

René Descartes, *Discourse on the Method for Conducting One's Reason Well and for Seeking the Truth in the Sciences* (1637)¹

[Author's Preface]

If this discourse seems too long to be read at one time, it may be divided into six parts. In the first part, you will find various considerations concerning the sciences; in the second part, the chief rules of the method which the author has sought; in the third part, some of the rules of morality which he has derived from this method; in the fourth part, the arguments by which he proves the existence of God and of the human soul, which are the foundations of his metaphysics; in the fifth part, the order of the questions in physics that he has investigated, and particularly the explanation of the movement of the heart and of other difficulties that pertain to medicine, as well as the difference between our soul and that of beasts; and in the final part, what things the author believes are required in order to advance further in the investigation of nature than the author has done, and what reasons have made him write.

Part One

Good sense is the best distributed thing in the world, for everyone thinks himself to be so well endowed

with it that even those who are the most difficult to please in everything else are not at all wont to desire more of it than they have. It is not likely that everyone is mistaken in this. Rather, it provides evidence that the power of judging well and of distinguishing the true from the false (which is, properly speaking, what people call “good sense” or “reason”) is naturally equal in all men, and that the diversity of our opinions does not arise from the fact that some people are more reasonable than others, but solely from the fact that we lead our thoughts along different paths and do not take the same things into consideration. For it is not enough to have a good mind; the main thing is to apply it well. The greatest souls are capable of the greatest vices as well as of the greatest virtues. And those who proceed only very slowly can make much greater progress, provided they always follow the right path, than do those who hurry and stray from it.

For myself, I have never presumed that my mind was in any respect more perfect than that of ordinary men. In fact, I have often desired to have as quick a wit, or as keen and distinct an imagination, or as full and responsive a memory as some other people. And other than these I know of no qualities that serve in the perfecting of the mind, for as to reason or sense, inasmuch as it alone makes us men and distinguishes us from the beasts, I prefer to believe that it exists

1. Translated from the French by Donald Cress in René Descartes, *Discourse on Method* (Indianapolis/Cambridge: Hackett Publishing Company, 1980).

whole and entire in each of us, and in this to follow the opinion commonly held by the philosophers, who say that there are differences of degree only between accidents, but not at all between forms or natures of individuals of the same species.

But I shall have no fear of saying that I think I have been rather fortunate to have, since my youth, found myself on certain paths that have led me to considerations and maxims from which I have formed a method by which, it seems to me, I have the means to increase my knowledge by degrees and to raise it little by little to the highest point which the mediocrity of my mind and the short duration of my life will be able to allow it to attain. For I have already reaped from it such a harvest that, although I try, in judgments I make of myself, always to lean more on the side of diffidence than of presumption, and although, looking with a philosopher's eye at the various actions and enterprises of all men, there is hardly one of them that does not seem to me vain and useless, I cannot but take immense satisfaction in the progress that I think I have already made in the search for truth, and I cannot but envisage such hopes for the future that if, among the occupations of men purely as men, there is one that is solidly good and important, I dare to believe that it is the one I have chosen.

All the same, it could be that I am mistaken, and what I take for gold and diamonds is perhaps nothing but a bit of copper and glass. I know how much we are prone to err in what affects us, and also how much the judgments made by our friends should be distrusted when these judgments are in our favor. But I will be very happy to show in this discourse what paths I have followed and to represent my life in it as if in a picture, so that everyone may judge it for himself; and that, learning from the common response the opinions one will have of it, this may be a new means of teaching myself, which I shall add to those that I am accustomed to using.

Thus my purpose here is not to teach the method that everyone ought to follow in order to conduct his reason well, but merely to show how I have tried to conduct my own. Those who take it upon themselves to give precepts must regard themselves as more

competent than those to whom they give them; and if they are found wanting in the least detail, they are to blame. But putting forward this essay merely as a story or, if you prefer, as a fable in which, among some examples one can imitate, one will perhaps also find many others which one will have reason not to follow, I hope that it will be useful to some without being harmful to anyone, and that everyone will be grateful to me for my frankness.

