ESSAYS ON THE SEARCH FOR TRUTH

QUESTIONING FREE WILL, IMMORTALITY, INTELLIGENT DESIGN, AND GOD

ANONYMOUS, early 1700s

TRANSLATED BY

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TRANSLATOR'S INTRODUCTION

Some subjects are so important that they are asked and debated again and again down the centuries, the Big Questions: free will, immortality, evidence of design in the universe, the existence of God.

These topics are, chapter by chapter, the table of contents of the *Essays on the Search for Truth*. This short text, written by an unknown hand sometime in the first half of the 1700s[1], circulated secretly in France for a time and then fell into obscurity (only two manuscript copies survive[2]), and wasn't published until 1984.

The author develops a series of arguments: that there is no free will, that the human soul is material and not immortal, that the universe shows no evidence of intelligent design, and that, ultimately, God is a gratuitous hypothesis: the course of nature follows only the "laws of the simplest mechanism", is guided only by blind chance.

At present, when arguments for intelligent design such as the "fine-tuned universe" are regularly deployed in favor of God and creation, a voice still rings across two centuries urging us to open our minds and seek the truth.

[1] See Mothu & Mori, *Philosophes sans dieu* (Broché, 2010), pp. 207-210.
[2] Alan Charles Kors, Epicureans and Atheists in France, 1650–1729 (Cambridge University Press, 2016), p. 170.

PREFACE

All men have a natural urge to seek the truth. But they have few means to attain it, and those who have them hardly recognize them as such. Man is born ignorant and deprived of all knowledge. All he has, to acquire it, is his senses. So it's these that he consults initially, and these that he believes blindly. By this sort of study and by his examination, he reaches a bit further than he had been able in his initial comprehension. But if he discovers some truths in this way, it's only very imperfectly, and an infinity of others escape him, so that he gets from this investigation a simple assay of truths, which only gives him an appetite and a desire for it, without coming close to satisfying him. This is what obliges man to further extend his knowledge. He feels that, in all his investigations, he only finds satisfaction in proportion as he approaches the truth, because he only finds peace at this fixed and invariable point, recognizing that, up to that point, all he knew was errors piled on errors. Therefore, the more truths he finds, the greater his contentment will be, gradually losing his humiliating habit of being mistaken about everything.

But, when it comes to the selection of truths, some are infinitely more interesting than others. These deserve our attention from the start; and, since these are also the ones which are hidden best, we should make every effort to discover them. It's a case of examining from the outset what they are, and the degrees of interest we should take in them. The knowledge of the Divinity seems to strike us first; but I would venture to claim that, if this idea presents itself to us as the primary one, it's only because habit and education have so strongly accustomed us to it that it's become almost natural; and it seems to me that the one which should offer itself initially, and which is most within our reach, is that of the analysis of our nature; for it seems that we should start by trying to know ourselves, such investigation being nearer to us, easier, of greater interest, and more easily and surely capable of leading us to the rest.

Here, then, is the plan I think man should accept, and the order he should follow in the search for truth. Since his thoughts motivate his actions, he will begin by examining his will, his desires, his passions, seeking to discover whether he is the absolute master of thinking and willing without consulting

anything outside himself. Secondly, he will examine the nature of his soul; he will judge it by its customs, its properties, its flaws, its actions, and ultimately, according to whatever might be discovered by his senses. After examining its essence, as far as he can, he will extend his investigations beyond himself; and, as the inspection of the universe is what strikes him most forcefully, he will carefully examine its order and harmony, he will try to discover its causes and figure out the purposes of its author. Then, according to all he has recognized, he will come to the knowledge of the first (order); he will pronounce judgment about its providence according to its plans, about its power according to its means, and, finally, about its nature by its workmanship. In this way, he will be able to know it, as well as we possibly can know anything that's so far from us and so mismatched with all our faculties.

This, then, is the order I have followed in this study, as the one which will be our safest guide; since we begin by the truths closest to us and most within reaching distance, and since it's only by them, and, as it were, step by step, that we can rise up to those which are, of themselves, too remote from us. If my investigation is lucky enough to discover the first truths, I'll eagerly accept all their implications, sure as I am that the truth is one and that it can never lead to error. It goes without saying here that we must reject fear, prejudices, passions, and all that might conceal the truth to us. This is my first principle, convinced as I am that we can't go wrong as long as we aim only at the truth, and that we cannot fail to recognize it once we have discovered it.

CHAPTER 1: *On Free Will*

This question has so often been debated, and by such capable men, that it seems as though there's nothing left to say on the subject. However, since the deepest studies on this subject have been made by theologians who, seeing this proposition only as an auxiliary to their systems, have only handled it according to their ideas, and have only maintained the pros and cons according to the way it helped or went against their opinions, it remains for us to handle it like philosophers, and, cognizant of how central it is, consider it alone, as our only subject; since, aside from the fact that this is what we have established as the basis of all the truths we seek after, it can also be truly asserted that, among all philosophical questions, it's the one from which the most implications can be drawn, and those which are most essential for how we live our lives.

The first idea which presents itself to man, when he begins to think about the liberty of his will, is the belief that he's the absolute master of thinking as he pleases. It is, he says, my will alone which makes my soul apply itself to the objects it presents to it; it's this that thus determines all my actions, and makes my body follow the impressions of the soul and do whatever I like. Such considerations are sufficient for many people who, stopping at this point, remain strongly attached to the idea of liberty, which is so flattering and so well suited to that self-regard which is natural to all men. Others, for whom these arguments seem too feeble, are compelled [to adopt them] by religion, which is absolutely decisive on this point, even if the subtleties of the scholastics have led them to the point of not opposing the opposite view, and although the means have been found to make them believe that the question is of no interest to them, and that it can be harmonized with both ways of thinking. Let us examine, in few words, these means of harmonization, and see if this question might enlighten us in any important way about religion.

There is no middle ground; one of these propositions must be true: either we have our free will and we are the absolute masters of our will, our thoughts, and our actions, or we are compelled and constrained by some agent which is independent of us, to will and execute what it ordains. All imaginable modifications of this option are only trivial defeats, based only on obscure terms and specious arguments, which drape an impenetrable veil over a question which, by itself, is the clearest

thing in the world. For to say, for example, that God puts us in charge of our own actions, and that we can, by our own will, use His Grace and, sufficient as it is, render it efficacious, or reject it and oppose its effects, although while giving it to us, He would certainly have foreseen how we would use it: this is the most absurd of all contradictions; since, by confessing that God foresaw how we would use it, we would simultaneously have to confess that, either God's foresight is an irrevocable order, which then no longer leaves man free to receive or reject Grace, or that God waits for man's decision, and that he should be self-determining as to his use of Grace, before he foresees what will happen. It is quite true that, in this particular defeat, the terms of the question have been altered; but it remains the same, nevertheless. For the question at hand is to know whether this foresight of God's, which is an attribute which cannot be denied Him, is an irrevocable order, or whether the will of man can make it change according to whether he makes a good or bad use of Grace; which is precisely the same thing as the first question, except it's somewhat less clear than before and, due to these obscurities, one might establish false principles, from which consequences will be drawn that are dazzling and favorable to the side chosen prior to any reasoning at all, but based only on one's own principles or interests.

Let us return, then, to our choice, which can be seen as one of these incontestable axioms; and, since we are unable to get any clarity on this matter from religion, let us examine it by itself, and see whether it might give us any enlightenment about liberty; for we intend to give up everything for the truth as soon as we know it. But it can't be denied that it's a truth which needs no proof, that man either has his free will or he doesn't have it: either one or the other is certain. Let's see, then, what conclusions necessarily follow from either of these, and let's use this to guide our choice between these views, whichever one we judge to be closer to the truth.

If the will of man is free and depends on him alone, it necessarily follows that he is the master of determining the actions of God, and this may not be too strong a way of putting it. For, by believing in a God who possesses all perfections to an eminent degree, one of His principal attributes must be infinite justice, which must punish or reward, and give to each according to his works, as all the religions teach, and as Jesus Christ himself says in many parts of the Gospel. Therefore, this perfect justice grants man the liberty of determining his will as an absolute master, so that he can earn eternal rewards or punishments. But, by establishing the justice of God, we ruin, without knowing it, His immutability, an attribute which is no less essential to Him than are justice and eternity, and we cease to make him into anything but, as it were, a machine which is mobile and variable at every moment, since His decision

about my fate waits on the way I use His Grace and I can, every day of my life, make Him change His resolution by my penitence or crimes. This view is no less offensive to God's foresight than to His immutability, for it's also necessary to refuse this attribute to Him, which would also take from us the liberty of our will; since, given that God can never be mistaken, if He had foreseen my use of His Grace, this foresight would become an irrevocable order, which I could no longer change, and consequently I would no longer be the master of my will, since one would always have to go back to what God had foreseen, and this constraint would involve every desire and action in my life, for they must all have been equally foreseen by God, otherwise I would be limiting His foresight and I would destroy His immutability.

