

Principles of Philosophy

Translator's preface

As early as 1640 Descartes had begun to work on a presentation of his philosophical system 'in an order which will make it easy to teach' (letter to Mersenne of 31 December). What he planned was a comprehensive university textbook which would rival and, he hoped, eventually replace the traditional texts based on Aristotle. He particularly wanted to include, though in a more circumspect form, material from his suppressed treatise, *The World*. 'My World', he wrote to Constantijn Huygens on 31 January 1642, 'would be out already were it not that first of all I want to teach it to speak Latin. I shall call it the *Summa Philosophiae*, to help it gain a better reception among the Schoolmen, who are now persecuting it and trying to smother it at birth.'

The title which Descartes eventually adopted was *Principia Philosophiae*, and the Latin text was first published by Elzevir of Amsterdam in 1644. The work runs to four parts, each divided into a large number of short sections or 'articles' (there are five hundred and four in all). Part One expounds Descartes' metaphysical doctrines (though they are presented in a very different fashion from that of the *Meditations*); Part Two gives a full account of the principles of Cartesian physics; Part Three gives a detailed explanation, in accordance with those principles, of the nature of the universe; and Part Four deals similarly with the origins of the earth and a wide variety of terrestrial phenomena. A further two parts were originally planned, to deal with plants and animals, and man, but these were never completed (see below, Part Four, article 188).

A French version of the *Principles*, by the Abbé Claude Picot (c. 1601–68), was published by Le Gras of Paris in 1647; Descartes gave the translation his enthusiastic approval (see his prefatory letter, below p. 179). The French text diverges considerably from the original Latin, and some (though certainly not all) of these departures were probably authorized by Descartes; the modern translator therefore has to decide what to do when the two versions differ. One strategy, adopted by Haldane and Ross,¹ is to provide a translation 'made from the Latin version collated with the French', but the result is an uneasy amalgam which often leaves it unclear whether a given passage represents

1 See General Introduction, above p. viii.

Descartes' original text of 1644. To avoid this drawback, the present version always provides, in the first instance, a direct rendering of Descartes' original Latin. A translation of the French version has, however, also been included in cases where the French illuminates, or provides a useful supplement to, the Latin; but such material from the French version is always placed within diamond brackets <>, or relegated to footnotes, to indicate that it is not to be found in Descartes' original text.

The decision about how often to append a rendering of the French is made easier by the fact that the departures from the Latin turn out, on careful scrutiny, to fall into two distinct categories. (1) Often Picot will loosely paraphrase the text, sometimes virtually rewriting the original in an attempt to illuminate Descartes' meaning. In most cases there seems no good reason to render these interpretative paraphrases, since they seldom improve on the splendid clarity and precision of Descartes' Latin, and sometimes introduce needless complications of their own (in Part One, article 24, for example, the French version inserts a gratuitous reference to innate notions which makes the subsequent train of thought incomprehensible). (2) Quite apart from paraphrases and reinterpretations of the original, we find, especially in Parts Two to Four, a good deal of completely new material, often of considerable interest, which has no counterpart at all in the Latin. This can vary from a brief supplementary comment illustrating some point (e.g. Part Three, article 29) to an extended discussion which can sometimes double the original length of an article (e.g. Part Four, article 203). Much of this new material seems too valuable to omit; moreover, there is evidence that some of the additions were authorized by Descartes or even directly added by him when he looked at Picot's version (thus, Frans Burman, who questioned Descartes about the laws of impact in Part Two, reports him as remarking that 'since many were complaining of the obscurity of these laws, he supplied a little clarification and further explanation in the French edition of the *Principles*'¹).

The *Principles of Philosophy* is a very long work, and it has been necessary to abridge it for the present edition. The translation that follows, which is based on the texts in Volumes VIII A (Latin) and IX B (French) of Adam and Tannery,² includes all the material that is philosophical in the modern sense, as well as substantial portions of what would nowadays be called 'scientific' material, particularly where this throws light on Descartes' general conception of science. Part One is translated in its entirety; in Parts Two, Three and Four, selected articles are translated; the titles alone are supplied for the remaining articles.

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1 AT v 168; for further evidence see AT IX B, *Avertissement*.

2 See General Introduction, above, p. x.

[Preface to the French edition]

AT IXB

Author's letter to the translator of the book which may here
serve as a preface¹

I

Sir,²

The version of my *Principles* which you have taken the trouble to make is so polished and so thorough as to make me hope that the work will be more widely read in French than in Latin, and better understood. My only concern is that the title may put off those many people who have not had an education based on letters or who have a low opinion of philosophy because the philosophy they have been taught has not satisfied them. This makes me think that it would be a good idea to add a preface explaining the subject of the book, my purpose in writing it, and the benefit which may be derived from it. But although it would seem to be up to me to produce this preface because I ought to know these things better than anyone else, all I can persuade myself to do here is to summarize the principal points which I think such a preface should deal with. I leave it to your discretion to pass on to the public as many of them as you consider to be pertinent. 2

First of all, I would have wished to explain what philosophy is, beginning with the most commonplace points. For example, the word 'philosophy' means the study of wisdom, and by 'wisdom' is meant not only prudence in our everyday affairs but also a perfect knowledge of all things that mankind is capable of knowing, both for the conduct of life and for the preservation of health and the discovery of all manner of skills. In order for this kind of knowledge to be perfect it must be deduced from first causes; thus, in order to set about acquiring it – and it is this activity to which the term 'to philosophize' strictly refers – we must start with the search for first causes or principles. These principles must satisfy two conditions. First, they must be so clear and so evident that the human mind cannot doubt their truth when it attentively concentrates on them; and, secondly, the knowledge of other things must depend on them, in the sense that the principles must be capable of being

1 This preface first appeared in the 1647 French edition. The original Latin text of 1644 contains no preface apart from the short dedicatory letter to Elizabeth translated below, pp. 190–2.

2 The addressee is the Abbé Picot; see Translator's preface, above p. 177.

known without knowledge of these other matters, but not *vice versa*. Next, in deducing from these principles the knowledge of things which depend on them, we must try to ensure that everything in the entire chain of deductions which we draw is very manifest. In truth it is only God who
 3 is perfectly wise, that is to say, who possesses complete knowledge of the truth of all things; but men can be said to possess more or less wisdom depending on how much knowledge they possess of the most important truths. I think that everything I have just said would be accepted by all people of learning.

Next, I would have looked at the benefits of this philosophy and shown that it encompasses everything which the human mind is capable of knowing. Thus we should consider that it is this philosophy alone which distinguishes us from the most savage and barbarous peoples, and that a nation's civilization and refinement depends on the superiority of the philosophy which is practised there. Hence the greatest good that a state can enjoy is to possess true philosophers. As for the individual, it is not only beneficial to live with those who apply themselves to this study; it is incomparably better to undertake it oneself. For by the same token it is undoubtedly much better to use one's own eyes to get about, and also to enjoy the beauty of colours and light, than to close one's eyes and be led around by someone else. Yet even the latter is much better than keeping one's eyes closed and having no guide but oneself. Living without philosophizing is exactly like having one's eyes closed without ever trying to open them; and the pleasure of seeing everything which our sight reveals is in no way comparable to the satisfaction accorded by knowledge of the things which philosophy enables us to discover. Lastly,
 4 the study of philosophy is more necessary for the regulation of our morals and our conduct in this life than is the use of our eyes to guide our steps. The brute beasts, who have only their bodies to preserve, are continually occupied in looking for food to nourish them; but human beings, whose most important part is the mind, should devote their main efforts to the search for wisdom, which is the true food of the mind. And I am sure that there are many people who would not fail to make the search if they had some hope of success and knew how much they were capable of. No soul, however base, is so strongly attached to the objects of the senses that it does not sometimes turn aside and desire some other, greater good, even though it may often not know what this good consists in. Those who are most favoured by fortune and possess health, honour and riches in abundance are no more exempt from this desire than anyone else. On the contrary, I am convinced that it is just such people who long most ardently for another good – a higher good than all those that they already possess. Now this supreme good, considered by natural

reason without the light of faith, is nothing other than the knowledge of the truth through its first causes, that is to say wisdom, of which philosophy is the study. Since all these points are absolutely true, they would easily carry conviction if they were properly argued.

What prevents these points being accepted is the widespread experience that those who profess to be philosophers are often less wise and less reasonable than those who have never applied themselves to philosophy. And so at this point I would have explained briefly what all the knowledge which we now possess consists in and the levels of wisdom that have so far been attained. The first level contains only notions which are so clear in themselves that they can be acquired without meditation. The second comprises everything we are acquainted with through sensory experience. The third comprises what we learn by conversing with other people. And one may add a fourth category, namely what is learned by reading books – not all books, but those which have been written by people who are capable of instructing us well; for in such cases we hold a kind of conversation with the authors. I think that all the wisdom which is generally possessed is acquired in these four ways. I am not including divine revelation in the list, because it does not lead us on by degrees but raises us at a stroke to infallible faith. Now in all ages there have been great men who have tried to find a fifth way of reaching wisdom – a way which is incomparably more elevated and more sure than the other four. This consists in the search for the first causes and the true principles which enable us to deduce the reasons for everything we are capable of knowing; and it is above all those who have laboured to this end who have been called philosophers. I am not sure, however, that there has been anyone up till now who has succeeded in this project. The first and most important of those whose writings have come down to us are Plato and Aristotle. The only difference between these two is that the former, following the footsteps of his master Socrates, ingenuously confessed that he had never yet been able to discover anything certain. He was content instead to write what seemed to him to be probable, and accordingly he used his imagination to devise various principles by means of which he tried to account for other things. Aristotle, by contrast, was less candid. Although he had been Plato's disciple for twenty years, and possessed no principles apart from those of Plato, he completely changed the method of stating them and put them forward as true and certain, though it seems most unlikely that he in fact considered them to be so. Now these two men had a great deal of intelligence and much wisdom of the kind that is acquired in the four ways mentioned above, and this gave them such great authority that those who came after them were content to follow their opinions rather than look for something better. The main