I have been nourished on letters since my childhood, and because I was convinced that by means of them one could acquire a clear and assured knowledge of everything that is useful in life, I had a tremendous desire to master them. But as soon as I had completed this entire course of study, at the end of which one is ordinarily received into the ranks of the learned, I completely changed my mind. For I found myself confounded by so many doubts and errors that it seemed to me that I had not gained any profit from my attempt to teach myself, except that more and more I had discovered my ignorance. And yet I was at one of the most renowned schools of Europe, where I thought there must be learned men, if in fact any such men existed anywhere on earth. There I had learned everything the others were learning; and, not content with the disciplines we were taught there, I had gone through all the books I could lay my hands on that treated those disciplines considered the most curious and most unusual. Moreover, I knew what judgments the others were making about me; and I did not at all see that I was rated inferior to my fellow students, even though there already were some among them who were destined to take the place of our teachers. And finally our age seemed to me to be just as flourishing and as fertile in good minds as any of the preceding ones. This made me feel free to judge all others by myself, and to think that there was no doctrine in the world that was of the sort that I had previously been led to hope for.

I did not, however, cease to hold in high regard the academic exercises with which we occupy ourselves in the schools. I knew that the languages learned there are necessary for the understanding of classical texts; that the charm of fables awakens the mind; that the memorable deeds recounted in

histories uplift it, and, if read with discretion, aid in forming one's judgment; that the reading of all good books is like a conversation with the most honorable people of past ages, who were their authors, indeed, even like a set conversation in which they reveal to us only the best of their thoughts; that oratory has incomparable power and beauty; that poetry has quite ravishing delicacy and sweetness; that mathematics has some very subtle stratagems that can serve as much to satisfy the curious as to facilitate all the arts and to lessen men's labor; that writings dealing with morals contain many lessons and many exhortations to virtue that are very useful; that theology teaches one how to reach heaven; that philosophy provides the means of speaking plausibly about all things and of making oneself admired by the less learned; that jurisprudence, medicine, and the other sciences bring honors and riches to those who cultivate them; and, finally, that it is good to have examined all these disciplines, even the most superstition-ridden and the most false of them, in order to know their true worth and to guard against being deceived by them.

But I believed I had already given enough time to languages, and also to the reading of classical texts, both to their histories and to their fables. For conversing with those of other ages is about the same thing as traveling. It is good to know something of the customs of various peoples, so as to judge our own more soundly and so as not to think that everything that is contrary to our ways is ridiculous and against reason, as those who have seen nothing have a habit of doing. But when one takes too much time traveling, one eventually becomes a stranger in one's own country; and when one is too curious about what commonly took place in past ages, one usually remains quite ignorant of what is taking place in one's own country. Moreover, fables make one imagine many events to be possible which are not so at all. And even the most accurate histories, if they neither alter nor exaggerate the significance of things in order to render them more worthy of being read, almost always at least omit the baser and less noteworthy details. Consequently, the rest do not appear as they really are, and those who govern their own conduct by means of examples drawn from these texts are liable to fall

into the extravagances of the knights of our romances and to conceive plans that are beyond their powers.

I held oratory in high regard and was enamored of poetry, but I thought both were gifts of the mind rather than fruits of study. Those who possess the strongest reasoning and who best order their thoughts in order to make them clear and intelligible can always best persuade others of what they are proposing, even if they were to speak only Low Breton² and had never learned rhetoric. And those who have the most pleasing rhetorical devices and who know how to express themselves with the most embellishment and sweetness would not fail to be the greatest poets, even if the art of poetry were unknown to them.

I delighted most of all in mathematics because of the certainty and the evidence of its reasonings. But I did not yet notice its true use, and, thinking that it was of service merely to the mechanical arts, I was astonished by the fact that no one had built anything more noble upon its foundations, given that they were so solid and firm. On the other hand, I compared the writings of the ancient pagans that deal with morals to very proud and very magnificent palaces that were built on nothing but sand and mud. They place virtues on a high plateau and make them appear to be valued more than anything else in the world, but they do not sufficiently instruct us about how to recognize them; and often what they call by so fine-sounding a name is nothing more than a kind of insensibility, pride, desperation, or parricide.

I revered our theology, and I desired as much as anyone else to reach heaven; but having learned as something very certain that the road to heaven is open no less to the most ignorant than to the most learned, and that the revealed truths guiding us there are beyond our understanding, I would not have dared to submit them to the frailty of my reasonings. And I thought that, in order to undertake an examination of these truths and to succeed in doing so, it would be necessary to have some extraordinary assistance from heaven and to be more than a man.

