument against such a method of definition. Any definition can be misunderstood.

But it might well be asked: are we still to call this "definition"?-- For, of course, even if it has the same practical consequences, the same effect on the learner, it plays a different part in the calculus from what we ordinarily call "ostensive definition" of the word "red".

41. In #15 we introduced proper names into language. Now suppose that the tool with the name "N" is broken. Not knowing this, A gives B the sign "N". Has this sign meaning now or not.?-What is B to do when he is given it?-We have not settled anything about this. One might ask: what mill he do? Well, perhaps he will stand there at a loss, or shew A the pieces. Here one might say: "N" has become meaningless; and this expression would mean that the sign "N" no longer had a use in our language-game (unless we gave it a new one). "N" might also become meaningless because, for whatever reason, the tool was given another name and the sign "N" no longer used in the language-game. -- But we could also imagine a convention whereby B has to shake his head in reply if A gives him the sign belonging to a tool that is broken.-In this way the command "N" might be said to be given a place in the language-game even when the tool no longer exists, and the sign "N" to have meaning even when its bearer ceases to exist.

42. But has for instance a name which has never been used for a tool also got a meaning in that game? Let us assume that "X" is such a sign and that A gives this sign to B -- well, even such signs could be given a place in the language-game, and B might have, say, to answer them too with a shake of the head. (One could imagine this as a sort of joke between them.)

43. For a large class of cases-though not for all-in which we employ the word "meaning" it can be defined thus: the meaning of a word is its use in the language.

And the meaning of a name is sometimes explained by pointing to its bearer.

44. We said that the sentence "Excalibur has a sharp blade" made sense even when Excalibur was broken in pieces. Now this is so because in this language-game a name is also used in the absence of its bearer. But we can imagine a language-game with names (that is, with signs which we should certainly include among names) in which they are used only in the presence of the bearer; and so could always be replaced by a demonstrative pronoun and the gesture of pointing.

45. The demonstrative "this" can never be without a bearer. It might be said: "so long as there is a this, the word 'this' has a meaning too, whether this is simple or complex." But that does not make the word into a name. On the contrary: for a name is not used with, but only explained by means of, the gesture of pointing.

46. What lies behind the idea that names really signify simples? --Socrates says in the Theaetetus: "If I make no mistake, I have heard some people say this: there is no definition of the primary elements -- so to speak -- out of which we and everything else are composed; for everything that exists in its own right can only be named, no other determination is possible, neither that it is nor that it is not..... But what exists in its own right has to be ..... named without any other determination. In consequence it is impossible to give an account of any primary element; for it, nothing is possible but the bare name; its name is all it has. But just as what consists of these primary elements is itself complex, so the names of the elements become descriptive language by being compounded together. For the essence of speech is the composition of names." Both Russell's 'individuals' and my 'objects' (Tractatus Logico-Philosophicus) were such primary elements.

47. But what are the simple constituent parts of which reality is composed? -- What are the simple constituent parts of a chair? -- The bits of wood of which it is made? Or the molecules, or the atoms? -- "Simple" means: not composite. And here the point is: in what sense 'composite'? It makes no sense at all to speak absolutely of the 'simple parts of a chair'.

Again: Does my visual image of this tree, of this chair, consist of parts? And what are its simple component parts? Multi-colouredness is one kind of complexity; another is, for example, that of a broken outline composed of straight bits. And a curve can be said to be composed of an ascending and a descending segment.

If I tell someone without any further explanation: "What I see before me now is composite," he will have the right to ask: "What do you mean by 'composite'? For there are all sorts of things that that can mean! --

The question "Is what you see composite?" makes good sense if it is already established what kind of complexity -- that is, which particular use of the word -- is in question. If it had

been laid down that the visual image of a tree was to be called "composite" if one saw not just a single trunk, but also branches, then the question "Is the visual image of this tree simple or composite?" and the question "What are its simple component parts?", would have a clear sense-a clear use. And of course the answer to the second question is not "The branches" (that would be an answer to the grammatical question: "What are here called 'simple component parts'?") but rather a description of the individual branches.

But isn't a chessboard, for instance, obviously, and absolutely, composite?

-- You are probably thinking of the composition out of thirty-two white and thirty-two black squares. But could we not also say, for instance, that it was composed of the colours black and white and the schema of squares? And if there are quite different ways of looking at it, do you still want to say that the chessboard is absolutely 'composite'? --

Asking "Is this object composite?" outside a particular language-game is like what a boy once did, who had to say whether the verbs in certain sentences were in the active or passive voice, and who racked his brains over the question whether the verb "to sleep" meant something active or passive.