It is certain that, by this argument, the conclusions of which are incontestable, the sense of liberty is incompatible with the idea that all the religions require us to hold about God, including what a deist might think, since it necessarily deprives Him of His principal attributes and makes Him mutable, irresolute, and blind, waiting on the will of man, His creature, to determine His actions according to merit, and dealing out eternal rewards or punishments.

The question that now faces us is to see whether the opposite view fits better with the idea which religion gives of the divinity, or with some other which we might reasonably form about it.

If it is true that God foresaw from all eternity everything that must occur in the passage of time, it can also be said that it was He who ordered it this way; for nobody else could give it this organization, and it's unlikely that He left chance free to act in the order of events and that He was content simply to foresee them. Thus, the foresight of God should be seen as the same thing as the decrees of His providence, and consequently it must be agreed that He is the author and creator of everything that occurs in the world. This view is doubtless more harmonious with reason than that of liberty and presents a greater idea of the Divinity; but it will be hard to bring this into harmony with any religion anywhere. For *religion* means our worship of the Divinity, not only praise and glorification thereof, but also prayer, bowing before it and obtaining its forgiveness for our faults or the increase of its graces; but the latter elements are absolutely fruitless, if it is true that God is immutable and that from all eternity He decided the fate of every man, being Himself the author of his crimes and of his hardiness or his repentance. But it is certain that, if men had no other motives in their religion than that of praising or glorifying God, so little attachment would remain for them to religion, or rather, there wouldn't be any

in the world, since all anyone would have to do is to patiently wait on the orders of Providence as to his fate, without making any vain efforts to earn new rewards and without fearing any new torments.

But it will be objected that it was God Himself who established worship, that He changed and perfected it, that He ordained prayer, that He even gave examples of His mercy, and consequently of the effects that prayers and good works make on Him. I confess that this is the Christian religion, and that it offers us these examples as sure and incontestable oracles; but even if the truth of this were as incontestable and as obvious as it is possible for a historical event to be, still, this evidence would have to be compared with that which results from the principle advanced here. Let's return to it. We have advanced, as a certain and incontestable principle, the dilemma: man either has free will or he doesn't. We have demonstrated that the first view is contrary both to religion and to common sense. We truly find that the second is also contrary to religion; but we still don't know whether it's contrary to reason. That being so, if we can demonstrate that the second view is harmonious with the simplest and most reasonable idea we can form about the nature of things, we'll necessarily have to conclude that the fault lies with religion, since it is absolutely and equally incompatible with both ways of thinking, one of which, however, we can't deny is true.

Here we must examine ourselves quite seriously, setting aside every prejudice which hasn't been too deeply rooted in us by our continual efforts to deceive ourselves in all that has to do with our own nature. We are dazzled by expressions which, through long habituation, have become our ways of thinking, which we call natural, which we believe to be innate, and formed in us by the Supreme Being. We always say, and we believe with a sense of certainty: am I not in control of thinking as I please? Who could keep me from being so? Who could keep me from any idea I eagerly seek? Who could present me with those I would rather avoid? Isn't my will free and independent? Who, outside me, could do such things? Those are mistaken ideas which flatter us in prosperity, which console us in adversity, but which have no grounding outside of our imagination. This liberty convinces us even to the point that, not content with the advantage we expect to derive from it, we also boast of our claim that we are its sole possessors, and of the way we think the other animals are guided by motivations whose mechanics we can discover, whereas, the advantage is reserved to us alone of exercising our will supremely and independently of all external influences.

Such are, then, the natural ideas which have the force of law; and, far from seeking to bolster ourselves by reasoning whether they are true, we consider them superior to reason, thinking it's a vulgar and criminal error when anything presents itself which may cause us to doubt their truth, even for a second. However, it seems to me that, precisely because of our attachment to them, we ought to seek to convince ourselves of their truth [on their own grounds]; since they would be all the more incontestable to add to what we call *the voice of nature*, a few firm logical proofs drawn from some principle of demonstrable veracity. Thus, we should make an effort to examine these ideas, in order to adapt to them, if true, or try to wipe them out, if they have no other basis than childhood habits. Let's cease, then, to listen to these innate ideas or these internal testimonies, and let's distance ourselves, as it were, from ourselves, to discover ourselves more perfectly, even in our actions which seem simplest of all; and let's begin by defining exactly what we understand by the word will.

We cannot disagree that, when we think of making some resolution and form this act of the soul which we call will, we are stimulated to it by some motivation, whether it comes from us or is occasioned by circumstances which are external and independent of us. It must be agreed, however, that during many events we find ourselves in a situation where we can opt for one among many choices which present themselves, and which are often so equal as to their apparent natural consequences, that it seems that we are entirely capable of choosing the one we want. And so, we choose one, finally, unable to bear uncertainty any longer, and we base ourselves on the one we think best. But can we call this decision the act of a free will? Can it be said that, without considering any motive whatsoever, we have made the choice as sovereign masters? Or was it not, perhaps, some idea of the advantage or pleasure which has made us incline to one side, or might we even be, without realizing it, the voluntary slaves of a tyrannical passion which leads us all the more surely as we think we're obeying our reason?

Let it not be objected that this is degrading to human nature to constrain it like this in all its thoughts and actions; for it would obviously be far more humiliating to that nature to think that man is led blindly and without consulting either reason or propriety, and that all his actions are, as it were, so many marks of his liberty, even when they are, if he so wishes, indifferent to reason and justice, moreover without having any reason to contradict them. This idea seems utterly monstrous to me and would make man the most irrational of all beings, since it would lower him below the animals, who are seen to do nothing without some grounds, often quite rational ones, and always according to their needs.

But it's useless to speak further about the ridiculous implications of this principle. A better approach is to demonstrate its impossibility and its falseness; and for that, all I need is to witness what happens in us, but carrying the analysis further than usual. When, for example, we have made a choice which we took some time deliberating, let's look at the reasons that compelled us, and then examine these reasons. It will turn out that they were stronger than the others; or, if we find that we made the wrong choice, we will also recognize that we only went wrong because the reasons which should have compelled us to one choice had seemed the weaker to us, whether because we didn't know them all, or because our minds were clouded by certain passions or interests which kept us from feeling their proper force. Often, too, after escaping from our error, we are shocked at having been so misled by such false appearances and such vulgar traps; and, perhaps, when we make these reflections, we remain mistaken and we have only traded one error for another; we might find, after being disabused, that the second is even more crude than the first.

Such are the occasions when our liberty seems triumphant, when we think we are self-determining, and which we eagerly seize on, since they tickle our pride and since, from the outset, they give us an idea of liberty. But, if we seek the truth sincerely and truly seek instruction, without regard for the false ideas which so mislead us as to make us wish for and seek, with all manner of bad arguments, the very things that we would refuse if it were in our power to procure them, all of whose drawbacks we knew as perfectly as we think we see their advantages, if, I say, we examine ourselves seriously, we'll have to confess that such occasions, when our liberty seems to be so manifest, are quite rare, in comparison with all those where we feel constrained, and often forced in spite of ourselves, to act according to circumstances or our own passions. For, without mentioning the impetuous passions like anger, love, or intoxication, which put us into situations which we'll be ashamed of when a more peaceful and rational state has come in their wake, can we deny that, in our everyday actions, the gentler passions are active in us? And, if their effects are simpler, this is because the causes are weaker. And don't we see that all our actions are in proportion to the force and difference of our temperaments, habits, and prejudices? And above all, can't we allow that, when our passions are dulled and we seem to act only in conformity with reason, the object which guides us is the idea and the desire for happiness, and that we only seek or avoid things according to our fears or hopes of pain or pleasure?

This is where we go wrong; and, by an abhorrent inevitability, this pursuit of happiness nearly always deceives us, and, blinded as we are by our desire to be happy, we can't help but see all those things we

lack in their best light. Then, when we do have them, we nearly always recognize that we've deceived ourselves, and that too much eagerness concealed the flaws in what had before seemed so desirable. It is certain that, if our will were free, it would only tend to discover the truth, and that, without deceiving ourselves, we would examine what is truly more or less advantageous in all things. But how far we are from that and from that correct estimation of what infallibly determines their value, and which alone could give us ideas in keeping with the truth!

Geometry gives us an example of these essential and infallible truths; and, on the basis of the pleasure we find in that field, we'll be able to judge what efforts we would make to find, above all, the rest of these truths, if we were free and if it were possible for us to seek them despite the cloud of passions and habits which surrounds and blinds us to the point that, in all the actions relating to us, we have no other guides than these phantoms, despite a continual experience of their deceptiveness. It's only in things which are fully separate from all our interests and passions that we discover the truth; and it eludes us as soon as we try to bring it into relation with our interests. Our errors return that very moment; and it's no longer the truth that we're after, but our advantage, our happiness; ultimately, we find ourselves miserably duped again; and, if we trace back the source of our error, we find that we became its prey from the first moment we stopped aiming only at the pursuit of the truth, or when we sought to adapt to that pursuit things which only seemed related to us because they attracted our desire.