Concerning philosophy I shall say only that, seeing that it has been cultivated for many centuries by

2. This dialect was considered rather barbarous and hardly suitable for sophisticated literary endeavors.

the most excellent minds that have ever lived and that, nevertheless, there still is nothing in it about which there is not some dispute, and consequently nothing that is not doubtful, I was not at all so presumptuous as to hope to fare any better there than the others; and that, considering how many opinions there can be about the very same matter that are held by learned people without there ever being the possibility of more than one opinion being true, I deemed everything that was merely probable to be well nigh false.

Then, as for the other sciences, I judged that, insofar as they borrow their principles from philosophy, one could not have built anything solid upon such unstable foundations. And neither the honor nor the monetary gain they promised was sufficient to induce me to master them, for I did not perceive myself, thank God, to be in a condition that obliged me to make a career out of science in order to enhance my fortune. And although I did not make a point of rejecting glory after the manner of a Cynic, nevertheless I placed very little value on the glory that I could not hope to acquire except through false pretenses. And finally, as to the false doctrines, I thought I already knew well enough what they were worth, so as not to be liable to be deceived either by the promises of an alchemist, the predictions of an astrologer, the tricks of a magician, or the ruses or boasts of any of those who profess to know more than they do.

That is why, as soon as age permitted me to emerge from the supervision of my teachers, I completely abandoned the study of letters. And resolving to search for no knowledge other than what could be found within myself, or else in the great book of the world, I spent the rest of my youth traveling, seeing courts and armies, mingling with people of diverse temperaments and circumstances, gathering various experiences, testing myself in the encounters that fortune offered me, and everywhere engaging in such reflection upon the things that presented themselves that I was able to derive some profit from them. For it seemed to me that I could find much more truth in the reasonings that each person makes concerning matters that are important to him, and whose outcome ought to cost him dearly later on if he has judged badly, than in those reasonings engaged in by

a man of letters in his study, which touch on speculations that produce no effect and are of no other consequence to him except perhaps that, the more they are removed from common sense, the more pride he will take in them, for he will have to employ that much more wit and ingenuity in attempting to render them plausible. And I have always had an especially great desire to learn to distinguish the true from the false, in order to see my way clearly in my actions, and to go forward with confidence in this life.

It is true that, so long as I merely considered the customs of other men, I found hardly anything there about which to be confident, and that I noticed there was about as much diversity as I had previously found among the opinions of philosophers. Thus the greatest profit I derived from this was that, on seeing many things that, although they seem to us very extravagant and ridiculous, do not cease to be commonly accepted and approved among other great peoples, I learned not to believe anything too firmly of which I had been persuaded only by example and custom; and thus I little by little freed myself from many errors that can darken our natural light and render us less able to listen to reason. But after I had spent some years thus studying in the book of the world and in trying to gain some experience, I resolved one day to study within myself too and to spend all the powers of my mind in choosing the paths that I should follow. In this I had much more success, it seems to me, than had I never left either my country or my books.

Part Two

I was then in Germany, where the occasion of the wars which are not yet over there³ had called me; and as I was returning to the army from the coronation of the emperor, the onset of winter detained me in quarters where, finding no conversation to divert me and fortunately having no worries or passions to trouble me, I remained for an entire day shut up by myself in a stove-heated room,⁴ where I was completely free

3. Thirty Years War (1618–48).

4. There is no need to allege that Descartes sat in or on a stove. A *poêle* is simply a room heated by an earthenware stove. Cf. E. Gilson, *Discours de la méthode: texte et commentaire* (Paris: Vrin, 1967), p. 157.