dispute among their disciples was about whether everything should be called into doubt or whether there were some things which were certain – a dispute which led both sides into extravagant errors. Some of those who were in favour of doubt extended it even to the actions of life, so that they neglected to employ common prudence in their behaviour; while those who took the side of certainty supposed that it had to depend on the senses and trusted them entirely, to the point where Epicurus, it is said, was rash enough to affirm, against all the arguments of the astronomers, that the sun is no larger than it appears. A fault which may be observed in the majority of disputes is that since the truth lies
7 midway between two positions which are being maintained, the disputants on each side move further and further away from it as their desire to contradict the opposing view increases. But the error of those who leaned too far towards the side of doubt was not followed for very long, while the opposing error has to some extent been corrected by the recognition that the senses deceive us in many cases. Nevertheless, I am not sure that anyone has yet expunged the second error completely by explaining the following point: on the one hand, certainty does not lie in the senses but solely in the understanding, when it possesses evident perceptions; on the other hand, so long as we possess only the kind of knowledge that is acquired by the first four degrees of wisdom we should not doubt the probable truths which concern the conduct of life, while at the same time we should not consider them to be so certain that we are incapable of changing our views when we are obliged to do so by some evident reason. Because of failure to recognize this truth, or to make use of it in the case of those few who have recognized it, the majority of those aspiring to be philosophers in the last few centuries have blindly followed Aristotle. Indeed they have often corrupted the sense of his writings and attributed to him various opinions which he would not recognize to be his, were he now to return to this world. Those who have not followed Aristotle (and this group includes many of the best minds) have nevertheless been saturated with his opinions in their youth (since these are the only opinions taught in the Schools) and this has so dominated their outlook that they have been unable to arrive at knowledge of true principles. Although I respect all these thinkers and would not wish to make myself disliked by criticizing them, I can give a proof of what I say
8 which I do not think any of them will reject, namely that they have all put forward as principles things of which they did not possess perfect knowledge. For example, there is not one of them, so far as I know, who has not supposed there to be weight in terrestrial bodies. Yet although experience shows us very clearly that the bodies we call ‘heavy’ descend towards the centre of the earth, we do not for all that have any

knowledge of the nature of what is called 'gravity', that is to say, the cause or principle which makes bodies descend in this way,¹ and we must derive such knowledge from some other source. The same can be said of the void and of atoms and of heat and cold, dryness and humidity, salt, sulphur, mercury and all other similar things which some people have proposed as their first principles. Now none of the conclusions deduced from a principle which is not evident can themselves be evident, even though they may be deduced from the principle in an evident manner. It follows that none of the arguments based on such principles have been able to provide their proponents with certain knowledge of anything, and accordingly such arguments have not been able to bring them one step further in their search for wisdom. If they have discovered anything true, it has been solely by means of one of the four methods set out above. Nevertheless, I do not wish to detract in any way from the reputation which any of these philosophers may claim. I am simply obliged to point out, for the consolation of those who have never studied, the following similarity with what happens when we travel: so long as we turn our back on the place we wish to get to, then the longer and faster we walk the further we get from our destination, so that even if we are subsequently set on the right road we cannot reach our goal as quickly as we would have done had we never walked in the wrong direction. The same thing happens if we have bad principles. The more we develop them and the more carefully we work at deducing various consequences from them in our belief that we are philosophizing well, the further we move from knowledge of the truth and from wisdom. The conclusion that must be drawn from this is that among those who have studied whatever has been called philosophy up till now, those who have learnt the least are the most capable of learning true philosophy. 9

After fully explaining these matters, I would have wanted next to put down the reasons which serve to prove that the true principles, enabling one to reach the highest degree of wisdom which constitutes the supreme good of human life, are the principles which I have set down in this book. Just two reasons are enough to prove the point: the first is that the principles are very clear, and the second is that they enable all other things to be deduced from them. These are the only two conditions that such principles must meet. Now I can easily prove that the principles are very clear. This is shown by the way in which I discovered them, namely by rejecting everything in which I could discover the least occasion for doubt; for it is certain that principles which it was impossible to reject in this way, when one attentively considered them, are the clearest and most evident that the human mind can know. Thus I considered that someone

1. See footnote 1, p. 234 below.

who wishes to doubt everything cannot, for all that, doubt that he exists
10 while he is doubting; and that what reasons in this way, being unable to
doubt itself while doubting everything else, is not what we call our body
but what we call our soul or our thought. Accordingly I took the being or
existence of this thought as my first principle, and from it I deduced very
clearly the following principles. There is a God who is the author of
everything there is in the world; further, since he is the source of all
truth, he certainly did not create in us an understanding of the kind
which would be capable of making a mistake in its judgements concern-
ing the things of which it possesses a very clear and very distinct
perception. These are all the principles that I make use of with regard to
immaterial or metaphysical things, and from them I deduce very clearly
the principles of corporeal or physical things, namely that there are
bodies which are extended in length, breadth and depth, and which have
various shapes and move in various ways. Here, in total, are all the
principles which I use to deduce the truth of other things. The other
reason which proves the clarity of these principles is that they have been
known for all time and indeed accepted as true and indubitable by
everyone, with the sole exception of the existence of God, which some
people have called into doubt because they have attributed too much to
sensory perceptions, and God cannot be seen or touched. Yet although
all the truths which I include among my principles have been known for
all time by everyone, there has, so far as I know, been no one up till now
11 who has recognized them as the principles of philosophy, that is to say, as
the principles which enable us to deduce the knowledge of all the other
things to be found in the world. This is why it remains for me here to
prove that they do indeed qualify as principles of this sort; and I think
that the best way of doing this is to get people to see by experience that
this is so, that is to say, to invite my readers to read this book. Admittedly,
I have not dealt with all things, for this would be impossible. But I think I
have explained all the things I have had occasion to deal with in such a
way that those who read the book attentively will be convinced that in
order to arrive at the highest knowledge of which the human mind is
capable there is no need to look for any principles other than those I
have provided. This will be especially clear if, after reading what I have
written and also perusing the writings of others, the reader takes the
trouble to consider the number and the diversity of the topics explained
in my book, and sees by comparison how few plausible arguments others
have been able to produce in attempting to explain these same topics by
means of principles which differ from mine. To enable my readers to
undertake this survey with greater ease, I could have told them that those
who have absorbed my opinions find it much easier to understand and

recognize the true value of other people's writings than those who have not absorbed my views. This is the exact opposite of what I said above about those who have started with traditional philosophy, namely that the more they have studied it the less fitted they generally are to acquire a sound grasp of true philosophy.

I would also have added a word of advice about the way to read this book. I should like the reader first of all to go quickly through the whole book like a novel, without straining his attention too much or stopping at the difficulties which may be encountered. The aim should be merely to ascertain in a general way which matters I have dealt with. After this, if he finds that these matters deserve to be examined and he has the curiosity to ascertain their causes, he may read the book a second time in order to observe how my arguments follow. But if he is not always able to see this fully, or if he does not understand all the arguments, he should not give up at once. He should merely mark with a pen the places where he finds the difficulties and continue to read on to the end without a break. If he then takes up the book for the third time, I venture to think he will now find the solutions to most of the difficulties he marked before; and if any still remain, he will discover their solution on a final re-reading. 12

An examination of the nature of many different minds has led me to observe that there are almost none that are so dull and slow as to be incapable of forming sound opinions or indeed of grasping all the most advanced sciences, provided they receive proper guidance. And this may also be proved by reason. For since the principles in question are clear, and nothing is permitted to be deduced from them except by very evident reasoning, everyone has enough intelligence to understand the things which depend on them. If we leave aside the problems caused by preconceived opinions, from which no one is entirely free (although those who have studied bad science the most are the greatest victims), then it almost always happens that people of moderate intelligence neglect to study because they do not think they are capable of it, while the others, who are keenest, press on too quickly, with the result that they often accept principles which are not evident, and draw uncertain inferences from them. This is why I should like to assure those who are over-diffident about their powers that there is nothing in my writings which they are not capable of completely understanding provided they take the trouble to examine them. I would, however, also like to warn the others that even the most excellent minds will need a great deal of time and attention in order to look at all the things which I set myself to include. 13

Following on from this, in order to get people to see the purpose I had in publishing my work, I would wish to explain here the order which I think we should follow when we aim to instruct ourselves. First of all, a

man who still possesses only the ordinary and imperfect knowledge that can be acquired in the four ways explained above should try before anything else to devise for himself a code of morals which is sufficient to regulate the actions of his life. For this is something which permits no delay, since we should endeavour above all else to live well. After that, he should study logic. I do not mean the logic of the Schools, for this is strictly speaking nothing but a dialectic which teaches ways of expounding to others what one already knows or even of holding forth without judgement about things one does not know. Such logic corrupts good sense rather than increasing it. I mean instead the kind of logic which

14 teaches us to direct our reason with a view to discovering the truths of which we are ignorant. Since this depends to a great extent on practice, it is good for the student to work for a long time at practising the rules on very easy and simple questions like those of mathematics. Then, when he has acquired some skill in finding the truth on these questions, he should begin to tackle true philosophy in earnest. The first part of philosophy is metaphysics, which contains the principles of knowledge, including the explanation of the principal attributes of God, the non-material nature of our souls and all the clear and distinct notions which are in us. The second part is physics, where, after discovering the true principles of material things, we examine the general composition of the entire universe and then, in particular, the nature of this earth and all the bodies which are most commonly found upon it, such as air, water, fire, magnetic ore and other minerals. Next we need to examine individually the nature of plants, of animals and, above all, of man, so that we may be capable later on of discovering the other sciences which are beneficial to man. Thus the whole of philosophy is like a tree. The roots are metaphysics, the trunk is physics, and the branches emerging from the trunk are all the other sciences, which may be reduced to three principal ones, namely medicine, mechanics and morals. By 'morals' I understand the highest and most perfect moral system, which presupposes a complete knowledge of the other sciences and is the ultimate level of wisdom.

15 Now just as it is not the roots or the trunk of a tree from which one gathers the fruit, but only the ends of the branches, so the principal benefit of philosophy depends on those parts of it which can only be learnt last of all. I am ignorant of almost all of these; but the earnest desire I have always had to render service to the public led me, twelve years ago, to publish a number of essays on subjects where it seemed to me that I had learnt something. The first part of these essays was a *Discourse on the Method of rightly conducting one's reason and seeking the truth in the sciences*, where I summarized the principal rules of logic and of an imperfect moral code which we may follow provisionally while we do

not yet know a better one. The remaining parts were three treatises: the *Optics*, the *Meteorology* and the *Geometry*. In the *Optics* my purpose was to show that one could make sufficient progress in philosophy to enable one to achieve knowledge of the arts which are beneficial for life; for the designing of telescopes, which I explained there, is one of the most difficult projects ever attempted.¹ In the *Meteorology* I wanted people to recognize the difference that exists between the philosophy I practise and that which is taught in the Schools, where the same subject-matter is normally dealt with.² Finally, in the *Geometry*, I aimed to demonstrate that I had discovered several things which had hitherto been unknown, and thus to promote the belief that many more things may yet be discovered, in order to stimulate everyone to undertake the search for truth. Later on, foreseeing the difficulty which many would have in grasping the foundations of metaphysics, I tried to explain the principal points in a book of *Meditations*. Although this work is not very large, the size of the volume was increased, and the contents greatly clarified, by the addition of the objections that several very learned persons sent me on the subject, and by the replies I made to them. And finally, when I thought that these earlier works had sufficiently prepared the minds of my readers to accept the *Principles of Philosophy*, I published these too. I divided the book into four parts. The first contains the principles of knowledge, i.e. what may be called 'first philosophy' or 'metaphysics'; so in order to gain a sound understanding of this part it is appropriate to read first of all the *Meditations* which I wrote on the same subject. The other three parts contain all that is most general in physics, namely an explanation of the first laws or principles of nature and the manner of composition of the heavens, the fixed stars, the planets, the comets and, in general, the entire universe. Next comes a particular account of the nature of this earth and of air, water, fire and magnetic ore, which are the bodies that are most commonly found upon it, and also an account of all the qualities which we observe in these bodies, such as light, heat, weight and so on. In this way I consider myself to have embarked on an explanation of the whole of philosophy in an orderly way, without having omitted any of the

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1 Discourses 8 and 9 of the *Optics* provide detailed discussion of the optimum shape and configuration of telescopic lenses.