If I might return to what I was saying a moment ago, that one of the proofs against our liberty is that we almost never sincerely search for the truth, which, no doubt, is the most desirable object we could imagine and the only one capable of making us happy by fulfilling all our desires. For, if it's true, and no geometer will disagree, that great pleasure is felt upon the demonstration of truths which are as indifferent as are the relations and measures of lines and curves, etc., then how much more would we be moved by the pursuit of truths which are of particular interest to us, if we weren't kept from knowing them, and even desiring them, by our passions? But, if this obstacle is real and insurmountable, as we feel at every moment, can we say anything but that we are led in all our wishes by what either flatters our desires or brings us some advantage?

Here, generally speaking, is all that can be said about the driving motive of our will, which, as we see, is always determined by our prejudices, our passions, our interests, and our habits. It takes only a moment's reflection to convince us that these motives of our will are absolutely external to and in no

way dependent on us. Our temperament and our habits form in us an inclination, more or less violent, for this or that passion. These passions determine our interests and make us see as advantageous and desirable that which flatters them in some way, without our having the power to examine whether we are misled by specious appearances. In the end, our prejudices are the last and least trustworthy of all the things on which we base our desires. To see how they lead us into error, it's enough to consider how many different effects are produced by the same objects on nearly everyone, and how people often feel horror for what is indifferent, but sometimes even gives pleasure to another. The object, however, is the same for both of them and would produce the same effect in both, if misleading prejudices didn't fascinate some to the extent that they find appealing that which is odious to others. Can we say that these prejudices are dependent on us, and isn't it those who are entrusted with our education, and those who surround us in our impressionable age, who form them in us? And, once established there, our senses only perceive [the world] by them. They're like so many trick mirrors, changing the appearance of all objects, presenting them to us in completely different forms from the way they truly are. This is the terrible source of our errors, this is what makes us so eager for what we believe to be advantageous, but that we despise once their possession has revealed their true value to us.

I don't think anyone can disagree about these obstacles to their liberty. But even this isn't all. We have only shown the enslavement of our will; and we would be even further humbled if we attended to the fact that the circumstances where chance places us are even more supremely decisive on our actions. For it is certain that we don't dare, for fear of being irrational, to aim at anything beyond a certain distance from the state where we've ended up, from our own age, from the place we're in, from the people with whom we live, or the fortune to which we are accustomed. Finally, we think we're following our will and being rational when we keep to ideas which are suited to all these circumstances, absolutely independent of us, which determine our thoughts, our plans, our actions. We refuse to know and feel this enchainment, this order, this necessary linkage affecting all events, which makes each of them dependent on the other in turn and makes them occur successively in a precise and infallible order, which doesn't depend on us, but on a fixed and immutable principle. It's this inflexible necessity, which can be called its own slave, that guides our actions, forms our will, and, producing in us the dispositions which make us think in one way or another, makes us act in ways that we think we willed freely, and by our own movements. This is also what forms the temperament that produces our passions, the habits which cause our prejudices, and especially the ardent desire for an imaginary happiness, which, added to the first two motives, is the necessary cause of our will and actions.

I think that the truth of this argument is so plain that it requires no more detailed proofs and it can be seen as a sure principle, which might perhaps lead us to other no less important truths. Let us follow, then, the plan we have outlined, and examine, with equal sincerity, the nature of our soul. This is what our wills act on, and which, according to the impressions it receives, acts on our body and determines our actions. This examination will finally reveal man to us and will give us a full knowledge of him. This will be our task in the next chapter.

CHAPTER 2: *On the Soul*

The knowledge of the nature of our soul is doubtless the one which should interest us most of all. Every philosopher has said different things about it, and one would never finish if one set out to harmonize all their opinions. They would have been ashamed to confess their ignorance on this point; their pupils needed definitions. This is what has led to this jumble of different ideas, which everyone maintained with every argument their obstinacy & self-regard might suggest to them; if it's really proper to call reason, in philosophical terms, all that is said of the soul, for the consensus has always been that the same facts and views have only varied as to the conclusions that have been drawn from them.

Some have even sought to separate our soul completely from that of the other animals, and many have agreed that animals are only *automata*, set in motion by material springs and cogs, whose springs cause all actions, desires, fears, and passions. But, when they have tried to derive the operations of man's soul from the same principles, they have found an obstacle in an objection which is received as an incontestable axiom, beyond all proof. This allegedly sure principle is that matter cannot think. This universally accepted view has stopped them and made them deny any comparison between our soul and that of animals. Some, having closely examined the actions of animals, have found so many analogies with ours that they haven't hesitated to claim that they have immortal, immaterial souls, and even of the same nature as ours, and that, if these operations aren't as perfect as ours, the difference is only in the roughness of their senses. On this point, religion commands us to take a view which is different from both; but it's not possible to deny injustice there. For, although there might seem to be significant differences between the operations of the souls of beasts and humans, they may in fact be quite minor, and we can be assured that whatever differences do exist, have to do with our inability to communicate with them; but, even if we supposed this to the point of believing it, could we reasonably conclude that ours is immaterial and a portion of the divinity, while theirs is material and of the same nature as their body, for no other reason than because we have a faculty which we call thought and we don't know whether the other animals are endowed with it? For, in all the body's movements and every other external action, we find every one of them in animals as well as in us.

For more clarity on this matter, let's try to give a precise definition of what we call thought, and we'll see whether it's possible that animals have faculties which produce the same effect.

We only think about what we have known by the senses: *nihil est in intellectu quod non prius fuerit in sensu.* The relations of the senses are, then, the primary basis of our thoughts. This relation would only make us think about the present object, if we didn't retain something of what we have known already, which is called memory, and which is the second principle of our thoughts. Thirdly, the comparison and, so to speak, the coming-together of past things with the present object form what is called judgment, which follows necessarily from the first two sensations and which is the nearest and most ordinary principle of all our thoughts. I think none will disagree that this is a precise analysis of thought. I see it, then, as the result of these three sensations: the relationship between senses, memory, and judgment. Let it not be objected that there are natural and innate thoughts. This view has almost no supporters left in our time; and, if anyone seeks certainty on the matter, all it takes is to carefully examine any thoughts which seem new: you will find that they only seem new, and this is because they are formed from the assemblage of many things which a person has known at various times and various places.

So, let's keep our previous definition of thought, and we'll find that these three sensations of which it is comprised exist no less perfectly in animals than in man. Firstly, we can't disagree that they have sense relations, and many which are even more perfect than ours: the dog's sense of smell, the eagle's sight, and the mole's hearing are surely formed by more perfect organs than ours; thus, we have, in this first principle, no advantage over them. Secondly, we find, in nearly all animals, effects of memory which are both surprising and make them susceptible to being disciplined by men, despite the huge differences between their ways and ours. Finally, can anyone fail to recognize judgment in animals when a dog, having been beaten for some misdeed during the chase, improves its conduct and doesn't repeat its mistake? For wouldn't the mere memory of the blows it received be insufficient, if it didn't also carry out this chain of reasoning: —*I've been beaten for such and such an action, and I will be hit again if I do it a second time*. — I'll omit an infinity of other animal behaviors denoting sound judgment, since this example, although simple, is enough to convince us that they have a judgment and a reasoning equal to ours. Since these three foundations of thought exist with them as with men, how unjust it would be to say that in them the resultant effect is different from what it produces in us, or rather, that these principles, being the same in both cases, produce nothing in them, but in us they produce thought and reason, on which we establish the empire which we have imagined we have over the other animals!

But, an objector will reply, if the faculties of their souls are so similar to those of ours, then why can't we either understand or communicate with them in any way? I would respond that I find the same difficulties in communicating with someone who speaks a foreign language; and that, if we had no fixed and general means among humans, as are the means of life which all humans have in common, we would find it completely impossible to understand each other; but, as the needs are numerous, both those which stem from nature and those which habit has established among men, it happens that we find a way, with one of the means mentioned, to make ourselves understood. We would have needed to find, with animals, the same fixed means and needs equal to ours. And this is why we can neither understand them nor get ourselves understood by them except when it comes to the needs they share with us, such as thirst, hunger, sleep, etc. Let us, therefore, confess our usurpation and injustice, in seeking to attribute to ourselves alone an advantage which we deny to beings in whom we find every clear sign of this advantage, and let us submit to the truth, agreeing in all honesty that their soul is absolutely of the same nature as ours, and has the same faculties and the same advantages.

The next question is to examine what these are, and what are the essential qualities of the souls of men or animals, which I will regard, going forward, as one and the same thing. To attain this knowledge, we will start by examining whether the soul can be regarded as material, or whether it's purely spiritual.