We use the word "composite" (and therefore the word "simple") in an enormous number of different and differently related ways. (Is the colour of a square on a chessboard simple, or does it consist of pure white and pure yellow? And is white simple, or does it consist of the colours of the rainbow? -- Is this length of 2 cm. simple, or does it consist of two parts, each ~ cm. long? But why not of one bit 3 cm long, and one bit I cm. long measured in the opposite direction?)

To the philosophical question: "Is the visual image of this tree composite, and what are its component parts?" the correct answer is: "That depends on what you understand by 'composite'." (And that is of course not an answer but a rejection of the question.)

48. Let us apply the method of (2) to the account in the Theaetetus. Let us consider a language-game for which this account is really valid. The language serves to describe combinations of coloured squares on a surface. The squares form a complex like a chessboard. There are red, green, white and black squares. The words of the language are (correspondingly) "R", "G", "W", "B", and a sentence is a series of these words. They describe an arrangement of squares in the order:

1	2	3
4	5	6
7	8	9

And so for instance the sentence "RRBGGGRWW" describes an arrangement of this sort:

Here the sentence is a complex of names, to which corresponds a complex of elements. The primary elements are the coloured squares. "But are these simple?"-I do not know what else you would have me call "the simples", what would be more natural in this language-game. But under other circumstances I should call a monochrome square "composite", consisting perhaps of two rectangles, or of the elements colour and shape. But the concept of complexity might also be so extended that a smaller area was said to be 'composed' of a greater area and another one subtracted from it. Compare the 'composition of forces', the 'division' of a line by a point outside it; these expressions shew that we are sometimes even inclined to conceive the smaller as the result of a composition of greater parts, and the greater as the result of a division of the smaller.

But I do not know whether to say that the figure described by our sentence consists of four or of nine elements! Well, does the sentence consist of four letters or of nine? And which are its elements, the types of letter, or the letters? Does it matter which we say, so long as we avoid misunderstandings in any particular case?

49. But what does it mean to say that we cannot define (that is, describe) these elements, but only name them? This might mean, for instance, that when in a limiting case a complex consists of only one square, its description is simply the name of the coloured square.

Here we might say --though this easily leads to all kinds of philosophical superstition-- that a sign "R" or "B", etc. may be sometimes a word and sometimes a proposition. But whether it 'is a word or a proposition' depends on the situation in which it is uttered or written. For instance, if A has to describe complexes of coloured squares to B and he uses the word "R" alone, we shall be able to say that the word is a description -- a proposition. But if he is memorizing the words and their meanings, or if he is teaching someone else the use of the words and uttering them in the course of ostensive teaching, we shall not say that they are propositions. In this situation the word "R", for instance, is not a description; it names an element but it would be queer to make that a reason for saying that an element can only be named! For naming and describing do not stand on the same level: naming is a preparation for description. Naming is so far not a move in the language-game -- any more than putting a piece in its place on the board is a move in chess. We may say: nothing has so far been done, when a thing has been named. It has not even got a name except in the language-game. This was what Frege meant too, when he said that a word had meaning only as part of a sentence.

50. What does it mean to say that we can attribute neither being nor non-being to elements? --One might say: if everything that we call "being" and "non-being" consists in the existence and non-existence of connexions between elements, it makes no sense to speak of an element's being (non-being); just as when everything that we call "destruction" lies in the separation of elements, it makes no sense to speak of the destruction of an element.

One would, however, like to say: existence cannot be attributed to an element, for if it did not exist, one could not even name it and so one could say nothing at all of it.

--But let us consider an analogous case. There is one thing of which one can say neither that it is one metre long, nor that it is not one metre long, and that is the standard metre in Paris.-But this is, of course, not to ascribe any extraordinary property to it, but only to mark its peculiar role in the language-game of measuring with a metre-rule.-Let us imagine samples of colour being preserved in Paris like the standard metre. We define: "sepia" means the

colour of the standard sepia which is there kept hermetically sealed. Then it will make no sense to say of this sample either that it is of this colour or that it is not.

We can put it like this: This sample is an instrument of the language used in ascriptions of colour. In this language-game it is not something that is represented, but is a means of representation.-- And just this goes for an element in language-game (48) when we name it by uttering the word "R": this gives this object a role in our language-game; it is now a means of representation. And to say "If it did not exist, it could have no name" is to say as much and as little as: if this thing did not exist, we could not use it in our language-game.--

What looks as if it had to exist, is part of the language. It is a paradigm in our language-game; something with which comparison is made. And this may be an important observation; but it is none the less an observation concerning our language-game-our method of representation.