2 'I regard the minute parts of terrestrial bodies as being all composed of one single kind of matter, and believe that each of them could be divided repeatedly in infinitely many ways, and that there is no more difference between them than there is between stones of various different shapes cut from the same rock ... But to keep the peace with the [scholastic] philosophers, I have no wish to deny any further items which they may imagine in bodies over and above what I have described, such as their "substantial forms", their "real qualities", and so on. It simply seems to me that my arguments will be all the more acceptable in so far as I can make them depend on fewer things.' *Meteorology*, Discourse 1 (AT VI 239).

17 things which ought to precede the topics I wrote about last. But in order to bring the plan to its conclusion I should have to go on to explain in the same manner the nature of all the particular bodies which exist on the earth, namely minerals, plants, animals and, most importantly, man. And then to conclude, I should have to give an exact account of medicine, morals and mechanics. This is what I should have to do in order to give to mankind a body of philosophy that is quite complete; and I do not yet feel so old, or so diffident about my powers, or so far away from knowledge of these remaining topics, that I would not now boldly try to bring the plan to its conclusion, provided I had the resources to make all the observations¹ I should need in order to back up and justify my arguments. But this, I can see, would require great expense – too great for an individual like myself unless he were assisted by the public. And since I do not see that I can expect such assistance, I think that in future I should be content to study for my own private instruction and that future generations will forgive me if from now on I give up working on their behalf.

18 Meanwhile, to show how I think I have already served posterity, I will here point out the fruits which I am sure can be derived from my principles. The first is the satisfaction which will be felt in using them to discover many truths which have been unknown up till now. For although the truth often does not touch our imagination as much as falsehood and pretence, because it seems less striking and more plain, nevertheless the satisfaction it produces is always more durable and more solid. The second benefit is that the study of these principles will accustom people little by little to form better judgements about all the things they come across, and hence will make them wiser. The effect so produced will be the opposite of that produced by ordinary philosophy. For it is easy to observe in those we call ‘pedants’ that philosophy makes them less capable of reasoning than they would be if they had never learnt it. The third benefit is that the truths contained in these principles, because they are very clear and very certain, will eliminate all ground for dispute, and so will dispose people’s minds to gentleness and harmony. This is the opposite result to that produced by the debates in the Schools, which – slowly and without their noticing it – make the participants more argumentative and opinionated, and hence are perhaps the major cause of the heresies and disagreements which now plague the world. The last and greatest fruit of these principles is that they will enable those who develop them to discover many truths which I have not explained at all. Thus, moving little by little from one truth to the next, they may in time acquire a perfect knowledge of all philosophy, and reach the highest

1 Fr. *expériences*; Cf. *Discourse*, part 6, pp. 143ff, and footnote p. 143 above.

level of wisdom. One sees in all the arts that although they are at first rough and imperfect, nevertheless, because they contain some element of truth, the effect of which is revealed by experience, they are gradually perfected by practice. So it is in philosophy: when one has true principles and follows them, one cannot fail to come upon other truths from time to time. Indeed the best way of proving the falsity of Aristotle's principles is to point out that they have not enabled any progress to be made in all the many centuries in which they have been followed.

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I am well aware that there are some people who are so hasty and use so little circumspection in what they do that even with very solid foundations they cannot construct anything certain. Since such people are normally quicker than anyone else at producing books, they may in a short time wreck everything I have done. For although I have carefully tried to banish doubt and uncertainty from my style of philosophizing, they may introduce these elements into it if their writings are accepted as mine, or as containing my opinions. I recently had some experience of this from one of those who were reckoned to be particularly anxious to follow me; indeed, I had written of him somewhere that I was 'so confident of his intelligence' that I did not think he held any views that I would not 'gladly have acknowledged as my own'.¹ Last year he published a book entitled *The Foundations of Physics* in which, as far as physics and medicine are concerned, it appears that everything he wrote was taken from my writings – both from those I have published and also from a still imperfect work on the nature of animals which fell into his hands. But because he copied down the material inaccurately and changed the order and denied certain truths of metaphysics on which the whole of physics must be based, I am obliged to disavow his work entirely. And I must also beg my readers never to attribute to me any opinion they do not find explicitly stated in my writings. Furthermore, they should not accept any opinion as true – whether in my writings or elsewhere – unless they see it to be very clearly deduced from true principles.

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I am also very well aware that many centuries may pass before all the truths that can be deduced from these principles are actually so deduced. For the majority of truths remaining to be discovered depend on various particular observations² which we never happen on by chance but which must be sought out with care and expense by very intelligent people. It

1 These enthusiastic comments appeared in Descartes' open letter to Voetius (*Epistola ad G. Voetium*) published in 1643 (AT VIII B 163). The reference is to Henricus Regius (1598–1679), Professor of Medicine at Utrecht, whose *Fundamenta physices* appeared in 1646. For details of Descartes' relationship with Regius see Translator's preface to *Comments on a Certain Broadsheet*, below p. 293.

2 Fr. *expériences*; see footnote above p. 143.

will not easily come about that the same people who have the capacity to make good use of these observations will have the means to make them. What is more, the majority of the best minds have formed such a bad opinion of the whole of philosophy, because of the faults they have noticed in the philosophy that has been current up till now, that they certainly will not apply themselves to look for a better one. But perhaps the difference which they see between these principles of mine and all those of other philosophers, as well as the long chain of truths that can be deduced from them, will finally make them realize how important it is to continue in the search for these truths, and to what a high level of wisdom, and to what perfection and felicity of life, these truths can bring us. If they realize this, I venture to believe that there will not be one of them who does not try to apply himself to such a beneficial study, or at least favours and willingly assists with all his resources those who devote themselves to it with success. My earnest wish is that our descendants may see the happy outcome of this project.

[Dedicatory Letter to Elizabeth]

AT VIII A

I

*To Her Serene Highness the Princess Elizabeth
eldest daughter of Frederick, King of Bohemia,
Count Palatine and Elector of the Holy Roman Empire*

Your Serene Highness,

The greatest reward which I have received from the writings I have previously published is that you have deigned to read them; for as a result they have provided the occasion for my being admitted into the circle of your acquaintance. And my subsequent experience of your great talents leads me to think that it would be a service to mankind to set them down as an example to posterity. It would ill become me to use flattery or to put forward any assertion which has not been thoroughly scrutinized, especially in a work in which I shall be trying to lay down the foundations of the truth. And I know that your generous and modest nature will welcome the simple and unadorned judgement of a philosopher more than the polished compliments of those with smoother tongues. I shall therefore write only what I know to be true either from reason or by experience, and in this introduction I propose to philosophize just as I do throughout the rest of the book.

2 There is a great difference between apparent virtues and true ones; and even in the case of true virtues, there is a great difference between those which are derived from an exact knowledge of things and those which are accompanied by some measure of ignorance. What I understand by

'apparent virtues' are certain vices which are not very common and are the opposites of other better known ones; because they are farther removed from such vices than the virtues which occupy an intermediate position, they are usually more admired. Thus it is more common to find people who timidly flee from danger than to find people who rashly throw themselves into it; and so rashness is contrasted with the vice of timidity, as if it were a virtue, and is commonly valued more highly than true courage. Similarly, someone who is over-generous is often more highly praised than one who gives liberally; and again, no one acquires a great reputation for piety more easily than the superstitious or hypocritical person.

As for the true virtues, many of them arise not solely from the knowledge of what is right but from some error. Thus goodness is often the result of simplicity, piety the result of fear, and courage the result of desperation. Because such virtues differ from each other, they go by different names. But the pure and genuine virtues, which proceed solely from knowledge of what is right, all have one and the same nature and are included under the single term 'wisdom'. For whoever possesses the firm and powerful resolve always to use his reasoning powers correctly, as far as he can, and to carry out whatever he knows to be best, is truly wise, so far as his nature permits. And simply because of this, he will possess justice, courage, temperance, and all the other virtues; but they will be interlinked in such a way that no one virtue stands out among the others. Such virtues are far superior to those which owe their distinguishing marks to some admixture of vice, but because they are less well known to the majority they do not normally receive such lavish praise.

3

Now there are two prerequisites for the kind of wisdom just described, namely the perception of the intellect and the disposition of the will. But whereas what depends on the will is within the capacity of everyone, there are some people who possess far sharper intellectual vision than others. Those who are by nature somewhat backward intellectually should make a firm and faithful resolution to do their utmost to acquire knowledge of what is right, and always to pursue what they judge to be right; this should suffice to enable them, despite their ignorance on many points, to achieve wisdom according to their lights and thus to find great favour with God. Nevertheless they will be left far behind by those who possess not merely a very firm resolve to act rightly but also the sharpest intelligence combined with the utmost zeal for acquiring knowledge of the truth.

That such zeal is abundantly present in Your Highness is clear from the fact that neither the diversions of the Court nor the customary education that so often condemns young ladies to ignorance has been able to

prevent you from studying all the worthwhile arts and sciences. And the outstanding and incomparable sharpness of your intelligence is obvious from the penetrating examination you have made of all the secrets of these sciences, and from the fact that you have acquired an exact knowledge of them in so short a time. I have even greater evidence of your powers – and this is special to myself – in the fact that you are the only person I have so far found who has completely understood all my previously published works. Many other people, even those of the utmost acumen and learning, find them very obscure; and it generally happens with almost everyone else that if they are accomplished in Metaphysics they hate Geometry, while if they have mastered Geometry they do not grasp what I have written on First Philosophy. Your intellect is, to my knowledge, unique in finding everything equally clear; and this is why my use of the term ‘incomparable’ is quite deserved. And when I consider that such a varied and complete knowledge of all things is to be found not in some aged pedant who has spent many years in contemplation but in a young princess whose beauty and youth call to mind one of the Graces rather than gray-eyed Minerva or any of the Muses, then I cannot but be lost in admiration.

Finally, I see that all the necessary conditions for perfect and sublime wisdom, both on the side of knowledge and on the side of the will, shine forth in your character. For, together with your royal dignity, you show an extraordinary kindness and gentleness which, though continually buffeted by the blows of fortune, has never become embittered or broken. I am so overwhelmed by this that I consider that this statement of my philosophy should be offered and dedicated to the wisdom which I so admire in you – for philosophy is nothing else but the study of wisdom. And indeed my desire to be known as a philosopher is no greater than my desire to be known as

Your Serene Highness's most devoted servant,
Descartes

PART ONE

The Principles of Human Knowledge

1. *The seeker after truth must, once in the course of his life, doubt everything, as far as is possible.*

Since we began life as infants, and made various judgements concerning the things that can be perceived by the senses before we had the full use of our reason, there are many preconceived opinions that keep us from knowledge of the truth.¹ It seems that the only way of freeing ourselves from these opinions is to make the effort, once in the course of our life, to doubt everything which we find to contain even the smallest suspicion of uncertainty.