All the philosophers have debated this important question, and many have thought that the soul was material and formed by the subtlest parts of the blood. But, since probability is insufficient to resolve such an important question, and since, besides, not only the Christian religion, but also all the others command an opposite view, we must analyze the reasons behind each way of thinking, so that we only submit to the truth, as we should do in all matters of philosophy, and as we intend to do in this treatise.

The strongest argument raised against the materiality of the soul is that, whatever modifications might be ascribed to matter, and whatever arrangement it might be thought to be given, it will be impossible to be convinced that this disposition and arrangement can convey the faculty of thought to them. This argument is strong, to be sure, but it's even more seductive [illusionary], for it compares the principle in its simplest state with the effect in its most highly complex state. Let's simplify this term *thought*, which is so imposing, and let's agree, first of all, that the most run-of-the-mill thought has the same principles as the most rarefied metaphysical ideas; then let's follow our definition of thought to examine whether,

in these three sensations which we've recognized as its principles, there might be anything requiring us to recognize immateriality in any of them.

There is no philosopher who has failed to provide a mechanical and highly plausible explanation of the sense organs; but, when it comes to the effects of these on the soul, they have encountered great difficulties where they've tried to see the soul as immaterial; for how is it possible for something corporeal, like the organs, to act on an incorporeal being? On the other side, they've found, in the opposite view, the old prejudice that matter is incapable of sensation; such that many have been defeated by one of these obstacles. It's no secret how far those who have sought to avoid these two pitfalls have gone in their absurdity, while claiming that the feelings of animals aren't the same as ours, or even that they have none, but that they are driven mechanically to flee evil and seek after good, without any pain or pleasure. It would be equally reasonable to say that men don't have these sensations; but, to avoid such a paradox, we will agree that the sense organs do really act on the animal spirits, and that their action consists in driving them into certain tiny canals rather than into others, according to how the organ is moved by the object, and according to how it transmits this emotion to the animal spirits. It's easy to explain, by this means, the pain made by very strong sensations, which drive too many animal spirits into the delicate canals and by this means offends and harms them, which is what produces the sensation we call pain. Pleasure will be produced by an impulsion of these same spirits, but in due proportion to the size of the small tubes and which, by affecting them uniformly, causes in them the effect we call pleasure. If this same impulsion of spirits is reduced, the result would be that one could call imperceptibility in the senses, which happens when, having only a very small quantity of spirits which are driven into the tubes capable of containing far more, they produce almost no effect, causing neither pleasure by an exact match, nor pain by the violent introduction, and consequently neither of the different sensations formed by the modifications of these two extremes. The sense relations might then be regarded as material, or, what amounts to the same thing, as a mechanical action of the sense organs on the animal spirits, which I see as nothing but the parts of the blood and the subtlest liquids and the essence, highly rectified and purified, of all the different materials which compose the human body.

Since memory is, as it were, the preservation and renewal of the relations of the senses, it can only be regarded as being of the same nature, and consequently as material. It is even quite easy to conceive what its mechanism must be. It cannot be doubted that the small canals, into which the intromission of

the animal spirits forms sensations, are susceptible to dilatation. With this principle in mind, it will happen that, when some of them have received the torrents of animal spirits more frequently or violently, they will be dilated, and consequently the spirits, being free in the brain and not subject to determination by the sense organs, will be carried more easily and in greater quantity into these enlarged canals than into any others, and by this means the idea formed by the affluence of the spirits in them will be renewed and will form the act of memory. By this means, it will be easy to explain how an idea is more easily recalled when one tries to remember it; for then one closes as much as one can the organs of these senses and one drives out their animal spirits, which are forced wherever else they're able to go; thus, they enter into the canals which are more dilated than others. We see, according to this principle, that some people have stronger connective tissues, and therefore have little memory, because they can only be dilated to a minor degree by the animal spirits and that, consequently, these same spirits don't enter much more than into others, no matter what efforts are made to draw them there, while trying to remember something. One might also explain the tiresome and involuntary memories of hateful things, the ideas of which one would like to get rid of; and similarly, the way in which one loses the memory of something which has only touched us slightly, or whose impression happened long ago, for then this tube, having either received only a minor dilatation or having had, so to speak, time to heal from this wound, returns to its ordinary state, and, no longer offering any more passage than others for the flowing of spirits, this idea is absolutely effaced and departs from memory. I might add an infinity of things and enter into greater detail on the different causes of all the properties and all the failures of memory; but we have said enough to prove that this sensation is entirely mechanical and is formed by material agents.

It would suffice to say that the judgment is the result of the relations of the senses and the memory in order to prove that its principles are as material and its operation as mechanical as that of memory; but it's better to enter into the detail of the clockwork which forms this sensation in us, which is the main basis for thought. It must be agreed that it's not impossible to judge something we've never seen before and never heard of; which is a sure proof that the relation of the senses is the first basis of judgment. But it is also certain that the memory contributes even more to it, uniting all the ideas we've had at various times and whose union makes us judge that the object which is presented to our senses, to which we apply our judgment, has this or that quality, by the memory we have of those possessed by objects we saw at a different time and with which we find it to bear some resemblance, by the similar impression it causes on the fibers of our brain. Although it often seems that we judge many things and

that we find them beautiful or ugly without ever having seen any others of their kind, this is only an illusion born of habit; for although, in reality, we haven't seen an entirely similar one and we have even never heard about one, still we have seen in other bodies all the individual parts, and we bring our judgment to this remaining memory of ours. There is only one particular case on which everyone thinks they have the right to judge; that is, on the order and arrangement of the universe, which everyone judges perfectly without having seen either another one just like it, or all of its individual parts; but I reserve this matter to be discussed in the next chapter, and I hope to be able to prove that it's only one more of the errors delivered to us by education and prejudice.

To maintain our course here, let's return to the mechanics of judgment, and we'll see that it's produced by a comparison of that which has already struck our senses and which bore some relation with the object we intend to judge, with that which strikes them presently. For, if the animal spirits are shunted by the present object into the already dilated canals by a similar first impression, this second one will certainly be stronger and will recall the idea of what happened on the occasion of this similar impression; and, if this memory presents itself as something pleasant, we judge that the present object will do likewise, by the similarity between the way it is presented to us and the way the original one, which gratified us, was presented. If, on the other hand, we remember that an impression similar to the one which the present object brings us had an unpleasant impact, this idea is renewed, and we see it as present on the occasion of everything that recalls a part of it for us. Thus, we judge, according to what we have known, and we act according to the way we have judged.

Although judgment might be regarded as the first action of the body and the principle of those which appear before our eyes, the failures of judgment which come from nature or from some accident of the body might be explained in a mechanistic way. For some, having had more frequent movement in certain canals than others, quickly grasp the particular ideas which the present object recalls to their mind, and, if they're more energetic than other men, they impetuously drive all their animal spirits into these canals, which are the principles of the idea, whose first impression made them judge to be equal to the present object. And then the further effects of the object might well strike their organs differently, but this torrent of spirits can no longer be held back and rushes into the canals which recall the effects of the impression they previously had, such that it's no longer the present object which acts, but the past one, to which they are completely subjected. This flaw is the basis of false judgment which

is often made on an infinity of different things, and experience teaches us that, indeed, people who are extremely energetic are more subject to this than others.

There are many other flaws in judgment which have their origin in organic flaws; but nothing more convincingly proves the materiality of these principles than to see the derangement which all too often originates in a minor accident in the body. We call this derangement *madness*[3]. It is often caused by fear, joy, hope, or love; but it is also sometimes brought on by a bodily illness, a blow to the head, etc. By this we see the shocking similarities between the body and the soul; for the passions we have just named can be seen as the soul's affections, without any conclusive implications about its materiality, but there can be no doubt that a malady or a blow are an accident of matter, and we see the same effects resulting. Shouldn't this convince us that the passions are produced by material agents, since they cause the same effects as a disease or a blow? For it is absolutely impossible that two things of such different natures as a spiritual soul and a material body must be, should produce the very same effect.

This isn't the only evidence that the passions emanate from corporeal principles. We see that, in every man, they are caused by the particular constitution of his temperament, which is universally considered to depend completely on the mixture of the liquids which flow in the human body and the superfluity of certain ones. An even more tangible effect of the action of the body on our soul should also not be forgotten: that which is produced by wine, when drunk to excess: the subtle parts of this liquid, which we call *spirits* or *vapors*, rise to the head and interfere with the circuits of the animal spirits and form an obstacle to their passage in the canals where they would usually be carried by the emotion caused on the occasion of present objects, making them flow instead into many others, indifferently and without choice, thereby forming this jumble of confused and interrupted ideas which is displayed by intoxicated people, in proportion either to the weakness of their temperament or the quantity of wine they have drunk.

