"I think, therefore I am ... "

René Descartes

The French mathematician and philosopher Descartes (1596-1650) was one of the great precursors of the Enlightenment-indeed, one of the founders of modern rationalism. This famous selection is from his Discourse on Method, *published in Latin in 1637.*

Like a man who walks alone and in darkness, I resolved to go so slowly, and to use so much circumspection in everything, that if I did not advance speedily, at least I should keep from falling. I would not even have desired to begin by entirely rejecting any of the opinions which had formerly been able to slip into my belief without being introduced there by reason, had I not first spent much time in projecting the work which I was to undertake, and in seeking the true method of arriving at a knowledge of everything of which my understanding should be capable.

When I was younger, I had devoted a little study to logic, among philosophical matters, and to geometrical analysis and to algebra, among mathematical matters—three arts or sciences which, it seemed, ought to be able to contribute something to my design. But on examining them I noticed that the syllogisms of logic and the greater part of the rest of its teachings serve rather for explaining to other people the things we already know, or even, like the art of Lully, for speaking without judgment of things we know not, than for instructing us of them. And although they indeed contain many very true and very good precepts, there are always so many others mingled therewith that it is almost as difficult to separate them as to extract a Diana or a Minerva from a block of marble not yet rough hewn. Then, as to the analysis of the ancients and the algebra of the moderns, besides that they extend only to extremely abstract matters and appear to have no other use, the first is always so restricted to the consideration of figures that it cannot exercise the understanding without greatly fatiguing the imagination, and in the other one is so bound down to certain rules and ciphers that it has been made a confused and obscure art which embarrasses the mind, instead of a science which cultivates it. This made me think that some other method must be sought, which, while combining the advantages of these three, should be free from their defects. And as a multitude of laws often furnishes excuses for vice, so that a state is much better governed when it has but few, and those few strictly observed, so in place of the great number of precepts of which logic is composed, I believed that I should find the following four sufficient, provided that I made a firm and constant resolve not once to omit to observe

them.

The first was, never to accept anything as true when I did not recognize it clearly to be so, that is to say, to carefully avoid precipitation and prejudice, and to include in my opinions nothing beyond that which should present itself so clearly and so distinctly to my mind that I might have no occasion to doubt it.

The second was, to divide each of the difficulties which I should examine into as many portions as were possible, and as should be required for its better solution.

The third was, to conduct my thoughts in order, by beginning with the simplest objects, and those most easy to know, so as to mount little by little, as if by steps, to the most complex knowledge, and even assuming an order among those which do not naturally precede one another.

And the last was, to make everywhere enumerations so complete, and surveys so wide, that I should be sure of omitting nothing.

The long chains of perfectly simple and easy reasons, which geometers are accustomed to employ in order to arrive at their most difficult demonstrations, had given me reason to believe that all things which can fall under the knowledge of man succeed each other in the same way, and that provided only we abstain from receiving as true any opinions which are not true, and always observe the necessary order in deducing one from the other, there can be none so remote that they may not be reached, or so hidden that they may not be discovered. And I was not put to much trouble to find out which it was necessary to begin with, for I knew already that it was with the simplest and most easily known; and considering that of all those who have heretofore sought truth in the sciences it is the mathematicians alone who have been able to find demonstrations, that is to say, clear and certain reasons, I did not doubt that I must start with the same things that they have considered, although I hoped for no other profit from them than that they would accustom my mind to feed on truths and not to content itself with false reasons. But I did not therefore design to try to learn all those particular sciences which bear the general name of mathematics: and seeing that although their objects were different they nevertheless all agree, in that they consider only the various relations or proportions found therein, I thought it would be better worth while if I merely examined these proportions in general, supposing them only in subjects which would serve to render the knowledge of them more easy to me, and even, also, without in any wise restricting them thereto, in order to be the better able to apply them subsequently to every other subject to which they should be suitable. Then, having remarked that in order to know them I should sometimes need to consider each separately, I had to suppose them in lines, because I found nothing more simple, or which I could more distinctly represent to my imagination and to my senses; but to retain them, or to comprehend many of them together, it was necessary that I should express them by certain ciphers as short as possible, and in this way I should borrow all the best in geometrical analysis, and in algebra, and correct all the faults of the one by means of the other.