to converse with myself about my thoughts. Among them, one of the first was that it occurred to me to consider that there is often not as much perfection in works composed of many pieces and made by the hands of various master craftsmen as there is in those works on which but a single individual has worked. Thus one sees that buildings undertaken and completed by a single architect are usually more attractive and better ordered than those which many architects have tried to patch up by using old walls that had been built for other purposes. Thus those ancient cities that were once mere villages and in the course of time have become large towns are usually so poorly laid out, compared to those well-ordered places that an engineer traces out on a vacant plain as it suits his fancy, that even though, upon considering each building one by one in the former sort, one often finds as much, if not more art, than one finds in those of the latter; still, upon seeing how the buildings are arranged—here a large one, there a small one—and how they make the streets crooked and uneven, one would say that it is chance rather than the will of some men using reason that has arranged them thus. And if one considers that there have nevertheless always been officials responsible for seeing that private buildings contribute to the attractiveness of public areas, one will well understand that it is difficult to make things that are very finely crafted by laboring only on the works of others. Thus I imagined that peoples who, having once been half-savages and having been civilized only little by little, have made their laws only to the extent that the inconvenience due to crimes and quarrels forced them to do so, could not be as well ordered as those who, from the very beginning of their coming together, have followed the fundamental precepts of some prudent legislator. Likewise, it is quite certain that the state of the true religion, whose ordinances were made by God alone, must be incomparably better ordered than all the others. And, speaking of things human, I believe that if Sparta was at one time very flourishing, this was not because of the goodness of each one of its laws taken by itself, seeing that many of them were very strange and even contrary to good morals, but because, having been devised by a single

individual, they all tended toward the same end. And thus I thought that book learning, at least the kind whose reasonings are merely probable and that do not have any demonstrations, having been composed and enlarged little by little from the opinions of many different persons, does not draw nearly so close to the truth as the simple reasonings that a man of good sense can naturally make about the things he encounters. And thus, too, I thought that, because we were all children before being men and because for a long time it was necessary for us to be governed by our appetites and our teachers (which were frequently in conflict with one another, and of which perhaps neither always gave us the best advice), it is nearly impossible for our judgments to be as pure or as solid as they would have been if we had had the full use of our reason from the moment of our birth and if we had always been guided by it alone.

It is true that we never see anyone pulling down all the houses in a city for the sole purpose of rebuilding them in a different style and of making the streets more attractive; but one does see very well that many people tear down their own houses in order to rebuild them, and that in some cases they are even forced to do so when their houses are in danger of collapsing and when the foundations are not very secure. This example persuaded me that it would not really be at all reasonable for a single individual to plan to reform a state by changing everything in it from the foundations up and by toppling it in order to set it up again; nor even also to reform the body of the sciences or the order established in the schools for teaching them; but that, as regards all the opinions to which I had until now given credence, I could not do better than to try to get rid of them once and for all, in order to replace them later on, either with other ones that are better, or even with the same ones once I had reconciled them to the level of reason. And I firmly believed that by this means I would succeed in conducting my life much better than if I were to build only upon old foundations and if I were to rely only on the principles of which I had allowed myself to be persuaded in my youth without ever having examined whether they were true. For although I noticed various difficulties in this undertaking, still they were

not irremediable, nor were they comparable to those difficulties occurring in the reform of the least things that affect the public. These great bodies are too difficult to raise up once they have been knocked down, or even to hold up once they have been shaken; and their fall can only be very violent. Moreover, as to their imperfections, if they have any (and the mere fact of the diversity that exists among them suffices to assure one that many do have imperfections), custom has doubtless greatly mitigated them and has even prevented or imperceptibly corrected many of them, against which prudence could not provide so well. And finally, these imperfections are almost always more tolerable than changing them would be; similarly, the great roads that wind through mountains little by little become so smooth and so convenient by dint of being frequently used that it is much better to follow them than to try to take a more direct route by climbing over rocks and descending to the bottom of precipices.

That is why I could in no way approve of those troublemaking and restless personalities who, called neither by their birth nor by their fortune to manage public affairs, are forever coming up with an idea for some new reform in this matter. And if I thought there were in this writing the slightest thing by means of which one might suspect me of such folly, I would be very sorry to permit its publication. My plan has never gone beyond trying to reform my own thoughts and building upon a foundation which is completely my own. And if, my work having pleased me sufficiently, I here show you a model of it, it is not for the reason that I would wish to advise anyone to imitate it. Perhaps those with whom God has better shared his graces will have more lofty plans; but I fear that even this one here may already be too daring for many. The single resolution to rid oneself of all the opinions to which one has heretofore given credence is not an example that everyone ought to follow; and the world consists almost exclusively of two kinds of minds for whom it is not at all suitable. First, there are those who, believing themselves more capable than they are, are unable to avoid being hasty in their judgments or have enough patience to conduct all their thoughts in an orderly manner; as a result, if they have once

taken the liberty of doubting the principles they had accepted and of straying from the common path, they could never keep to the path one must take in order to go in a more straightforward direction, and they would remain lost all their lives. Second, there are those who have enough reason or modesty to judge that they are less capable of distinguishing the true from the false than certain others by whom they can be instructed; such people should content themselves more with following the opinions of these others than with looking for better ones themselves.