I will end with a proof which is no less plain or common, and which shows us, as it were, the waxing and waning of our soul. The typical features of its birth and immaturity are recognizable in a child. His organs, as yet unformed, can only give the animals spirits a certain number of modifications; also,

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[3] See Lucretius, *De Rerum Natura*, III, v. 464 *sq*.

nothing is more limited than its ideas. But it has hardly grown at all before it's seen forming new ones! Every new object produces them and fills his memory with them. When he sees something a second time, about which he remembers that he had an idea, his judgment begins its career. His reason is developed little by little, and his organs, more and more perfected, become susceptible to the impressions of a greater number of objects and form an ever-growing stock of ideas, until, when they reach their final degree of growth or perfection, man attains the quantity of judgment and intelligence he will always have, even though he can still acquire new intelligence as life experience continues to teach him. But if we keep following this man, we will soon see him close to his fall. Soon his enfeebled organs will no longer make precise distinctions of objects with his animal spirits. His blood, then flowing more slowly, will carry to the brain a diminished quantity of spirits, which will consequently make less of an impression on the canals into which they are shunted. Therefore, his memory will be weakened; the former impressions, no longer renewed or being so only feebly and by a small quantity of spirits, are completely effaced, and in the presence of similar objects, will no longer recall any ideas at all. His judgment, then, and his reason will be enfeebled; with every step the body takes towards its destruction, the mind will suffer new blows, and will follow all the accidents of the body that so closely that, when the latter is ready to perish, the former will be in such a state that one would be ashamed to call it a rational soul and a pure spirit.

Can we fresist so many arguments which demonstrate our lowliness, and is it possible that self-love blinds us so far as to persuade us, against all we see and against all the soundest philosophical ideas, that our soul is immaterial and of an infinitely superior nature to that of our body? But I ask those who hold this view how they will explain the action of the organs, whose materiality is beyond doubt, on a purely spiritual soul, and the reciprocal action of this soul on the fibers which make the body move? Isn't this the same as saying that nothingness can receive the impressions of a body and communicate similar ones to another body? How will they explain the effects of a physical illness or a blow, which cause such great distorsions in the soul; those of wine, which are no less upsetting to it, during the brief spell that the body of this liquid affects the soul, and after which it returns to its original state? Finally, what argument might they give about the obvious growth in perfection of a spiritual soul, proportioned to that of the body, and of the decline of this soul as the body languishes and approaches its final term? So, let us agree that these insurmountable difficulties force us to believe that our soul has no other principles than our body, and that the only difference is that those of the latter are far coarser, whereas those of the soul are purer and subtler parts of the liquids resident in the brain. I leave it to the

anatomists to decide on the precise place where they come together; but I admit I find it quite extraordinary that this very question has been debated, of the place where the soul resides, even when it's assumed to be spiritual; for there would seem to be no greater contradiction than to say that the soul is spiritual and at the same time to have it reside somewhere, especially in a particular location.

I won't claim that the opinion of the materiality of the soul is completely unproblematic. To be sure, we can't give a truly precise explanation of feelings and thought. But, just as many expressions are lacking in each language, which usually means that the nation in question has been unaware of certain customs, so we can say that the human mind lacks thoughts, and that, since it can only have the ideas it has known, it lacks knowledge about its soul, less because of some inability to conceive it than because, since it always stops at its original notions, it is rebuffed by the difficulties it meets, and prefers a deep knowledge of the properties of its soul to an examination of their nature, given the fear or the simple inability of finding any way of obtaining assurance on this matter or of recognizing truths which are too embarrassing for its self-esteem to handle.

Having, as it would seem, sufficiently proven that the soul can be nothing but material, both by the probability in favor of this view, and by the impossibility of an explanation, in the opposite view, of what happens every day, as well as by the action of the organs on the soul, and that of the soul on the body's parts, we have only one word to say about its immortality; for it remains to be discovered whether it perishes with the body or if it preserves its form and nature while separated from it. For the latter to occur, the soul's constituent parts would have no need for renewal like all the rest of the body, that is, it would be necessary, from birth until death, for the same parts which composed the soul to remain intact forever. For, if they are of such a nature as to be dissipated, whether by leaving the body by transpiration or by becoming parts of the organs themselves, it's evident that, when the body no longer exists, the blood would no longer carry out this reparation of the spirits, and, consequently, when those which were amassed are dissipated, the soul must necessarily perish. But it isn't probable to claim that the soul is always made of the same parts, since we see changes occurring in it every single day, which certainly wouldn't be the case if it were always the same, and originate only in what is produced in the blood by age, temperament, food, excesses, accidents, etc. Thus, we can conclude that the soul, like the body, requires a reparation of its parts, and, consequently, it couldn't persist in its same nature after this reparation ceases. I say *in its same nature*, for it's incontestable that, since its parts are material, they must be immortal as to their essence; but as the soul consists only in a certain assemblage of this

matter, it can be regarded as having perished and been completely annihilated when its construction is destroyed; and, even if it weren't and if it kept the arrangement which is constitutive of its soul, could this name reasonably be given to a being on whom nothing could act, no longer having organs, and which, consequently, would no longer have either knowledge, judgement, or reason, the only characteristics which can earn for a composite being the name "soul"[4]?

I think we have sufficiently established and proven these two truths as far as possible: that our will is not free, but that it is determined by causes which are necessary and absolutely independent of us, and that our soul is material like our body and that it can perish with it. Some will find implications in these principles which are bold and dangerous, and will blame them from some angle I can't even imagine; but, as I have no intention other than the pursuit of truth, I'll joyfully receive it wherever I find it, and I'll accept every consequence which seems necessarily to follow from it. Following this law of mine, let's seek truths outside of man, and let's see whether the examination of the universe might provide us with equally important ones. To begin, let's consider closely, and always without bias, the causes of everything, and try to disentangle whether there is some purpose and what that might be, since nothing could be better than this examination to lead us to the knowledge of the first Being, which should be our principal concern and final goal.

[4] See Lucretius, III, v. 530 *sq*., 623 *sq.*

CHAPTER 3: *On the Harmony of the Universe and Ultimate Causes*

We have already seen how human vanity and pride have inspired men to views with which they then identified so strongly that the most sound and enlightened argument has great difficulty destroying them. Here I will try to combat the one which is more deeply rooted than all others in the human heart. Since it seems less related than others to human interests, it can be hard to consider it a prejudice, and nearly all men think it is based only on truth and reason. That is far from the truth, however, and this example should show us how far we must go in mistrusting ourselves with respect to what we take for incontestable truths, when they haven't been demonstrated to us philosophically. Everyone thinks they're equipped to judge and affirm that nothing is more beautiful and perfect than the order and harmony of the universe.

To combat this opinion is, it would seem, to renounce all the lights of one's reason; so, this isn't how I want to begin; I will only prove, as far as possible, that we are wrong to make this judgment, and that we are in no position to decide about the beauty and perfection of something that we only know imperfectly, and which is so far above all human perception.

We didn't start believing this through any precise investigation of the universe, for our vanity isn't so extensive as to persuade us that we're in a position to do this perfectly; but it has been the nearly universal opinion that the universe is created for human needs, and that general opinion formed it in us. This opinion has been maintained and ordained by every religion, which makes it appear to be an incontestable fact. Man, seeing himself as the most perfect being in all of nature, saw no excessive pride in his belief that nothing existed which wasn't or shouldn't be of some use for him. Some philosophers, having embraced this opinion, have spared no effort to find the most trivial uses, focusing on creatures which are a thousand times more pernicious than useful to men. Some have even gone to such lengths of extravagance as to believe that the majority of things, whose uselessness was undeniable, were only created as a pleasant spectacle, to amuse men with their marvelous variety. It's easy to see that this

view, brought to such an extreme, is the work of a prejudice which is so stubborn and daring that I won't even try to combat it, since my aim is only to prove that there is not, in the disposition of the universe, any particular purpose or tendency to provide for human needs, and that, even if there were, it's impossible for us to know it, and consequently we're in no position to judge whether this order is perfect, as we imagine.

It's a universally recognized truth that we cannot judge anything at all if we haven't previously known something similar to whatever we mean to judge. If we haven't seen something that's entirely similar, at least we have seen its essential parts at various times; otherwise, we are necessarily uncertain and we don't know what we should think of it. If, for example, we're shown, for the first time, an animal from America about which we have no knowledge by relations, could we say that it's more or less beautiful than the common member of its species, if it's bigger or smaller than usual? No, of course not; for we can only apply this judgment after we've seen others and examined the differences between it and the common run of its fellows. This, then, shows that we shouldn't call the order in the universe beautiful, since we have nothing to compare it with to judge its perfection.