2. *What is doubtful should even be considered as false.*

Indeed, it will even prove useful, once we have doubted these things, to consider them as false, so that our discovery of what is most certain and easy to know may be all the clearer.

3. *This doubt should not meanwhile be applied to ordinary life.*

This doubt, while it continues, should be kept in check and employed solely in connection with the contemplation of the truth. As far as ordinary life is concerned, the chance for action would frequently pass us by if we waited until we could free ourselves from our doubts, and so we are often compelled to accept what is merely probable. From time to time we may even have to make a choice between two alternatives, even though it is not apparent that one of the two is more probable than the other.

4. *The reasons for doubt concerning the things that can be perceived by the senses.*

Given, then, that our efforts are directed solely to the search for truth, our initial doubts will be about the existence of the objects of sense-

1 Some examples of such preconceived opinions are given in art. 71, pp. 218f below.

6 perception and imagination. The first reason for such doubts is that from time to time we have caught out the senses when they were in error, and it is prudent never to place too much trust in those who have deceived us even once. The second reason is that in our sleep we regularly seem to have sensory perception of, or to imagine, countless things which do not exist anywhere; and if our doubts are on the scale just outlined, there seem to be no marks by means of which we can with certainty distinguish being asleep from being awake.

5. *The reasons for doubting even mathematical demonstrations.*

Our doubt will also apply to other matters which we previously regarded as most certain – even the demonstrations of mathematics and even the principles which we hitherto considered to be self-evident. One reason for this is that we have sometimes seen people make mistakes in such matters and accept as most certain and self-evident things which seemed false to us. Secondly, and most importantly, we have been told that there is an omnipotent God who created us. Now we do not know whether he may have wished to make us beings of the sort who are always deceived even in those matters which seem to us supremely evident; for such constant deception seems no less a possibility than the occasional deception which, as we have noticed on previous occasions, does occur. We may of course suppose that our existence derives not from a supremely powerful God but either from ourselves or from some other source; but in that case, the less powerful we make the author of our coming into being, the more likely it will be that we are so imperfect as to be deceived all the time.

6. *We have free will, enabling us to withhold our assent in doubtful matters and hence avoid error.*

But whoever turns out to have created us, and however powerful and however deceitful he may be, in the meantime we nonetheless experience within us the kind of freedom which enables us always to refrain from believing things which are not completely certain and thoroughly examined. Hence we are able to take precautions against going wrong on any occasion.

7. *It is not possible for us to doubt that we exist while we are doubting; and this is the first thing we come to know when we philosophize in an orderly way.*

7 In rejecting – and even imagining to be false – everything which we can in any way doubt, it is easy for us to suppose that there is no God and no heaven, and that there are no bodies, and even that we ourselves have no hands or feet, or indeed any body at all. But we cannot for all that

suppose that we, who are having such thoughts, are nothing. For it is a contradiction to suppose that what thinks does not, at the very time when it is thinking, exist. Accordingly, this piece of knowledge¹ – *I am thinking, therefore I exist* – is the first and most certain of all to occur to anyone who philosophizes in an orderly way.

8. *In this way we discover the distinction between soul and body, or between a thinking thing and a corporeal thing.*

This is the best way to discover the nature of the mind and the distinction between the mind and the body. For if we, who are supposing that everything which is distinct from us is false,² examine what we are, we see very clearly that neither extension nor shape nor local motion, nor anything of this kind which is attributable to a body, belongs to our nature, but that thought alone belongs to it. So our knowledge of our thought is prior to, and more certain than, our knowledge of any corporeal thing; for we have already perceived it, although we are still in doubt about other things.

9. *What is meant by 'thought'.*

By the term 'thought', I understand everything which we are aware of as happening within us, in so far as we have awareness of it. Hence, *thinking* is to be identified here not merely with understanding, willing and imagining, but also with sensory awareness. For if I say 'I am seeing, or I am walking, therefore I exist', and take this as applying to vision or walking as bodily activities, then the conclusion is not absolutely certain. This is because, as often happens during sleep, it is possible for me to think I am seeing or walking, though my eyes are closed and I am not moving about; such thoughts might even be possible if I had no body at all. But if I take 'seeing' or 'walking' to apply to the actual sense or awareness of seeing or walking, then the conclusion is quite certain, since it relates to the mind, which alone has the sensation or thought that it is seeing or walking.

10. *Matters which are very simple and self-evident are only rendered more obscure by logical definitions, and should not be counted as items of knowledge which it takes effort to acquire.*

I shall not here explain many of the other terms which I have already used or will use in what follows, because they seem to me to be sufficiently self-evident. I have often noticed that philosophers make the

1 '... this inference' (French version).

2 Lat. *falsum*. Descartes uses this term to refer not only to propositions which are false, but also to objects which are unreal, spurious or non-existent. The French version here reads: 'we who are now thinking that there is nothing outside of our thought which truly is or exists ...'

mistake of employing logical definitions in an attempt to explain what was already very simple and self-evident; the result is that they only make matters more obscure. And when I said that the proposition *I am thinking, therefore I exist* is the first and most certain of all to occur to anyone who philosophizes in an orderly way, I did not in saying that deny that one must first know what thought, existence and certainty are, and that it is impossible that that which thinks should not exist, and so forth. But because these are very simple notions, and ones which on their own provide us with no knowledge of anything that exists, I did not think they needed to be listed.

11. *How our mind is better known than our body.*

In order to realize that the knowledge of our mind is not simply prior to and more certain than the knowledge of our body, but also more evident, we should notice something very well known by the natural light: nothingness possesses no attributes or qualities. It follows that, wherever we find some attributes or qualities, there is necessarily some thing or substance to be found for them to belong to; and the more attributes we discover in the same thing or substance, the clearer is our knowledge of that substance. Now we find more attributes in our mind than in anything else, as is manifest from the fact that whatever enables us to know anything else cannot but lead us to a much surer knowledge of our own mind. For example, if I judge that the earth exists from the fact that I touch it or see it, this very fact undoubtedly gives even greater support for the judgement that my mind exists. For it may perhaps be the case that I judge that I am touching the earth even though the earth does not exist at all; but it cannot be that, when I make this judgement, my mind which is making the judgement does not exist. And the same applies in other cases <regarding all the things that come into our mind, namely that we who think of them exist, even if they are false or have no existence>.

12. *Why this fact does not come to be known to all alike.*

Disagreement on this point has come from those who have not done their philosophizing in an orderly way; and the reason for it is simply that they have never taken sufficient care to distinguish the mind from the body. Although they may have put the certainty of their own existence before that of anything else, they failed to realize that they should have taken 'themselves' in this context to mean their minds alone. They were inclined instead to take 'themselves' to mean only their bodies – the bodies which they saw with their eyes and touched with their hands, and

to which they incorrectly attributed the power of sense-perception; and this is what prevented them from perceiving the nature of the mind.

13. *The sense in which knowledge of all other things depends on the knowledge of God.*

The mind, then, knowing itself, but still in doubt about all other things, looks around in all directions in order to extend its knowledge further. First of all, it finds within itself ideas of many things; and so long as it merely contemplates these ideas and does not affirm or deny the existence outside itself of anything resembling them, it cannot be mistaken. Next, it finds certain common notions from which it constructs various proofs; and, for as long as it attends to them, it is completely convinced of their truth. For example, the mind has within itself ideas of numbers and shapes, and it also has such common notions as: *If you add equals to equals the results will be equal*; from these it is easy to demonstrate that the three angles of a triangle equal two right angles, and so on. And so the mind will be convinced of the truth of this and similar conclusions, so long as it attends to the premisses from which it deduced them. But it cannot attend to them all the time; and subsequently,¹ recalling that it is still ignorant as to whether it may have been created with the kind of nature that makes it go wrong even in matters which appear most

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14. *The existence of God is validly inferred from the fact that necessary existence is included in our concept of God.*

The mind next considers the various ideas which it has within itself, and finds that there is one idea – the idea of a supremely intelligent, supremely powerful and supremely perfect being – which stands out from all the others. <And it readily judges from what it perceives in this idea, that God, who is the supremely perfect being, is, or exists. For although it has distinct ideas of many other things it does not observe anything in them to guarantee the existence of their object.> In this one idea the mind recognizes existence – not merely the possible and contingent existence which belongs to the ideas of all the other things which it distinctly perceives, but utterly necessary and eternal existence. Now on the basis of its perception that, for example, it is necessarily contained in the idea of a triangle that its three angles should equal two

1 '... when it happens that it remembers a conclusion without attending to the sequence which enables it to be demonstrated' (added in French version).

right angles, the mind is quite convinced that a triangle does have three angles equalling two right angles. In the same way, simply on the basis of its perception that necessary and eternal existence is contained in the idea of a supremely perfect being, the mind must clearly conclude that the supreme being does exist.

15. *Our concepts of other things do not similarly contain necessary existence, but merely contingent existence.*

The mind will be even more inclined to accept this if it considers that it cannot find within itself an idea of any other thing such that necessary existence is seen to be contained in the idea in this way. And from this it understands that the idea of a supremely perfect being is not an idea which was invented by the mind, or which represents some chimera, but that it represents a true and immutable nature which cannot but exist, since necessary existence is contained within it.

16. *Preconceived opinions prevent the necessity of the existence of God from being clearly recognized by everyone.*

Our mind will, as I say, easily accept this, provided that it has first of all completely freed itself from preconceived opinions. But we have got into the habit of distinguishing essence from existence in the case of all other things; and we are also in the habit of making up at will various ideas of things which do not exist anywhere and have never done so. Hence, at times when we are not intent on the contemplation of the supremely perfect being, a doubt may easily arise as to whether the idea of God is not one of those which we made up at will, or at least one of those which do not include existence in their essence.

17. *The greater the objective perfection in any of our ideas, the greater its cause must be.*

When we reflect further on the ideas that we have within us, we see that some of them, in so far as they are merely modes of thinking, do not differ much one from another; but in so far as one idea represents one thing and another represents another, they differ widely; and the greater the amount of objective¹ perfection they contain within themselves, the more perfect their cause must be. For example, if someone has within himself the idea of a highly intricate machine, it would be fair to ask what was the cause of his possession of the idea: did he somewhere see such a machine made by someone else; or did he make such a close study of mechanics, or is his own ingenuity so great, that he was able to think it up on his own, although he never saw it anywhere? All the intricacy

1 If an idea represents some object which is F, the idea is said to possess 'objective' F-ness, or to contain F-ness 'objectively'. Cf. *Med. III*: vol. II, p. 28.

which is contained in the idea merely objectively – as in a picture – must be contained in its cause, whatever kind of cause it turns out to be; and it must be contained not merely objectively or representatively, but in actual reality, either formally or eminently,¹ at least in the case of the first and principal cause.