And as for myself, I would unquestionably have been counted among these latter persons if I had always had only one master or if I had not known at all the differences that have always existed among the opinions of the most learned. But I had learned in my college days that one cannot imagine anything so strange or so little believable that it has not been said by one of the philosophers, and since then, I had recognized in my travels that all those who have sentiments quite contrary to our own are not for that reason barbarians or savages, but that many of them use their reason as much as or more than we do. And I considered how one and the same man with the very same mind, were he brought up from infancy among the French or the Germans, would become different from what he would be had he always lived among the Chinese or the cannibals; and how, even down to the styles of our clothing, the same thing that pleased us ten years ago, and that perhaps will again please us ten years hence, now seems to us extravagant and ridiculous. Thus it is more custom and example that persuades us than any certain knowledge; and yet the majority opinion is worthless as a proof of truths that are at all difficult to discover, since it is much more likely that one man would have found them than a whole multitude of people. Hence I could not choose anyone whose opinions seemed to me preferable over those of the others, and I found myself, as it were, constrained to try to guide myself on my own.

But, like a man who walks alone and in the dark, I resolved to go so slowly and to use so much circumspection in all things that, if I advanced only very slightly, at least I would effectively keep myself from falling. Nor did I want to begin to reject totally any

of the opinions that had once been able to slip into my head without having been introduced there by reason, until I had first spent sufficient time planning the work I was undertaking and seeking the true method for arriving at the knowledge of everything of which my mind would be capable.

When I was younger, I had studied, among the parts of philosophy, a little logic, and among those of mathematics, a bit of geometrical analysis and algebra—three arts or sciences that, it seemed, ought to contribute something to my plan. But in examining them, I noticed that, in the case of logic, its syllogisms and the greater part of its other lessons served more to explain to someone else the things one knows, or even, like the art of Lully,⁵ to speak without judgment concerning matters about which one is ignorant, than to learn them. And although, in effect, it might well contain many very true and very good precepts, nevertheless there are so many others mixed up with them that are either harmful or superfluous, that it is almost as difficult to separate the latter precepts from the former as it is to draw a Diana or a Minerva from a block of marble that has not yet been hewn. Then, as to the analysis of the ancients and the algebra of the moderns, apart from the fact that they apply only to very abstract matters and seem to be of no use, the former is always so closely tied to the consideration of figures that it cannot exercise the understanding without greatly fatiguing the imagination; and in the case of the latter, one is so subjected to certain rules and to certain symbols, that out of it there results a confused and obscure art that encumbers the mind rather than a science that cultivates it. That is why I thought it necessary to search for some other method embracing the advantages of these three yet

free from their defects. And since the multiplicity of laws often provides excuses for vices, so that a state is much better ruled when it has but very few laws and when these are very strictly observed; likewise, in place of the large number of precepts of which logic is composed, I believed that the following four rules would be sufficient for me, provided I made a firm and constant resolution not even once to fail to observe them:

The first was never to accept anything as true that I did not plainly know to be such; that is to say, carefully to avoid hasty judgment and prejudice; and to include nothing more in my judgments than what presented itself to my mind so clearly and so distinctly that I had no occasion to call it in doubt.

The second, to divide each of the difficulties I would examine into as many parts as possible and as was required in order better to resolve them.

The third, to conduct my thoughts in an orderly fashion, by commencing with those objects that are simplest and easiest to know, in order to ascend little by little, as by degrees, to the knowledge of the most composite things, and by supposing an order even among those things that do not naturally precede one another.

And the last, everywhere to make enumerations so complete and reviews so general that I was assured of having omitted nothing.