But here is what might still be said, and what many believe to be incontestable truth: man has countless needs, many things bring him discomfort, he also has many faculties, and he finds in the universe the wherewithal to satisfy all his needs, to remedy his discomforts, and to use all his faculties to his advantage; it is therefore [regarded as] true that the economy of the universe is ordained in this way for his utility. A very false conclusion, for if a fish finds all of life's necessities in the sea, it doesn't mean that the sea was created for the fish. But here is a more sound and consistent argument on the subject, which is infinitely more likely than the first: the universe, having been formed, and its uniform motion established by the general laws of Providence, man who is born in it regulates his needs upon what he finds there which is suited to relieve them, and is only aware of those faculties in himself which can be put to use by the present dispositions of matter. He doesn't even need his reason for this; accustomed as he is from childhood to certain needs, to certain faculties, he won't dream of exempting some and increasing others; he satisfies himself with things as they are, since he cannot change them, and he consoles himself with the thought that things couldn't be different, and finds in the universe the wherewithal to amply supply what he lacks. He is so imbued with this prejudice that he fails to see the futility of an infinity of things around him, and that he accuses himself of ignorance for failing to know how to put them to use.

But, to examine this question more methodically, let's make a kind of parallel between these two opposing views and see, in the light of a close comparison, which seems closer to the truth. Let's suppose that two men, equally enlightened and educated in the sciences, seek unbiased information on the subject.

The one who sees the universe as created in favor of man will base his opinion on all that he finds proportioned to human needs. He admires the regular courses of the stars, the Sun which remains always at a proper distance from the Earth, without which humanity would perish through excessive heat or cold; he sees it advancing during six months towards one of the poles and, returning quickly during the six others, dividing the year into four seasons, each of which seems to have its own utility. He cannot doubt that all this was made intentionally. He places the Sun at the center of our vortex, and admires how evenly the beneficent light is spread to all the surrounding planets; he sees that the Earth, being closer than Jupiter, has only one moon, which, by the light it receives from the Sun, seems to compensate us for the absence of this star; he admires the four satellites of Jupiter and the six of Saturn which compensate these two planets for the cold and darkness which they suffer because of their vast distance from the Sun. Such a fine order would seem to aim at nothing but the preservation and utility of each being in particular.

If we descend to Earth and consider the construction of the human body, we'll have no fewer reasons for admiration. There we find, in summary form, the most perfect mechanism imaginable: bones of a solid consistency, well-made to support the body's mass; muscles and nerves, which are so many cords, pulleys, and levers; animal spirits, so fluid that they're pressed rapidly by the will alone into the canals of the muscles and which inflate and shorten them, by this means giving motion to the members towards which they're sent by the soul. He admires the sense organs; that of sight, for example, this eye composed of humors which are transparent so that the rays of light, breaking there, gather on the retina and paint objects on this miraculous tissue of small fibers, which are so mobile that they are set in motion by the subtle matter, which can't affect any other bodies, and this motion is carried to the substance of the brain, where it moves the soul in the same way as the organ was moved by the presence of the object. He finds in all the other senses further causes for awe. When he consults physics, he recognizes the need for air to have weight, which causes the growth of plants, compressing the juice of the earth and driving it upward in the plants' pores. If he considers the subtle matter, he

sees that without it the universe would be only a gloomy place, that the fluidity of the liquids, especially that of our blood, which is so necessary for life, would be blocked. He sees the ebb and flow of the ocean, the wind which reigns over the Mediterranean and the salt in both seas as necessary to prevent corruption, which would lead to a universal contagion. This is not all: since the body is vulnerable to a great many diseases, nature would certainly have erred if it offered no remedies; but, on the contrary, botany and chemistry provide these abundantly. There are few diseases which cannot be healed by some plant or other. Should valerians, narcotics, and so many others of equal virtue remain useless to us? How many remedies can be extracted from mercury and antimony when, through the work of chemistry, they have been opened and prepared?

All these considerations lead him to think that everything that exists was created for the reciprocal utility of the beings who are part of nature, that an unlimited power has provided for the needs of men, and by an infinite prudence has made all beings necessary to each other. Clearly, this opinion establishes the existence of an eternal, omnipotent Being, endowed with wisdom, prudence, even goodness, to an infinite extent. I say *even goodness*, since all this care has no other aim than the preservation and utility of nature, which certainly is a proof of His goodness.

Now let's see how he who allows no particular purposes in Providence might respond to this admiration, which seems so well grounded. He agrees with all the facts produced by his opponent. He agrees about the regularity of the stars and the utility that man gets from them; but, far from believing that human advantage is the final cause and goal of such marvelous movements, he traces back their physical causes, and, at every step, he takes in the knowledge of the first principles of things, and his admiration for their effects diminishes. For he doesn't say: this is how things must have been organized, and here are the resources that had to be dreamed up, for things to come about as they have today; but he reasons thus: things are as we see them because their principles are of such a nature that they cannot produce other effects. If I ventured the comparison, which, while somewhat short of the truth, still seems quite accurate to me, I might be better understood. Suppose that a small animal, able to reason carefully, decided to investigate the slipping of grains of sand through the hole of an hourglass, and decided that the order followed by the way the tiny grains flow, with respect to each other, is absolutely necessary and immutable. This animal would surely admire the fact that each had been shaped in such a way that some must pass in front of others by acute angles, and other clear differences; but if, instead of allowing his bias that this order couldn't be otherwise, he pays attention to the fact that that only

chance could give these grains their various forms, and that, once they acquire them, it's impossible for this flow not to happen exactly the way he sees it happening, his admiration would suddenly cease. And this is exactly what should happen to us, when, having made a similar argument, we come to recognize that these things, formerly so amazing, are the natural and necessary effects of the arrangement and positioning in which the universe was placed by chance. When I attribute this arrangement to chance, let me explain that I don't mean this marvelous order of nature, which we're led to admire by our prejudices, relating it as we do to human utility; but I go back to the basic principles of the entirety, and I say that this first arrangement is so simple that it's not attributing too much to chance to consider it as the basic principle, and that if, supposing this, blind chance had arranged the principles of things differently, we would have found in this new arrangement useful things which we would have applied to our needs no less advantageously and we would have felt no less admiration for it than we feel for the present arrangement of the universe.

Let's now see if we can harmonize with the same detail as the deist philosopher, and if we might explain it according to our principles. Having recognized that the Sun is composed of very subtle and fast-moving matter, we won't be shocked to find that the motion of a huge globe in itself would produce a certain amount of trembling in the surrounding fluid sphere. It's even clear that this circular motion must pull on all bodies within the sphere of its activity, and that these bodies, by mechanical laws, must remain always at the same distance from the principle of their motion, and consequently trace out orbs where the proportionality between their volumes and weights has necessarily placed them. Thus, we see, without any amazement that, following these principles, the smallest planets are closest to the Sun, and that, thus moving in smaller circles, they complete their journey more quickly. There is no reason to imagine that the Moon is given to the Earth to give it light in the absence of the Sun, but rather, this body, small and light by comparison to the Earth, was simply caught by its vortex, just as Jupiter's four satellites and Saturn's six are easily pulled by these planets' massive vortices. And if Mercury and Venus lack any satellites, this isn't because they'd have no use for them with their proximity to the source of light, since Mars, which is further away than the Earth, lacks even one of these helpers; but the true reason is only that these smaller planets were unable to pull one into their vortices. Besides, these planets, although closer to the Sun, still must have very dark nights in one of their hemispheres, since they only receive light by the same stars that we see, from which they are even further than us. If Newton's system is used instead of Descartes', this explanation still applies very well.

Finally, to continue in the same order followed from the outset, we'll investigate the structure of the human body. But, far from feeling constant amazement at the properties of this particular configuration of the parts of the human body, we will conceive, like Epicurus, that man's limbs were not given to him for application to every imaginable use, but that, having received them along with the faculties which necessarily depend on their form and the essence of their matter, men have only dreamed up various uses they make of them; and that, if we had been deprived of the organs necessary to the senses we are aware of, we would have had other ones, which we can't imagine, and by which we would have apprehended objects through the attributes of matter, which may be innumerable, and about which we are absolutely ignorant, and these new senses might have been far more perfect than the ones we have. I'll use a comparison, in hopes that it will clarify the truth of my doctrine. If, for example, instead of the five fingers we have on each hand, nature had given us ten, we would put these ten fingers to many uses, and we would do even more perfect works than we now can; we'd even be quite certain of the impossibility of making do with fewer than that number, and that we'd be useless for anything if we only had five. Likewise, if we only had stumps instead of hands, we would have used them in works that would be pitiful by comparison to what we can do today, and yet we'd still find them as beautiful as we find ours, since we'd be aware of nothing better, and we'd see them as the best product of human ingenuity. Thus, we'd accommodate ourselves to the forms of our body and our organs, no matter what shape they might take, and we'd even admire them, being aware of nothing better.

Why, then, do we think this particular configuration of ours is either the only one that could be perfect and amazing in itself, since we don't know any other one, and we can't make any comparison between them? What a well-founded admiration, based only on ignorance! But there's nothing new here. We admire what we're ignorant about; we judge as beautiful and perfect what we admire, and this prejudice is so deeply rooted in us that we can no longer uproot it. If, later on, we gain some knowledge of the order of the universe and our admiration diminishes as we learn about simplicity and necessity in nature, the prejudice, based on our primal ignorance, of the perfection of the universe remains, and we still base our reasoning on the assumption of the perfection and harmony of the universe.