18. *This gives us a second reason for concluding that God exists.*

Since, then, we have within us the idea of God, or a supreme being, we may rightly inquire into the cause of our possession of this idea. Now we find in the idea such immeasurable greatness that we are quite certain that it could have been placed in us only by something which truly possesses the sum of all perfections, that is, by a God who really exists. For it is very evident by the natural light not only that nothing comes from nothing but also that what is more perfect cannot be produced by – that is, cannot have as its efficient and total cause – what is less perfect. Furthermore, we cannot have within us the idea or image of anything without there being somewhere, either within us or outside us, an original which contains in reality all the perfections belonging to the idea. And since the supreme perfections of which we have an idea are in no way to be found in us, we rightly conclude that they reside in something distinct from ourselves, namely God – or certainly that they once did so, from which it most evidently follows that they are still there.

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19. *Even if we do not grasp the nature of God, his perfections are known to us more clearly than any other thing.*

This is sufficiently certain and manifest to those who are used to contemplating the idea of God and to considering his supreme perfections. Although we do not fully grasp these perfections, since it is in the nature of an infinite being not to be fully grasped by us, who are finite, nonetheless we are able to understand them more clearly and distinctly than any corporeal things. This is because they permeate our thought to a greater extent, being simpler and unobscured by any limitations. <Furthermore, there is no reflection which can better serve to perfect our understanding, or which is more important than this, in so far as the consideration of an object which has no limits to its perfections fills us with satisfaction and assurance.>

20. *We did not make ourselves, but were made by God; and consequently he exists.*

However, this is something that not everyone takes note of. When people have an idea of some intricate machine, they generally know

1 To possess a property *formally* is to possess it strictly as defined; to possess it *eminently* is to possess it in some higher or more perfect form.

where they got the idea from; but we do not in the same way have a recollection of the idea of God being sent to us from God, since we have always possessed it. Accordingly, we should now go on to inquire into the source of our being, given that we have within us an idea of the supreme perfections of God. Now it is certainly very evident by the natural light that a thing which recognizes something more perfect than itself is not the source of its own being; for if so, it would have given itself all the perfections of which it has an idea. Hence, the source of its being can only be something which possesses within itself all these perfections – that is, God.

- 13 21. *The fact that our existence has duration is sufficient to demonstrate the existence of God.*

It will be impossible for anything to obscure the clarity of this proof, if we attend to the nature of time or of the duration of things. For the nature of time is such that its parts are not mutually dependent, and never coexist. Thus, from the fact that we now exist, it does not follow that we shall exist a moment from now, unless there is some cause – the same cause which originally produced us – which continually reproduces us, as it were, that is to say, which keeps us in existence. For we easily understand that there is no power in us enabling us to keep ourselves in existence. We also understand that he who has so great a power that he can keep us in existence, although we are distinct from him, must be all the more able to keep himself in existence; or rather, he requires no other being to keep him in existence, and hence, in short, is God.

22. *Our method of recognizing the existence of God leads to the simultaneous recognition of all the other attributes of God, in so far as they can be known by the natural power of the mind.*

There is a great advantage in proving the existence of God by this method, that is to say, by means of the idea of God. For the method enables us at the same time to come to know the nature of God, in so far as the feebleness of our nature allows. For when we reflect on the idea of God which we were born with, we see that he is eternal, omniscient, omnipotent, the source of all goodness and truth, the creator of all things, and finally, that he possesses within him everything in which we can clearly recognize some perfection that is infinite or unlimited by any imperfection.

23. *God is not corporeal, and does not perceive through the senses as we do; and he does not will the evil of sin.*

There are many things such that, although we recognize some perfection in them, we also find in them some imperfection or limitation, and

these therefore cannot belong to God. For example, the nature of body includes divisibility along with extension in space, and since being divisible is an imperfection, it is certain that God is not a body. Again, the fact that we perceive through the senses is for us a perfection of a kind; but all sense-perception involves being acted upon, and to be acted upon is to be dependent on something else. Hence it cannot in any way be supposed that God perceives by means of the senses, but only that he understands and wills. And even his understanding and willing does not happen, as in our case, by means of operations that are in a certain sense distinct one from another; we must rather suppose that there is always a single identical and perfectly simple act by means of which he simultaneously understands, wills and accomplishes everything. When I say 'everything' I mean all *things*: for God does not will the evil of sin, which is not a thing. 14

24. *We pass from knowledge of God to knowledge of his creatures by remembering that he is infinite and we are finite.*

Now since God alone is the true cause of everything which is or can be, it is very clear that the best path to follow when we philosophize will be to start from the knowledge of God himself and try to deduce an explanation of the things created by him. This is the way to acquire the most perfect scientific knowledge, that is, knowledge of effects through their causes. In order to tackle this task with a reasonable degree of safety and without risk of going wrong we must take the precaution of always bearing in mind as carefully as possible both that God, the creator of all things, is infinite, and that we are altogether finite.

25. *We must believe everything which God has revealed, even though it may be beyond our grasp.*

Hence, if God happens to reveal to us something about himself or others which is beyond the natural reach of our mind – such as the mystery of the Incarnation or of the Trinity – we will not refuse to believe it, despite the fact that we do not clearly understand it. And we will not be at all surprised that there is much, both in the immeasurable nature of God and in the things created by him, which is beyond our mental capacity.

26. *We should never enter into arguments about the infinite. Things in which we observe no limits – such as the extension of the world, the division of the parts of matter, the number of the stars, and so on – should instead be regarded as indefinite.*

Thus we will never be involved in tiresome arguments about the infinite. For since we are finite, it would be absurd for us to determine anything

concerning the infinite; for this would be to attempt to limit it and grasp
 15 it. So we shall not bother to reply to those who ask if half an infinite line
 would itself be infinite, or whether an infinite number is odd or even, and
 so on. It seems that nobody has any business to think about such matters
 unless he regards his own mind as infinite. For our part, in the case of
 anything in which, from some point of view, we are unable to discover a
 limit, we shall avoid asserting that it is infinite, and instead regard it as
 indefinite. There is, for example, no imaginable extension which is so
 great that we cannot understand the possibility of an even greater one;
 and so we shall describe the size of possible things as indefinite. Again,
 however many parts a body is divided into, each of the parts can still be
 understood to be divisible and so we shall hold that quantity is
 indefinitely divisible. Or again, no matter how great we imagine the
 number of stars to be, we still think that God could have created even
 more; and so we will suppose the number of stars to be indefinite. And
 the same will apply in other cases.

27. *The difference between the indefinite and the infinite.*

Our reason for using the term 'indefinite' rather than 'infinite' in these
 cases is, in the first place, so as to reserve the term 'infinite' for God alone.
 For in the case of God alone, not only do we fail to recognize any limits in
 any respect, but our understanding positively tells us that there are none.
 Secondly, in the case of other things, our understanding does not in the
 same way positively tell us that they lack limits in some respect; we
 merely acknowledge in a negative way that any limits which they may
 have cannot be discovered by us.

28. *It is not the final but the efficient causes of created things that we
 must inquire into.*

When dealing with natural things we will, then, never derive any
 explanations from the purposes which God or nature may have had in
 view when creating them <and we shall entirely banish from our
 philosophy the search for final causes>. For we should not be so arrogant
 as to suppose that we can share in God's plans. We should, instead,
 16 consider him as the efficient cause of all things; and starting from the
 divine attributes which by God's will we have some knowledge of, we
 shall see, with the aid of our God-given natural light, what conclusions
 should be drawn concerning those effects which are apparent to our
 senses.¹ At the same time we should remember, as noted earlier, that the

1 '... and we shall be assured that what we have once clearly and distinctly perceived to belong to the nature of these things has the perfection of being true' (added in French version, which also omits the last sentence of this article).

natural light is to be trusted only to the extent that it is compatible with divine revelation.

29. *God is not the cause of our errors.*

The first attribute of God that comes under consideration here is that he is supremely truthful and the giver of all light. So it is a complete contradiction to suppose that he might deceive us or be, in the strict and positive sense, the cause of the errors to which we know by experience that we are prone. For although the ability to deceive may perhaps be regarded among us men as a sign of intelligence, the will to deceive must undoubtedly always come from malice, or from fear and weakness, and so cannot belong to God.

30. *It follows that everything that we clearly perceive is true; and this removes the doubts mentioned earlier.*

It follows from this that the light of nature or faculty of knowledge which God gave us can never encompass any object which is not true in so far as it is indeed encompassed by this faculty, that is, in so far as it is clearly and distinctly perceived. For God would deserve to be called a deceiver if the faculty which he gave us was so distorted that it mistook the false for the true <even when we were using it properly>. This disposes of the most serious doubt which arose from our ignorance about whether our nature might not be such as to make us go wrong even in matters which seemed to us utterly evident. Indeed, this argument easily demolishes all the other reasons for doubt which were mentioned earlier. Mathematical truths should no longer be suspect, since they are utterly clear to us. And as for our senses, if we notice anything here that is clear and distinct, no matter whether we are awake or asleep, then provided we separate it from what is confused and obscure we will easily recognize – whatever the thing in question – which are the aspects that may be regarded as true. There is no need for me to expand on this point here, since I have already dealt with it in the *Meditations on Metaphysics*;¹ and a more precise explanation of the point requires knowledge of what I shall be saying later on.

17

31. *Our errors, if considered in relation to God, are merely negations; if considered in relation to ourselves they are privations.*

Yet although God is no deceiver, it often happens that we fall into error. In order to investigate the origin and cause of our errors and learn to guard against them, we should realize that they do not depend on our

intellect so much as on our will. Moreover, errors are not things, requiring the real concurrence of God for their production. Considered in relation to God they are merely negations,¹ and considered in relation to ourselves they are privations.

32. *We possess only two modes of thinking: the perception of the intellect and the operation of the will.*

All the modes of thinking that we experience within ourselves can be brought under two general headings: perception, or the operation of the intellect, and volition, or the operation of the will. Sensory perception, imagination and pure understanding are simply various modes of perception; desire, aversion, assertion, denial and doubt are various modes of willing.

33. *We fall into error only when we make judgements about things which we have not sufficiently perceived.*

18 Now when we perceive something, so long as we do not make any assertion or denial about it, we clearly avoid error. And we equally avoid error when we confine our assertions or denials to what we clearly and distinctly perceive should be asserted or denied. Error arises only when, as often happens, we make a judgement about something even though we do not have an accurate perception of it.

34. *Making a judgement requires not only the intellect but also the will.*

In order to make a judgement, the intellect is of course required since, in the case of something which we do not in any way perceive, there is no judgement we can make. But the will is also required so that, once something is perceived in some manner, our assent may then be given. Now a judgement – some kind of judgement at least – can be made without the need for a complete and exhaustive perception of the thing in question; for we can assent to many things which we know only in a very obscure and confused manner.

35. *The scope of the will is wider than that of the intellect, and this is the cause of error.*

Moreover, the perception of the intellect extends only to the few objects presented to it, and is always extremely limited. The will, on the other hand, can in a certain sense be called infinite, since we observe without exception that its scope extends to anything that can possibly be an object of any other will – even the immeasurable will of God. So it is easy

1 '... that is, he did not bestow on us everything which he was able to bestow, but which equally we can see he was not obliged to give us' (added in French version).

for us to extend our will beyond what we clearly perceive; and when we do this it is no wonder that we may happen to go wrong.