Those long chains of utterly simple and easy reasonings that geometers commonly use to arrive at their most difficult demonstrations had given me occasion to imagine that all the things that can fall within human knowledge follow from one another in the same way, and that, provided only that one abstain from accepting any of them as true that is not true, and that one always adheres to the order one must follow in deducing the ones from the others, there cannot be any that are so remote that they are not eventually reached nor so hidden that they are not discovered. And I was not very worried about trying to find out which of them it would be necessary to begin with; for I already knew that it was with the simplest and easiest to know. And considering that, of all those who have hitherto searched for the truth in the sciences, only the mathematicians have been

5. Lully, that is, Ramon Lull (ca. 1235–1316), was a Catalan philosopher and Franciscan who wrote in defense of Christianity against the Moors by attempting to demonstrate the articles of faith by means of logic. Descartes seems to have encountered a Lullist in Dordrecht who could hold forth on any subject whatever for long periods of time. This encounter, more than any direct contact with the writings of Lull, seems to have colored Descartes' understanding of the "art of Lully." Cf. E. Gilson, *Discours de la méthode: texte et commentaire*, pp. 185–86.

able to find any demonstrations, that is to say, certain and evident reasonings, I did not at all doubt that it was with these same things that they had examined [that I should begin]; although I expected from them no other utility but that they would accustom my mind to nourish itself on truths and not to be content with false reasonings. But it was not my plan on that account to try to learn all those particular sciences commonly called mathematical; and seeing that, even though their objects differed, these sciences did not cease to be all in accord with one another in considering nothing but the various relations or proportions which are found in their objects, I thought it would be more worthwhile for me to examine only these proportions in general, and to suppose them to be only in subjects that would help me make the knowledge of them easier, and without at the same time in any way restricting them to those subjects, so that later I could apply them all the better to everything else to which they might pertain. Then, having noted that, in order to know these proportions, I would sometimes need to consider each of them individually, and sometimes only to keep them in mind, or to grasp many of them together, I thought that, in order better to consider them in particular, I ought to suppose them to be relations between lines, since I found nothing more simple, or nothing that I could represent more distinctly to my imagination and to my senses; but that, in order to keep them in mind or to grasp many of them together, I would have to explicate them by means of certain symbols, the briefest ones possible; and that by this means I would be borrowing all that is best in geometrical analysis and algebra, and correcting all the defects of the one by means of the other.

In fact, I dare say the strict adherence to these few precepts I had chosen gave me such facility for disentangling all the questions to which these two sciences extend, that, in the two or three months I spent examining them, having begun with the simplest and most general, and each truth that I found being a rule that later helped me to find others, not only did I arrive at a solution of many problems that I had previously judged very difficult, but also it seemed to me toward the end that, even

in those instances where I was ignorant, I could determine by what means and how far it was possible to resolve them. In this perhaps I shall not seem to you to be too vain, if you will consider that, there being but one truth with respect to each thing, whoever finds this truth knows as much about a thing as can be known; and that, for example, if a child who has been instructed in arithmetic has made an addition following its rules, he can be assured of having found everything regarding the sum he was examining that the human mind would know how to find. For ultimately, the method that teaches one to follow the true order and to enumerate exactly all the circumstances of what one is seeking contains everything that gives certainty to the rules of arithmetic.

But what pleased me most about this method was that by means of it I was assured of using my reason in everything, if not perfectly, at least as well as was in my power; and in addition that I felt that in practicing this method my mind was little by little getting into the habit of conceiving its objects more rigorously and more distinctly and that, not having restricted the method to any particular subject matter, I promised myself to apply it as usefully to the problems of the other sciences as I had to those of algebra. Not that, on this account, I would have dared at the outset to undertake an examination of all the problems that presented themselves; for that would itself have been contrary to the order prescribed by the method. But having noted that the principles of these sciences must all be derived from philosophy, in which I did not yet find any that were certain, I thought it was necessary for me first of all to try to establish some there; and that, this being the most important thing in the world, and the thing in which hasty judgment and prejudice were most feared, I should not try to accomplish that objective until I had reached a much more mature age than that of merely twenty-three, which I was then, and until I had first spent a great deal of time preparing myself for it, as much in rooting out from my mind all the wrong opinions that I had accepted before that time as in accumulating many experiences, in order for them later to be the subject matter of my reasonings, and in always practicing the method I

had prescribed for myself so as to strengthen myself more and more in its use.