But let's return to our subject and finish our response to the Deist's admiration. He finds obvious utility in plants and minerals, but this is precisely where we should blame nature for negligence, since it makes useless and toxic plants even more frequently than those which cure disease, and besides, having refused us any natural knowledge to distinguish between them, it has mixed them so carelessly that

tragedies often occur on the road to this knowledge, which is still so far from perfection. The weight of the air, which he finds so advantageous and useful, is of the essence of its nature. True, this is what makes plants grow and keeps liquids in motion; but it's ridiculous to say that this is why air has weight, since this attribute is decidedly connected to all the matter we're aware of. The tides of the sea are caused by the pressure of the air between the bodies of the Moon and the surface of the sea, and this is no more in place than the salt is sprinkled in its waters to prevent corruption; since some entire seas have no tides, and since there are infinite lakes that aren't salty, without any resultant corruption. Finally, we will find nothing in the universe which was created for the use we attribute to it. Nature has more extensive purposes. It acts by necessary principles; and if, in what it does, we find our particular utility, it's always by interrupting the course of nature and applying to our needs things which weren't made for us, as when we enslave animals or eat fruits, for we are only appropriating all these things by force, which nature had in no way intended for our use.

If we must find some goal and plan in nature, what we'll soon see is that there are no others besides the propagation of the species. Leave every being in the universe free to act naturally, and you'll see them tending to nothing but the reproduction of their own kind. We can't doubt this in the animals; it's clear as can be in all their actions. The same is true with plants: if we leave a fruit on the tree, it will fall and rot, while its pit or seed, whatever it contains, will be preserved or will only be corrupted in the process of the birth of a tree just like its forebear. It's no different with any other plant. If we are to believe the chemist philosophers, they'll teach us that metals have a soul, a fermentation, and a seed which, detached from its corporeity and placed in a suitable womb, produces a metal similar to the one from which it was taken. Finally, we'll see the same thing in all of nature. It desires only the production of species: this is the goal of all its efforts. We will examine, in the following chapter, what this will of nature is, and what means it employs to fulfill it.

This truth might not be as striking as the first two, but this is only because it's more alien to the human mind and it brushes up against our deepest prejudices. But, when they're defeated, and we become intimately familiar with this truth, it will unseal our eyes, as everything proves. Although it changes all the ideas we used to hold, it is so perfectly applicable to everything that, the further our knowledge of the universe advances, the more certain we are that it's a sure and incontestable principle. Let us finish our aim and see what, after all these considerations, we must think about the first Being.

CHAPTER 4: *On the First Being*

Everything said so far proves sufficiently that, if there is a first Being, at minimum, we have nothing to hope or fear from it, and that, therefore, if it exists, it must be like the gods described for us by the famous disciple of Epicurus, taking no interest in the world's affairs, and are content with having set it in motion, or to maintain the universal motion from which all the harmony of the universe follows.

But, while I've followed him in some of what I've said, the authority of Epicurus is nothing to us here, and I'll happily abandon him wherever I think he departs from reason or truth. His opinion on the idleness of the gods is one such point. There can be no greater contradiction than to accept a divinity who has infinite attributes and who puts none of them to use. I like to think that, for political reasons, a philosopher was obliged to accept the gods; but it seems to me at the same time that this policy was rather easy to satisfy, for the gods he accepted were neither offended by crime nor moved by sacrifices, or by any other rites whatsoever. They wanted nothing from men; therefore, the existence of a first Being had no impact on them at all and could neither deter them from crime nor lead them to virtue. It was belief in a divinity only to avoid atheism, since no good could come to society, either to restrain the disorderly masses or to lead them to piety. Since I'm unable to figure out why Epicurus had to speak this way, and having no other rules in a severe and scrupulous pursuit of the truth, without consideration of any political matter, I will speak my mind, doubtless much the way Epicurus thought. For me, I consider Providence as inseparable from the Divinity, and I wouldn't hesitate to say that, if there is no Providence, there is no being who deserves the name of Supreme Intelligence or divinity.

I think I've sufficiently proved in the preceding chapter that the established order of the universe has no need of a particular Providence to maintain it. Nothing happens there which isn't simple and necessary. If some of the operations that happen there seem marvelous to us, it's because we don't investigate, or we simply don't know their causes. For we never wonder at the fact that a stone falls after we've thrown it up in the air, since we see both cause and effect at the same time, and both reason and

experience show us that it couldn't be otherwise. It would be the same for the rest of what happens in the universe, if we also understood its principles.

We see the effect and our utility in an operation of nature as having had a principle aiming at this particular end, and that this particular end and purpose in nature is nothing other than our own utility. Once we are accustomed to this sophism, we stop wondering whether the operation in question is natural and necessary, and we only stare in amazement at all it took to produce something that seems so well matched to our needs. Nothing could be harder than to avoid a trap which appears so often and in so many guises; but, since we have, in fact, managed to recognize it, we'll find it easier to avoid; and, since we must have already inferred from our judgments that a particular Providence is unnecessary, either to maintain the universe or to arrange it as we see it, since any other arrangement would have been no less perfect, let's try now to discover how and by what means it exists.

Matter cannot have made itself, for then it would have had to exist as a creator before it could exist as a creature. We must, therefore, restrict ourselves to saying that it was either created by something else, or that it's eternal. If it was created by something else, it was necessarily created by an eternal Being, for we would have the same problem as to the creation of this Being, and thus we would have to go back from creator to creator. Such a creator must be infinite, for it cannot be limited by matter, its own creature; and what could limit it? If it is infinite, it is one, for there cannot be many infinites. Finally, it must be immaterial, since matter cannot create matter. These, then, are the necessary attributes of a Being who would be capable of creating the universe: eternity, infinity, unity, and immateriality.

To examine each of these attributes in turn, let's begin with eternity. Certainly, we can have no feelings which could give us any knowledge of it: we're used to seeing things coming and going; everything around us has a beginning and an end. But, if we look closer and more carefully than usual at that which seems to perish, we will see that no bodies are truly annihilated, but it's only the form that changes. The wood we burn continues in an equal quantity in the smoke and ashes, without losing the least particle thereof. The body of man, deprived of life and dropped into the earth, decays because of the humidity; his substance is blended and united with the vegetative saps of the earth; it passes into the plants growing there, and into the stones that form there; this substance, as part of a plant, becomes food for an animal, which in turn becomes that of man. Thus, the same quantity of matter is always there; no human effort could destroy even a speck of it. This truth is so well known and so universally accepted

that I'll dwell on it no longer. What I have said is merely to show that we can form an idea of eternity, or at least of one of its parts, if I may be allowed such language. Let me explain. Eternity might be divided into uncreation and immortality, or imperishability. We can only imagine this first half because of the difficulty in understanding what it means to *create,* to *make something from nothing*; this would seem even harder to understand than uncreation. As for imperishability, this is somewhat clearer to us, or at least we find it easier to accept, because of the impossibility we see in annihilating the least particle of matter and because it's impossible to conceive that something can become nothing. Although, as we've just seen, we have no absolute and determinate idea about eternity, yet it can be said that this attribute, applied to any nature whatsoever, is more probable and easier to understand than the creation and destruction of this nature. Thus, nothing prevents us from conceiving of eternity in the first Being.

Infinity is no plainer to us, *per se*, than eternity. We understand nothing about it for the same reasons: all we know is finite; all bodies end where others begin. However, the first Being has to be infinite; for what boundaries could we assign to it? We can't even imagine matter that way, which we see as its workmanship. It must therefore be agreed that God is infinite, even if we can't understand this, since it's no less incomprehensible, not to say absurd, to see Him as finite.

Unity is a necessary consequence of infinity. If there were two or more infinites, then none of them could be any such thing; for the first would be canceled by the other wherever they met up. This unity needs no other proofs and is perfectly obvious.

Immateriality is the final attribute we have recognized as necessary for the creator of the universe. The reason we attributed this to Him is because the worker must be of a different nature than His workmanship. Indeed, if we regarded him as material, then matter would have created matter, which would be contradictory; for, if a part of matter had to be created in order to exist, how could it be that another part existed by itself and was eternal? Therefore, we must necessarily confess the immateriality of the Creator.

But this principle leads to a million problems. To start with, what is immateriality? We may well say that if we don't understand it, that's only because it's beyond our reach, and that we mustn't doubt that there are an infinity of things which, although incomprehensible to us, exist anyway. I agree; but I can't

say whether this one in particular truly fits into that category. We have no clear notions about extension or the infinite divisibility of matter; and yet geometry assures us of the truth of both things. The proposition of the triangle between two parallels, which St. Thomas used to demonstrate the extensibility of the angles, is a solid proof of this; likewise, the demonstration of incommensurable numbers proves infinite divisibility. So, here are a few cases where we are forced to confess that our ideas can't go far enough. But before confessing such a thing, we have to be sure of the truth of what we can't understand; for we'll run into a never-ending stream of errors if we believe things that we can't understand. Therefore, nothing gives us any assurance that an immaterial Being can exist.