I do not know whether I ought to discuss with you the earlier of my meditations, for they are so metaphysical and so out of the common that perhaps they would not be to everyone's taste; and yet, in order that it may be judged whether the bases I have taken are sufficiently firm, I am in some measure constrained to speak of them. I had remarked for long that, in conduct, it is sometimes necessary to follow opinions known to be very uncertain, just as if they were indubitable, as has been said above; but then, because I desired to devote myself only to the research of truth, I thought it necessary to do exactly the contrary, and reject as absolutely false all in which I could conceive the least doubt, in order to see if afterwards there did not remain in my belief something which was entirely indubitable. Thus, because our senses sometimes deceive us, I wanted to suppose that nothing is such as they make us imagine it; and because some men err in reasoning, even touching the simplest matters of geometry, and make paralogisms, and judging that I was as liable to fail as any other, I rejected as false all the reasons which I had formerly accepted as demonstrations; and finally, considering that all the thoughts which we have when awake can come to us also when we sleep, without any of them then being true, I resolved to feign that everything which had ever entered into my mind was no more true than the illusions of my dreams. But immediately afterwards I observed that while I thus desired everything to be false, I, who thought, must of necessity be something; and remarking that this truth, *I think, therefore I* am, was so firm and so assured that all the most extravagant suppositions of the skeptics were unable to shake it, I judged that I could unhesitatingly accept it as the first principle of the philosophy I was seeking.

Then, examining attentively what I was, and seeing that I could feign that I had no body, and that there was no world or any place where I was, but that nevertheless I could not feign that I did not exist, and that, on the contrary, from the fact that I thought to doubt of the truth of other things, it followed very evidently that I was; while if I had only ceased to think, although all else which I had previously imagined had been true I had no reason to believe that I might have been, therefore I knew that I was a substance whose essence or nature is only to think, and which, in order to be, has no need of any place, and depends on no material thing; so that this I, that is to say, the soul by which I am what I am, is entirely distinct from the body, and even easier to know than the body, and although the body were not, the soul would not cease to be all that it is.

After that I considered generally what is requisite to make a proposition true and certain; for since I had just found one which I knew to be so, I thought that I ought also to know in what this certainly consisted. And having remarked that there is nothing at all in this, *I think, therefore I am,* which assures me that I speak the truth, except that I see very clearly that in order to think it is necessary to exist, I judged that I might take it as a general rule that the things

which we conceive very clearly and very distinctly are all true, and that there is difficulty only in seeing plainly which things they are that we conceive distinctly.

After this, and reflecting upon the fact that I doubted, and that in consequence my being was not quite perfect (for I saw clearly that to know was a greater perfection than to doubt), I bethought myself to find out from whence I had learned to think of something more perfect than I; and I knew for certain that it must be from some nature which was in reality more perfect. For as regards the thoughts I had of many other things outside myself, as of the sky, the earth, light, heat, and a thousand more, I was not so much at a loss to know whence they came, because, remarking nothing in them which seemed to make them superior to me, I could believe that if they were true they were dependencies of my nature, inasmuch as it had some perfection, and if they were not true that I derived them from nothing—that is to say, that they were in me because I had some defect. But it could not be the same with the idea of a Being more perfect than my own, for to derive it from nothing was manifestly impossible; and since it is no less repugnant to me that the more perfect should follow and depend on the less perfect than that out of nothing should proceed something, I could not derive it from myself; so that it remained that it had been put in me by a nature truly more perfect than I, which had in itself all perfections of which I could have any idea; that is, to explain myself in one word, God.