Part Five

[...] I paused here in particular in order to show that, if there were such machines having the organs and the shape of a monkey or of some other animal that lacked reason, we would have no way of recognizing that they were not entirely of the same nature as these animals; whereas, if there were any such machines that bore a resemblance to our bodies and imitated our actions as far as this is practically feasible, we would always have two very certain means of recognizing that they were not at all, for that reason, true men. The first is that they could never use words or other signs, or put them together as we do in order to declare our thoughts to others. For one can well conceive of a machine being so made that it utters words, and even that it utters words appropriate to the bodily actions that will cause some change in its organs (such as if one touches it in a certain place, it asks what one wants to say to it, or, if in another place, it cries out that one is hurting it, and the like). But it could not arrange its words differently so as to respond to the sense of all that will be said in its presence, as even the dumbest men can do. The second means is that, although they might perform many tasks very well or perhaps better than any of us, such machines would inevitably fail in other tasks; by this means one would discover that they were acting, not through knowledge, but only through the disposition of their organs. For while reason is a universal instrument that can be of help in all sorts of circumstances, these organs require some particular disposition for each particular action; consequently, it is for all practical purposes impossible for there to be enough different organs in a machine to make it act in all the contingencies of life in the same way as our reason makes us act.

Now by these two means one can also know the difference between men and beasts. For it is rather remarkable that there are no men so dull and so stupid (excluding not even the insane), that they are incapable of arranging various words together and of composing from them a discourse by means of which they might make their thoughts understood;

and that, on the other hand, there is no other animal at all, however perfect and pedigreed it may be, that does the like. This does not happen because they lack the organs, for one sees that magpies and parrots can utter words just as we can, and yet they cannot speak as we do, that is to say, by testifying to the fact that they are thinking about what they are saying; on the other hand, men born deaf and dumb, who are deprived just as much as, or more than, beasts of the organs that aid others in speaking, are wont to invent for themselves various signs by means of which they make themselves understood to those who, being with them on a regular basis, have the time to learn their language. And this attests not merely to the fact that the beasts have less reason than men but that they have none at all. For it is obvious it does not need much to know how to speak; and since we notice as much inequality among animals of the same species as among men, and that some are easier to train than others, it is unbelievable that a monkey or a parrot that is the most perfect of its species would not equal in this respect one of the most stupid children or at least a child with a disordered brain, if their soul were not of a nature entirely different from our own. And we should not confuse words with the natural movements that attest to the passions and can be imitated by machines as well as by animals. Nor should we think, as did some of the ancients, that beasts speak, although we do not understand their language; for if that were true, since they have many organs corresponding to our own, they could make themselves as well understood by us as they are by their fellow-creatures. It is also a very remarkable phenomenon that, although there are many animals that show more skill than we do in some of their actions, we nevertheless see that they show none at all in many other actions. Consequently, the fact that they do something better than we do does not prove that they have any intelligence; for were that the case, they would have more of it than any of us and would excel us in everything. But rather it proves that they have no intelligence at all, and that it is nature that acts in them, according to the disposition of their organs—just as we see that a clock composed

exclusively of wheels and springs can count the hours and measure time more accurately than we can with all our carefulness.

After that, I described the rational soul and showed that it can in no way be derived from the potentiality of matter, as can the other things I have spoken of, but rather that it must be expressly created; and how it is not enough for it to be lodged in the human body like a pilot in his ship, unless perhaps in order to move its members, but rather that it must be more closely joined and united to the body in order to have, in addition to this, feelings and appetites similar to our own, and thus to constitute a true man. As to the rest, I elaborated here a little on the subject of the soul because it is of the greatest

importance; for, after the error of those who deny the existence of God (which I think I have sufficiently refuted), there is none at all that puts weak minds at a greater distance from the straight path of virtue than to imagine that the soul of beasts is of the same nature as ours, and that, as a consequence, we have nothing to fear or to hope for after this life any more than do flies and ants. On the other hand, when one knows how different they are, one understands much better the arguments which prove that our soul is of a nature entirely independent of the body, and consequently that it is not subject to die with it. Then, since we do not see any other causes at all for its destruction, we are naturally led to judge from this that it is immortal.