The only thing I can see that might have given us this idea is what happens inside us. This is the argument which might have occurred: I think, therefore there is an intelligent and immaterial substance in me, since matter can't think. Then, relating this judgment to the universe, we say: there are telltale signs of a Providence in the harmony we see; therefore, some intelligent substance is regulating all of it; and if this substance is intelligent, then it must be immaterial. This conclusion assures us of the immateriality of the first Being; I can't imagine any other proof for this attribute. If that be so, we will soon find that this foundation is so weak as to be undeserving, both that we should sacrifice our reason to it, and that we should accept it because of the inadequacy of our ideas. All that needs to happen is to employ my arguments proving the materiality of the soul, and an infinity of others which could also be discovered. For if our notion that matter can neither think nor act by itself is the only thing leading us to see the first Being as an immaterial substance, then our conclusion is absolutely false; and, even if one still stubbornly maintained the spirituality of the soul, this would do nothing to prove that of the first Being, since we shouldn't judge it by comparison to what happens in us, but only by that which we regard as its workmanship. I'm aware that, if we grant that the soul is incorporeal and that the first Being created this soul, we cannot refuse to that Being that which we recognize that it has given to its creature; but that isn't the question, for, far from confessing and taking as a principle that it created the universe and, consequently, man, this is exactly the point on which we require clarity; it's precisely the subject at hand.

Matter was either created or it's eternal. If it was created, then its creator must, as we've just said, be a Being who is eternal, infinite, and immaterial. Setting aside the other attributes which would also be necessary for it to have, I will be content to show the problems that crop up when we try to reconcile these. First, it seems to me that infinity and immateriality are absolutely incompatible. For infinity

means only that which occupies all space; but space can only be occupied by a material being: otherwise it's empty space. And besides, doesn't matter occupy any space in the universe? How then could this first Being be in all places? I won't bother demonstrating how eternity is a bad fit with immateriality, for that easily follows from what we've just said; and I think it sufficient to show how easily all these difficulties are overcome if, instead of wishing to imagine a first Being about whom we have neither any proof nor any idea, we limit ourselves to the simplest and most natural opinion, which is to accept no first being except eternal and infinite matter.

Since we've recognized that every operation of both soul and body can be performed by material agents, that thought is a *sixth sense* resulting from the five others and whose organ is the brain, and that the order of the universe requires no particular assistance for its maintenance, why should we needlessly imagine a Being who can only exist by having so many mutually incompatible attributes? Is it not enough to say that we are certain, by ourselves, of the existence of matter, that we have arguments, which are probable at least, to believe it eternal, since we see by experience that it can't perish and that we can't imagine that it came from nothing? Won't that be enough to make us suspect that it might be eternal, and to win our assent, if we find fewer problems in this line of thought than in the contrary view? Then nothing will keep us from granting eternity to matter.

The infinity of matter will give us far less trouble. It is more apparent to us, and could almost be demonstrated to us geometrically, and, to add to the geometrical proofs mentioned above a few coming from common sense alone, can we imagine so many divisions that when we come to the smallest part, nobody could ask whether it also has two sides and that it can't also be split in two? Can we, finally, reduce it down to indivisible points? It's equally hard to deny that it is infinitely extensive; for, if it is limited, what are the boundaries, and what lies beyond them? These questions are forceful, and we have no answers. We must therefore say that matter is infinite. This principle, firmly established, will be all we need to prove that there is no first Being, and even that there is no being in all of nature except matter itself.

For this first Being couldn't be infinite, if matter were also infinite; and matter could not be so, if there were anything else in the world, and if it alone were not the cause and effect of all that we see in the universe.

Here, then, are the conjectures that I dare to assert, along with what I think must follow from all that's been said: matter is one, infinite, and eternal; this is what, having always existed, has maintained and maintains the universe as we see it, without any particular foresight as to our utility or our needs, but still doing everything necessary for the propagation of species; this is what guides our actions by an order which is necessary, invariable, and dependent on immediate circumstances; finally, it is this alone which exists, and it's by itself alone that it exists.

Many objections might be raised against this system, and they might even serve to shed some light on it.

There is motion in the universe, which animates this matter. But what is this motion, what is its principle? I respond that, although there is nothing of which we are more ignorant in physics than motion and its causes, what is known with certainty is that it is inseparable from matter and that there can never be motion without matter. Thus, it may come about that movement is essential to matter and is part of its very being. It might be objected that, if that were the case, there could be no matter without motion. This conclusion is a true one; but, first, we see that all the forms of matter, as solid as you like, are destructible, which cannot occur without some motion which, while imperceptible to our organs, is nevertheless real. Secondly, all the parts of matter could be said to have an inherent force which makes all of them move equally, and that, if some seem to move very slowly, or even not at all, that's because, since each is striving to move with the same effort in opposite directions, they meet and, both parties being opposed to each other, they stay at rest, and still it can't be said that that they are motionless, since they always have this force which is its principle, and since this power would be actualized if this obstacle were removed. I've only shared a basic idea here, in passing, of a system which is very easy to maintain and which provides a very simple and natural explanation of many facts which are hard to explain with any other hypothesis about motion. Thirdly, motion can be accidental to a certain disposition of matter. No matter how one takes it, movement should be eternal like matter and it should always have existed in the same quantity, only being differently modified and determined at every moment by the particular accidents of matter.

I'm fully aware that this response fails to respond to every problem, and that this isn't a geometrical demonstration; but these are occasions where one must believe and allow certain things, despite not understanding them. For we are assured of the existence of motion; we also know that it is imperishable and that it only diminishes in any subject by being transmitted to another one; thus, nothing prevents us

from believing in its eternal nature. On the basis of this principle or assumption, all the problems in our system vanish. One might well, for example, quibble on the eternity of matter. I will ask whether, by refusing this to matter, it is more natural to forge a Being just to attribute this eternity to it, along with an infinity of other attributes, so that it can create matter. Clearly, this would be to suppose the existence of impossible chimeras, in hopes of denying a truth which is plain enough to be sensed. Finally, I see no further objections strong enough to keep us from believing that, since matter exists from all eternity, then its eternal motion, always equal and uniform, makes it move indifferently everywhere; that the accidents particular to this matter change[5] the direction of this same motion, and that since they exist necessarily, they also necessarily divide the action of the motion and determine it in various directions, which always depend on the particular dispositions of the matter. Thus motion, which initially acts on matter, finds itself modified and determined by it, so that the reciprocal actions and reactions of each form the necessary concatenation and order which one of our ancient poets calls *dira necessitas*[6]. This inflexible necessity is what produces all events, regulates our actions, and guides the universe only by the laws of the simplest mechanism.

I forgot an objection that might aptly be raised. It has to do with my avowal that nature seemed to aim at the propagation of species. In this case, it wouldn't be guided by sheer mechanics, since destruction or production can happen indifferently, in an arrangement which didn't aim only at the preservation of species.

My response is that this goal and desire for propagation is not some intelligent or reasoned will, but it's the fact that all the mixed beings are composed of various principles (I don't mean the primary principles, but of those which are recognized by the analysis that might be made of all bodies). These principles are phlegm, sulfur, salt, *caput mortuum*, and a fifth, which is mercury or the quintessence. This mercury is a mixture of the subtlest and most purified parts of the four other principles; it is, as it were, another mixed being like the one of which it is a part, but far more perfect. This is what forms the soul and life of the animals and plants. This spirit abounds in the seed of the mixed bodies and which, developing in a suitable womb, forms by its corruption and decomposition a new body equal to the one from which it came. It is, finally, this active fermentation which changes into its own nature all surrounding matter and makes it work together to produce a mixture of its own kind. This quintessence,

[5] Translator: "Charge" in the original.
[6] Translator: Horace's "dire necessity" (Ode 24).

being contained and spread through the whole body which it animates, is always active, because its great subtlety makes it infinitely better suited to movement than the other principles of the body. This violent agitation means that it only seeks to escape, and thus it causes the animals to act according to this principle and in proportion to the abundance or subtlety of this seed. This is what produces in them these movements and the natural attraction between the sexes, which becomes a need from which they seek relief, like any other, by the most effective means and those closest to hand. It's even the same with plants. This seminal spirit courses through the plant and doesn't stop until it finds a prison strong enough to hold it. This is the grain, where it is normally contained. Once established there, it stays put until this grain, having entered the soil, begins to rot and gives it the liberty of acting and reproducing what its kind and its nature contain. Thus, we see that this goal and will of nature is only a figure of speech, since it acts, no less on this occasion than on any other, according to the general and mechanical laws to which it is necessarily subject.