36. *Our errors cannot be imputed to God.*

But it must not in any way be imagined that, because God did not give us an omniscient intellect, this makes him the author of our errors. For it is of the nature of a created intellect to be finite; and it is of the nature of a finite intellect that its scope should not extend to everything.

37. *The supreme perfection of man is that he acts freely or voluntarily, and it is this which makes him deserve praise or blame.*

The extremely broad scope of the will is part of its very nature. And it is a supreme perfection in man that he acts voluntarily, that is, freely; this makes him in a special way the author of his actions and deserving of praise for what he does. We do not praise automatons for accurately producing all the movements they were designed to perform, because the production of these movements occurs necessarily. It is the designer 19 who is praised for constructing such carefully-made devices; for in constructing them he acted not out of necessity but freely. By the same principle, when we embrace the truth, our doing so voluntarily is much more to our credit than would be the case if we could not do otherwise.

38. *The fact that we fall into error is a defect in the way we act, not a defect in our nature. The faults of subordinates may often be attributed to their masters, but never to God.*

The fact that we fall into error is a defect in the way we act or in the use we make of our freedom, but not a defect in our nature. For our nature remains the same whether we judge correctly or incorrectly. And although God could have endowed our intellect with a discernment so acute as to prevent our ever going wrong, we have no right to demand this of him. Admittedly, when one of us men has the power to prevent some evil, but does not prevent it, we say that he is the cause of the evil; but we must not similarly suppose that because God could have brought it about that we never went wrong, this makes him the cause of our errors. The power which men have over each other was given them so that they might employ it in discouraging others from evil; but the power which God has over all men is both absolute and totally free. So we should give him the utmost thanks for the goods which he has so lavishly bestowed upon us, instead of unjustly complaining that he did not bestow on us all the gifts which it was in his power to bestow.

39. *The freedom of the will is self-evident.*

That there is freedom in our will, and that we have power in many cases to give or withhold our assent at will, is so evident that it must be

counted among the first and most common notions that are innate in us. This was obvious earlier on when, in our attempt to doubt everything, we
 20 went so far as to make the supposition of some supremely powerful author of our being who was attempting to deceive us in every possible way. For in spite of that supposition, the freedom which we experienced within us was nonetheless so great as to enable us to abstain from believing whatever was not quite certain or fully examined. And what we saw to be beyond doubt even during the period of that supposition is as self-evident and as transparently clear as anything can be.

40. *It is also certain that everything was preordained by God.*

But now that we have come to know God, we perceive in him a power so immeasurable that we regard it as impious to suppose that we could ever do anything which was not already preordained by him. And we can easily get ourselves into great difficulties if we attempt to reconcile this divine preordination with the freedom of our will, or attempt to grasp both these things at once.

41. *How to reconcile the freedom of our will with divine preordination.*

But we shall get out of these difficulties if we remember that our mind is finite, while the power of God is infinite – the power by which he not only knew from eternity whatever is or can be, but also willed it and preordained it. We may attain sufficient knowledge of this power to perceive clearly and distinctly that God possesses it; but we cannot get a sufficient grasp of it to see how it leaves the free actions of men undetermined. Nonetheless, we have such close awareness of the freedom and indifference which is in us, that there is nothing we can grasp more evidently or more perfectly. And it would be absurd, simply because we do not grasp one thing, which we know must by its very nature be beyond our comprehension, to doubt something else of which we have an intimate grasp and which we experience within ourselves.

42. *Although we do not want to go wrong, nevertheless we go wrong by our own will.*

Now that we know that all our errors depend on the will, it may seem
 21 surprising that we should ever go wrong, since there is no one who wants to go wrong. But there is a great difference between choosing to go wrong and choosing to give one's assent in matters where, as it happens, error is to be found. And although there is in fact no one who expressly wishes to go wrong, there is scarcely anyone who does not often wish to give his assent to something which, though he does not know it, contains some error. Indeed, precisely because of their eagerness to find the truth,

people who do not know the right method of finding it often pass judgement on things of which they lack perception, and this is why they fall into error.

43. *We never go wrong when we assent only to what we clearly and distinctly perceive.*

It is certain, however, that we will never mistake the false for the true provided we give our assent only to what we clearly and distinctly perceive. I say that this is certain, because God is not a deceiver, and so the faculty of perception which he has given us cannot incline to falsehood; and the same goes for the faculty of assent, provided its scope is limited to what is clearly perceived. And even if there were no way of proving this, the minds of all of us have been so moulded by nature that whenever we perceive something clearly, we spontaneously give our assent to it and are quite unable to doubt its truth.

44. *When we give our assent to something which is not clearly perceived, this is always a misuse of our judgement, even if by chance we stumble on the truth. The giving of our assent to something unclear happens because we imagine that we clearly perceived it on some previous occasion.*

It is also certain that when we assent to some piece of reasoning when our perception of it is lacking, then either we go wrong, or, if we do stumble on the truth, it is merely by accident, so that we cannot be sure that we are not in error. Of course it seldom happens that we assent to something when we are aware of not perceiving it, since the light of nature tells us that we should never make a judgement except about things we know. What does very often give rise to error is that there are many things which we think we perceived in the past; once these things are committed to memory, we give our assent to them just as we would if we had fully perceived them, whereas in reality we never perceived them at all.

45. *What is meant by a clear perception, and by a distinct perception.*

Indeed there are very many people who in their entire lives never perceive anything with sufficient accuracy to enable them to make a judgement about it with certainty. A perception which can serve as the basis for a certain and indubitable judgement needs to be not merely clear but also distinct. I call a perception 'clear' when it is present and accessible to the attentive mind – just as we say that we see something clearly when it is present to the eye's gaze and stimulates it with a sufficient degree of strength and accessibility. I call a perception 'distinct' if, as well as being

clear, it is so sharply separated from all other perceptions that it contains within itself only what is clear.

46. *The example of pain shows that a perception can be clear without being distinct, but cannot be distinct without being clear.*

For example, when someone feels an intense pain, the perception he has of it is indeed very clear, but is not always distinct. For people commonly confuse this perception with an obscure judgement they make concerning the nature of something which they think exists in the painful spot and which they suppose to resemble the sensation of pain; but in fact it is the sensation alone which they perceive clearly. Hence a perception can be clear without being distinct, but not distinct without being clear.

47. *In order to correct the preconceived opinions of our early childhood we must consider the simple notions and what elements in each of them are clear.*

In our childhood the mind was so immersed in the body that although there was much that it perceived clearly, it never perceived anything distinctly. But in spite of this the mind made judgements about many things, and this is the origin of the many preconceived opinions which most of us never subsequently abandon. To enable us to get rid of these preconceived opinions, I shall here briefly list all the simple notions which are the basic components of our thoughts; and in each case I shall distinguish the clear elements from those which are obscure or liable to lead us into error.

48. *All the objects of our perception may be regarded either as things or affections of things, or as eternal truths. The former are listed here.*

All the objects of our perception we regard either as things, or affections of things, or else as eternal truths which have no existence outside our thought.¹ The most general items which we regard as things are
 23 *substance, duration, order, number* and any other items of this kind which extend to all classes of things. But I recognize only two ultimate classes of things: first, intellectual or thinking things, i.e. those which pertain to mind or thinking substance; and secondly, material things, i.e. those which pertain to extended substance or body. Perception, volition and all the modes both of perceiving and of willing are referred to thinking substance; while to extended substance belong size

1 An 'affection' of a thing is one of its qualities or modes; see art. 56, below. The French version omits this technical term and simply distinguishes between, on the one hand, 'things which have some existence', and, on the other hand, 'truths which are nothing outside our thought'.

(that is, extension in length, breadth and depth), shape, motion, position, divisibility of component parts and the like. But we also experience within ourselves certain other things which must not be referred either to the mind alone or to the body alone. These arise, as will be made clear later on, in the appropriate place,¹ from the close and intimate union of our mind with the body. This list includes, first, appetites like hunger and thirst; secondly, the emotions or passions of the mind which do not consist of thought alone, such as the emotions of anger, joy, sadness and love; and finally, all the sensations, such as those of pain, pleasure, light, colours, sounds, smells, tastes, heat, hardness and the other tactile qualities.

49. *It is not possible – or indeed necessary – to give a similar list of eternal truths.*

Everything in the preceding list we regard either as a thing or as a quality or mode of a thing. But when we recognize that it is impossible for anything to come from nothing, the proposition *Nothing comes from nothing* is regarded not as a really existing thing, or even as a mode of a thing, but as an eternal truth which resides within our mind. Such truths are termed common notions or axioms. The following are examples of this class: *It is impossible for the same thing to be and not to be at the same time; What is done cannot be undone; He who thinks cannot but exist while he thinks*; and countless others. It would not be easy to draw up a list of all of them; but nonetheless we cannot fail to know them when the occasion for thinking about them arises, provided that we are not blinded by preconceived opinions.

24

50. *Eternal truths are clearly perceived; but, because of preconceived opinions, not all of them are clearly perceived by everyone.*

In the case of these common notions, there is no doubt that they are capable of being clearly and distinctly perceived; for otherwise they would not properly be called common notions. But some of them do not really have an equal claim to be called 'common' among all people, since they are not equally well perceived by everyone. This is not, I think, because one man's faculty of knowledge extends more widely than another's, but because the common notions are in conflict with the preconceived opinions of some people who, as a result, cannot easily grasp them. But the selfsame notions are perceived with the utmost clarity by other people who are free from such preconceived opinions.

¹ See Part 4, art. 189–91, pp. 279ff below.

51. *What is meant by 'substance' – a term which does not apply univocally to God and his creatures.*

In the case of those items which we regard as things or modes of things, it is worthwhile examining each of them separately. By *substance* we can understand nothing other than a thing which exists in such a way as to depend on no other thing for its existence. And there is only one substance which can be understood to depend on no other thing whatsoever, namely God. In the case of all other substances, we perceive that they can exist only with the help of God's concurrence. Hence the term 'substance' does not apply *univocally*, as they say in the Schools, to God and to other things; that is, there is no distinctly intelligible meaning of the term which is common to God and his creatures. <In the case of created things, some are of such a nature that they cannot exist without other things, while some need only the ordinary concurrence of God in order to exist. We make this distinction by calling the latter 'substances' and the former 'qualities' or 'attributes' of those substances.>

52. *The term 'substance' applies univocally to mind and to body. How a substance itself is known.*

25 But as for corporeal substance and mind (or created thinking substance), these can be understood to fall under this common concept: things that need only the concurrence of God in order to exist. However, we cannot initially become aware of a substance merely through its being an existing thing, since this alone does not of itself have any effect on us. We can, however, easily come to know a substance by one of its attributes, in virtue of the common notion that nothingness possesses no attributes, that is to say, no properties or qualities. Thus, if we perceive the presence of some attribute, we can infer that there must also be present an existing thing or substance to which it may be attributed.

53. *To each substance there belongs one principal attribute; in the case of mind, this is thought, and in the case of body it is extension.*

A substance may indeed be known through any attribute at all; but each substance has one principal property which constitutes its nature and essence, and to which all its other properties are referred. Thus extension in length, breadth and depth constitutes the nature of corporeal substance; and thought constitutes the nature of thinking substance. Everything else which can be attributed to body presupposes extension, and is merely a mode of an extended thing; and similarly, whatever we find in the mind is simply one of the various modes of thinking. For example, shape is unintelligible except in an extended thing; and motion is

unintelligible except as motion in an extended space; while imagination, sensation and will are intelligible only in a thinking thing. By contrast, it is possible to understand extension without shape or movement, and thought without imagination or sensation, and so on; and this is quite clear to anyone who gives the matter his attention.

54. *How we can have clear and distinct notions of thinking substance and of corporeal substance, and also of God.*

Thus we can easily have two clear and distinct notions or ideas, one of created thinking substance, and the other of corporeal substance, provided we are careful to distinguish all the attributes of thought from the attributes of extension. We can also have a clear and distinct idea of uncreated and independent thinking substance, that is of God. Here we must simply avoid supposing that the idea adequately represents everything which is to be found in God; and we must not invent any additional features, but concentrate only on what is really contained in the idea and on what we clearly perceive to belong to the nature of a supremely perfect being. And certainly no one can deny that we possess such an idea of God, unless he reckons that there is absolutely no knowledge of God to be found in the minds of men.

26

55. *How we can also have a distinct understanding of duration, order and number.*

We shall also have a very distinct understanding of *duration, order and number*, provided we do not mistakenly tack on to them any concept of substance. Instead, we should regard the duration of a thing simply as a mode under which we conceive the thing in so far as it continues to exist. And similarly we should not regard order or number as anything separate from the things which are ordered and numbered, but should think of them simply as modes under which we consider the things in question.

56. *What modes, qualities and attributes are.*

By *mode*, as used above, we understand exactly the same as what is elsewhere meant by an *attribute* or *quality*. But we employ the term *mode* when we are thinking of a substance as being affected or modified; when the modification enables the substance to be designated as a substance of such and such a kind, we use the term *quality*; and finally, when we are simply thinking in a more general way of what is in a substance, we use the term *attribute*. Hence we do not, strictly speaking, say that there are modes or qualities in God, but simply attributes, since in the case of God, any variation is unintelligible. And even in the case of created things, that which always remains unmodified – for example existence or duration in

a thing which exists and endures – should be called not a quality or a mode but an attribute.

57. *Some attributes are in things and others in thought. What duration and time are.*

- 27 Now some attributes or modes are in the very things of which they are said to be attributes or modes, while others are only in our thought. For example, when time is distinguished from duration taken in the general sense and called the measure of movement, it is simply a mode of thought. For the duration which we understand to be involved in movement is certainly no different from the duration involved in things which do not move. This is clear from the fact that if there are two bodies moving for an hour, one slowly and the other quickly, we do not reckon the amount of time to be greater in the latter case than the former, even though the amount of movement may be much greater. But in order to measure the duration of all things, we compare their duration with the duration of the greatest and most regular motions which give rise to years and days, and we call this duration 'time'. Yet nothing is thereby added to duration, taken in its general sense, except for a mode of thought.

58. *Number and all universals are simply modes of thinking.*

In the same way, number, when it is considered simply in the abstract or in general, and not in any created things, is merely a mode of thinking; and the same applies to all the other *universals*, as we call them.

59. *How universals arise. The five common universals: genus, species, differentia, property, accident.*

- These universals arise solely from the fact that we make use of one and the same idea for thinking of all individual items which resemble each other: we apply one and the same term to all the things which are represented by the idea in question, and this is the universal term. When we see two stones, for example, and direct our attention not to their nature but merely to the fact that there are two of them, we form the idea of the number which we call 'two'; and when we later see two birds or two trees, and consider not their nature but merely the fact that there are two of them, we go back to the same idea as before. This, then, is the universal idea; and we always designate the number in question by the same universal term 'two'. In the same way, when we see a figure made up of three lines, we form an idea of it which we call the idea of a triangle; and we later make use of it as a universal idea, so as to represent to our mind all the other figures made up of three lines. Moreover, when we notice that some triangles have one right angle, and others do not, we form the

universal idea of a right-angled triangle; since this idea is related to the preceding idea as a special case, it is termed a *species*. And the rectangularity is the universal *differentia* which distinguishes all right-angled triangles from other triangles. And the fact that the square on the hypotenuse is equal to the sum of the squares on the other two sides is a *property* belonging to all and only right-angled triangles. Finally, if we suppose that some right-angled triangles are in motion while others are not, this will be a universal *accident* of such triangles. Hence five universals are commonly listed: *genus, species, differentia, property* and *accident*.

60. *Three sorts of distinction: firstly, what is meant by a 'real distinction'.*

Now number, in things themselves, arises from the distinction between them. But *distinction* can be taken in three ways: as a *real* distinction, a *modal* distinction, or a *conceptual* distinction. Strictly speaking, a *real* distinction exists only between two or more substances; and we can perceive that two substances are really distinct simply from the fact that we can clearly and distinctly understand one apart from the other. For when we come to know God, we are certain that he can bring about anything of which we have a distinct understanding. For example, even though we may not yet know for certain that any extended or corporeal substance exists in reality, the mere fact that we have an idea of such a substance enables us to be certain that it is capable of existing. And we can also be certain that, if it exists, each and every part of it, as delimited by us in our thought, is really distinct from the other parts of the same substance. Similarly, from the mere fact that each of us understands himself to be a thinking thing and is capable, in thought, of excluding from himself every other substance, whether thinking or extended, it is certain that each of us, regarded in this way, is really distinct from every other thinking substance and from every corporeal substance. And even if we suppose that God has joined some corporeal substance to such a thinking substance so closely that they cannot be more closely conjoined, thus compounding them into a unity, they nonetheless remain really distinct. For no matter how closely God may have united them, the power which he previously had of separating them, or keeping one in being without the other, is something he could not lay aside; and things which God has the power to separate, or to keep in being separately, are really distinct. 29

61. *What is meant by a 'modal distinction'.*

A *modal distinction* can be taken in two ways: firstly, as a distinction between a mode, properly so called, and the substance of which it is a

mode; and secondly, as a distinction between two modes of the same substance. The first kind of modal distinction can be recognized from the fact that we can clearly perceive a substance apart from the mode which we say differs from it, whereas we cannot, conversely, understand the mode apart from the substance. Thus there is a modal distinction between shape or motion and the corporeal substance in which they inhere; and similarly, there is a modal distinction between affirmation or recollection and the mind. The second kind of modal distinction is recognized from the fact that we are able to arrive at knowledge of one mode apart from another, and *vice versa*, whereas we cannot know either mode apart from the substance in which they both inhere. For example, if a stone is in motion and is square-shaped, I can understand the square shape without the motion and, conversely, the motion without the square shape; but I can understand neither the motion nor the shape apart from the substance of the stone. A different case, however, is the distinction by which the mode of one substance is distinct from another substance or from the mode of another substance. An example of this is the way in which the motion of one body is distinct from another body, or from the mind; or the way in which motion differs from doubt.¹ It seems more appropriate to call this kind of distinction a real distinction, rather than a modal distinction, since the modes in question cannot be clearly understood apart from the really distinct substances of which they are modes.

62. *What is meant by a 'conceptual distinction'.*

Finally, a *conceptual distinction* is a distinction between a substance and some attribute of that substance without which the substance is unintelligible; alternatively, it is a distinction between two such attributes of a single substance. Such a distinction is recognized by our inability to form a clear and distinct idea of the substance if we exclude from it the attribute in question, or, alternatively, by our inability to perceive clearly the idea of one of the two attributes if we separate it from the other. For example, since a substance cannot cease to endure without also ceasing to be, the distinction between the substance and its duration is merely a conceptual one. And in the case of all the modes of thought² which we consider as being in objects, there is merely a conceptual distinction between the modes and the object which they are thought of as applying to; and the same is true of the distinction between the modes

1 In place of *dubitazione* ('doubt') AT read *duratione* ('duration'); the former reading is undoubtedly correct, and is followed in the French version.

2 See above, art. 57 and 58.

themselves when these are in one and the same object.¹ I am aware that elsewhere I did lump this type of distinction with the modal distinction, namely at the end of my Replies to the First Set of Objections to the *Meditations on First Philosophy*²; but that was not a suitable place for making a careful distinction between the two types; it was enough for my purposes to distinguish both from the real distinction.

63. *How thought and extension may be distinctly recognized as constituting the nature of mind and of body.*

Thought and extension can be regarded as constituting the natures of intelligent substance and corporeal substance; they must then be considered as nothing else but thinking substance itself and extended substance itself – that is, as mind and body. In this way we will have a very clear and distinct understanding of them. Indeed, it is much easier for us to have an understanding of extended substance or thinking substance than it is for us to understand substance on its own, leaving out the fact that it thinks or is extended. For we have some difficulty in abstracting the notion of substance from the notions of thought and extension, since the distinction between these notions and the notion of substance itself is merely a conceptual distinction. A concept is not any more distinct because we include less in it; its distinctness simply depends on our carefully distinguishing what we do include in it from everything else.

31

64. *How thought and extension may also be distinctly recognized as modes of a substance.*

Thought and extension may also be taken as modes of a substance, in so far as one and the same mind is capable of having many different thoughts; and one and the same body, with its quantity unchanged, may be extended in many different ways (for example, at one moment it may be greater in length and smaller in breadth or depth, and a little later, by contrast, it may be greater in breadth and smaller in length).³ The distinction between thought or extension and the substance will then be a modal one; and our understanding of them will be capable of being just as clear and distinct as our understanding of the substance itself, provided they are regarded not as substances (that is, things which are separate from other things) but simply as modes of things. By regarding

1 For this sentence the French version substitutes: 'And in general all the attributes which cause us to have different thoughts concerning a single thing, such as the extension of a body and its property of being divided into several parts, do not differ from the body ... or from each other, except in so far as we sometimes think confusedly of one without thinking of the other.' 2 See vol. II, pp. 85f.

3 Cf. the example of the wax in Med. II: vol. II, p. 20.

them as being in the substances of which they are modes, we distinguish them from the substances in question and see them for what they really are. If, on the other hand, we attempted to consider them apart from the substances in which they inhere, we would be regarding them as things which subsisted in their own right, and would thus be confusing the ideas of a mode and a substance.

32 65. *How the modes of thought and extension are to be known.*

There are various modes of thought such as understanding, imagination, memory, volition, and so on; and there are various modes of extension, or modes which belong to extension, such as all shapes, the positions of parts and the motions of the parts. And, just as before, we shall arrive at the best perception of all these items if we regard them simply as modes of the things in which they are located. As far as motion is concerned, it will be best if we think simply of local motion, without inquiring into the force which produces it (though I shall attempt to explain this later in the appropriate place¹).

66. *How sensations, emotions and appetites may be clearly known, despite the fact that we are frequently wrong in our judgements concerning them.*

There remains sensations, emotions and appetites.² These may be clearly perceived provided we take great care in our judgements concerning them to include no more than what is strictly contained in our perception – no more than that of which we have inner awareness. But this is a very difficult rule to observe, at least with regard to sensations. For all of us have, from our early childhood, judged that all the objects of our sense-perception are things existing outside our minds and closely resembling our sensations, i.e. the perceptions that we had of them. Thus, on seeing a colour, for example, we supposed we were seeing a thing located outside us which closely resembled the idea of colour that we experienced within us at the time. And this was something that, because of our habit of making such judgements, we thought we saw clearly and distinctly – so much so that we took it for something certain and indubitable.

67. *We frequently make mistakes, even in our judgements concerning pain.*

The same thing happens with regard to everything else of which we have sensory awareness, even to pleasure and pain. For, although we do not

¹ In Part 2; see especially art. 43 and 44.

² These are the items remaining from the objects of perception listed above, art. 48.

suppose that these exist outside us, we generally regard them not as being in the mind alone, or in our perception, but as being in the hand or foot or in some other part of our body. But the fact that we feel a pain as it were in our foot does not make it certain that the pain exists outside our mind, in the foot, any more than the fact that we see light as it were in the sun, makes it certain the light exists outside us, in the sun. Both these beliefs are preconceived opinions of our early childhood, as will become clear below. 33

68. *How to distinguish what we clearly know in such matters from what can lead us astray.*

In order to distinguish what is clear in this connection from what is obscure, we must be very careful to note that pain and colour and so on are clearly and distinctly perceived when they are regarded merely as sensations or thoughts. But when they are judged to be real things existing outside our mind, there is no way of understanding what sort of things they are. If someone says he sees colour in a body or feels pain in a limb, this amounts to saying that he sees or feels something there of which he is wholly ignorant, or, in other words, that he does not know what he is seeing or feeling. Admittedly, if he fails to pay sufficient attention, he may easily convince himself that he has some knowledge of what he sees or feels, because he may suppose that it is something similar to the sensation of colour or pain which he experiences within himself. But if he examines the nature of what is represented by the sensation of colour or pain – what is represented as existing in the coloured body or the painful part – he will realize that he is wholly ignorant of it.

69. *We know size, shape and so forth in quite a different way from the way in which we know colours, pains and the like.*

This will be especially clear if we consider the wide gap between our knowledge of those features of bodies which we clearly perceive, as stated earlier,¹ and our knowledge of those features which must be referred to the senses, as I have just pointed out. To the former class belong the size of the bodies we see, their shape, motion, position, duration, number and so on (by 'motion' I mean local motion: philosophers have imagined that there are other kinds of motion distinct from local motion, thereby only making the nature of motion less intelligible to themselves).² To the latter class belong the colour in a body, as well as 34

1 See above, art. 48.

2 By 'local motion' is meant, roughly, movement from place to place (see further Part 2, art. 24 and 25, below pp. 233f). Scholastic philosophers, following Aristotle, sometimes classified any alteration (e.g. a quantitative or a qualitative change) as a type of motion; various other distinctions, e.g. that between 'natural' and 'violent' motion, were also commonplace. See also *The World*, p. 94 above.

pain, smell, taste and so on. It is true that when we see a body we are just as certain of its existence in virtue of its having a visible colour as we are in virtue of its having a visible shape; but our knowledge of what it is for the body to have a shape is much clearer than our knowledge of what it is for it to be coloured.

70. *There are two ways of making judgements concerning the things that can be perceived by the senses: the first enables us to avoid error, while the second allows us to fall into error.*

It is clear, then, that when we say that we perceive colours in objects, this is really just the same as saying that we perceive something in the objects whose nature we do not know, but which produces in us a certain very clear and vivid sensation which we call the sensation of colour. But the way in which we make our judgement can vary very widely. As long as we merely judge that there is in the objects (that is, in the things, whatever they may turn out to be, which are the source of our sensations) something whose nature we do not know, then we avoid error; indeed, we are actually guarding against error, since the recognition that we are ignorant of something makes us less liable to make any rash judgement about it. But it is quite different when we suppose that we perceive colours in objects. Of course, we do not really know what it is that we are calling a colour; and we cannot find any intelligible resemblance between the colour which we suppose to be in objects and that which we experience in our sensation. But this is something we do not take account of; and, what is more, there are many other features, such as size, shape and number which we clearly perceive to be actually or at least possibly present in objects in a way exactly corresponding to our sensory perception or understanding. And so we easily fall into the error of
 35 judging that what is called colour in objects is something exactly like the colour of which we have sensory awareness; and we make the mistake of thinking that we clearly perceive what we do not perceive at all.

71. *The chief cause of error arises from the preconceived opinions of childhood.*

It is here that the first and main cause of all our errors may be recognized. In our early childhood the mind was so closely tied to the body that it had no leisure for any thoughts except those by means of which it had sensory awareness of what was happening to the body. It did not refer these thoughts to anything outside itself, but merely felt pain when something harmful was happening to the body and felt pleasure when something beneficial occurred. And when nothing very beneficial or harmful was happening to the body, the mind had various sensations corresponding to

the different areas where, and ways in which, the body was being stimulated, namely what we call the sensations of tastes, smells, sounds, heat, cold, light, colours and so on – sensations which do not represent anything located outside our thought.¹ At the same time the mind perceived sizes, shapes, motions and so on, which were presented to it not as sensations but as things, or modes of things, existing (or at least capable of existing) outside thought, although it was not yet aware of the difference between things and sensations. The next stage arose when the mechanism of the body, which is so constructed by nature that it has the ability to move in various ways by its own power, twisted around aimlessly in all directions in its random attempts to pursue the beneficial and avoid the harmful; at this point the mind that was attached to the body began to notice that the objects of this pursuit or avoidance had an existence outside itself. And it attributed to them not only sizes, shapes, motions and the like, which it perceived as things or modes of things, but also tastes, smells and so on, the sensations of which were, it realized, produced by the objects in question. Moreover, since the mind judged everything in terms of its utility to the body in which it was immersed, it assessed the amount of reality in each object by the extent to which it was affected by it. As a result, it supposed that there was more substance or corporeality in rocks and metals than in water or air, since it felt more hardness and heaviness in them. Indeed, it regarded the air as a mere nothing, so long as it felt no wind or cold or heat in it. And because the light coming from the stars appeared no brighter than that produced by the meagre glow of an oil lamp, it did not imagine any star as being any bigger than this. And because it did not observe that the earth turns on its axis or that its surface is curved to form a globe, it was rather inclined to suppose that the earth was immobile and its surface flat. Right from infancy our mind was swamped with a thousand such preconceived opinions; and in later childhood, forgetting that they were adopted without sufficient examination, it regarded them as known by the senses or implanted by nature, and accepted them as utterly true and evident. 36

72. *The second cause of error is that we cannot forget our preconceived opinions.*

In later years the mind is no longer a total slave to the body, and does not refer everything to it. Indeed, it inquires into the truth of things considered in themselves, and discovers very many of its previous judgements to be false. But despite this, it is not easy for the mind to erase

1 '... but which vary according to the different movements which pass from all parts of our body to the part of the brain to which our mind is closely joined and united' (added in French version).

these false judgements from its memory; and as long as they stick there, they can cause a variety of errors. For example, in our early childhood we
 37 imagined the stars as being very small; and although astronomical arguments now clearly show us that they are very large indeed, our preconceived opinion is still strong enough to make it very hard for us to imagine them differently from the way we did before.

73. *The third cause of error is that we become tired if we have to attend to things which are not present to the senses; as a result, our judgements on these things are habitually based not on present perception but on preconceived opinion.*

What is more, our mind is unable to keep its attention on things without some degree of difficulty and fatigue; and it is hardest of all for it to attend to what is not present to the senses or even to the imagination. This may be due to the very nature that the mind has as a result of being joined to the body; or it may be because it was exclusively occupied with the objects of sense and imagination in its earliest years, and has thus acquired more practice and a greater aptitude for thinking about them than it has for thinking about other things. The result of this is that many people's understanding of substance is still limited to that which is imaginable and corporeal, or even to that which is capable of being perceived by the senses. Such people do not know that the objects of the imagination are restricted to those which have extension, motion and shape, whereas there are many other things that are objects of the understanding. Also, they suppose that nothing can subsist unless it is a body, and that no body can subsist unless it can be perceived by the senses. Now since, as will be clearly shown below, there is nothing whose true nature we perceive by the senses alone, it turns out that most people have nothing but confused perceptions throughout their entire lives.

74. *The fourth cause of error is that we attach our concepts to words which do not precisely correspond to real things.*

Finally, because of the use of language, we tie all our concepts to the words used to express them; and when we store the concepts in our memory we always simultaneously store the corresponding words. Later on we find the words easier to recall than the things; and because of this it is very seldom that our concept of a thing is so distinct that we can separate it totally from our concept of the words involved. The thoughts of almost all people are more concerned with words than with things; and as a result people very often give their assent to words they do not
 38 understand, thinking they once understood them, or that they got them

from others who did understand them correctly. This is not the place to give a precise account of all these matters, since the nature of the human body has not yet been dealt with – indeed the existence of any body has not yet been proved. Nonetheless, what has been said appears to be sufficiently intelligible to help us distinguish those of our concepts which are clear and distinct from those which are obscure and confused.

75. *Summary of the rules to be observed in order to philosophize correctly.*

In order to philosophize seriously and search out the truth about all the things that are capable of being known, we must first of all lay aside all our preconceived opinions, or at least we must take the greatest care not to put our trust in any of the opinions accepted by us in the past until we have first scrutinized them afresh and confirmed their truth. Next, we must give our attention in an orderly way to the notions that we have within us, and we must judge to be true all and only those whose truth we clearly and distinctly recognize when we attend to them in this way. When we do this we shall realize, first of all, that we exist in so far as our nature consists in thinking; and we shall simultaneously realize both that there is a God, and that we depend on him, and also that a consideration of his attributes enables us to investigate the truth of other things, since he is their cause. Finally, we will see that besides the notions of God and of our mind, we have within us knowledge of many propositions which are eternally true, such as ‘Nothing comes from nothing’. We shall also find that we have knowledge both of a corporeal or extended nature which is divisible, moveable, and so on, and also of certain sensations which affect us, such as the sensations of pain, colours, tastes and so on (though we do not yet know the cause of our being affected in this way). When we contrast all this knowledge with the confused thoughts we had before, we will acquire the habit of forming clear and distinct concepts of all the things that can be known. These few instructions seem to me to contain the most important principles of human knowledge. 39

76. *Divine authority must be put before our own perception; but, that aside, the philosopher should give his assent only to what he has perceived.*

But above all else we must impress on our memory the overriding rule that whatever God has revealed to us must be accepted as more certain than anything else. And although the light of reason may, with the utmost clarity and evidence, appear to suggest something different, we must still put our entire faith in divine authority rather than in our own judgement. But on matters where we are not instructed by divine faith, it

is quite unworthy of a philosopher to accept anything as true if he has never established its truth by thorough scrutiny; and he should never rely on the senses, that is, on the ill-considered judgements of his childhood, in preference to his mature powers of reason.