Discourse on Metaphysics

G. W. Leibniz

[Brackets] enclose editorial explanations. Small ·dots· enclose material that has been added, but can be read as though it were part of the original text. Occasional •bullets, and also indenting of passages that are not quotations, are meant as aids to grasping the structure of a sentence or a thought.—-The division into sections is Leibniz's; the division of some sections into paragraphs is not. Leibniz wrote brief summaries of the 37 sections of this work, but did not include them in the work itself. Some editors preface each section with its summary, but that interrupts the flow. In this version the summaries are given at the end.

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Sections 1–13

1. The most widely accepted and sharpest notion of God that we have can be expressed like this:

God is an absolutely perfect being;

but though this is widely accepted, its consequences haven't been well enough thought out. As a start on exploring them, let us note that there are various completely different ways of being perfect, and that God has them all, each in the highest degree. We also need to understand what a perfection is. Here is one pretty good indicator: a property is not a perfection unless there is a highest degree of it; so number and shape are not perfections, because there cannot possibly be a largest number or a largest thing of a given shape—·that is, a largest triangle, or square, or the like·. But there is nothing impossible about the greatest knowledge or about omnipotence [here = 'greatest possible power']. So power and knowledge are perfections, and God has them in unlimited form. It follows that the actions of God, who is supremely—indeed infinitely—wise, are completely perfect. This is not just metaphysical perfection, but also the moral kind. His moral perfection, so far as it concerns us, amounts to this: the more we come to know and understand God's works, the more inclined we shall be to find them excellent, and to give us everything we could have wished.

2. Some people—·including Descartes·—hold that there are no rules of goodness and perfection in the nature of things, or in God's ideas of them, and that in calling the things God made 'good' all we mean is that God made them. I am far from agreeing with this. If it were right, then God would not have needed after the creation to 'see that they were good', as Holy Scripture says he did, because he already knew that the things in question were his work. In saying this—·'And God saw everything that he had made·, and, behold, it was very good' (*Genesis* 1:31)—Scripture treats God as like a man; but its purpose in doing this appears to be to get across the point that a thing's excellence can be seen by looking just at the thing itself, without reference to the entirely external fact about what caused it. Reinforcing that point is this one: the works must bear the imprint of the workman, because we can learn who he was just by inspecting them. I have to say that the contrary opinion strikes me as very dangerous, and as coming close to the view of the Spinozists that the beauty of the universe, and the goodness we attribute to God's works, are merely the illusions of people who conceive God as being like themselves. Furthermore, if you say ·as Descartes did· that things are good not because •they match up to objective standards of goodness, but only because •God chose them, you will unthinkingly destroy all God's love and all his glory. For why praise him for what he has done, if he would be equally praiseworthy for doing just the opposite? Where will his justice and wisdom be,

> if there is only a kind of despotic power, if *reason*'s place is taken by *will*, and if justice is tyrannically defined as what best pleases the most powerful?

[Leibniz here relies on his view that it is through reason that we learn what things are good.] And another point: it seems that any act of the will presupposes some reason for it—a reason that naturally precedes the act—·so that God's choices must come from his reasons for them, which involve his knowledge of what would· be good; so they can't be the *sources* of the goodness of things. That is why I find it weird when Descartes says that the eternal truths of metaphysics and geometry, and therefore also the rules of goodness, justice,

and perfection, are brought about by God's will. Against this, they seem to me to be results of his •understanding, and no more to depend on his •will than his intrinsic nature does.

3. Nor could I ever accept the view of some recent philosophers who have the nerve to maintain that God's creation is not utterly perfect, and that he could have acted much better. This opinion, it seems to me, has consequences that are completely contrary to the glory of God. Just as a lesser evil contains an element of good, so a lesser good contains an element of evil. To act with fewer perfections than one could have done is to act imperfectly; showing an architect that he could have done his work better is finding fault with it. Furthermore, this opinion goes against holy scripture's assurance of the goodness of God's works. ·That goodness can't consist simply in the fact that the works could have been worse; and here is why·. Whatever God's work was like, it would always have been good in comparison with *some* possibilities, because there is no limit to how bad things could be. But being praiseworthy in *this* way is hardly being praiseworthy at all! I believe one could find countless passages in the holy scriptures and the writings of the holy fathers that support my opinion, and hardly any to support the modern view to which I have referred—a view that I think was never heard of in ancient times. It has arisen merely because we are not well enough acquainted with the general harmony of the universe and of the hidden reasons for God's conduct; and that makes us recklessly judge that many things could have been improved. Furthermore, these moderns argue—subtly but not soundly—from the false premise that however perfect a thing is, there is always something still more perfect. They also think that their view provides for God's freedom, ·through the idea that if God is free, it must be up to him whether he acts perfectly or not·; but really it is the highest freedom to act perfectly, in accordance with sovereign reason. For the view that God sometimes does something without having any reason for his choice, besides seeming to be impossible, is hardly compatible with his glory. Suppose that God, facing a choice between A and B, opts for A without having any reason for preferring it to B. I see nothing to praise in that, because all praise should be grounded in some reason, and in this case we have stipulated that there is none. By contrast, I hold that God does nothing for which he does not deserve to be glorified.

4. The love that we owe to God, above all things, is based (I think) on our grasp of the great truth that God always acts in the most perfect and desirable way possible. For a lover looks for satisfaction in the happiness or perfection of the loved one and of his actions. Friendship is wanting the same things and not-wanting the same things. And I think it will be hard to love God properly without being disposed to want what he wants, even if one had the power to get something different. Indeed, those who are not satisfied with what God does are like malcontent subjects whose mind-set is not much different from a rebel's. These principles lead me to maintain that loving God requires a certain attitude to everything that happens to us through his will: not just passively accepting it because one has no alternative, but being truly satisfied with it. I am saying this about the past; for we shouldn't be quietists about the future, stupidly waiting with folded arms for what God will do, as in the fallacy of 'the argument for idleness' (as the ancients called it). So far as we can judge what God wants, in a general way, we should act in accordance with that, doing our very best to contribute to the general good, and in particular to adorning and perfecting the things that concern us—the things that are within reach. The outcome may show that in a particular instance God didn't want our good will to have its effect, but

it doesn't follow that he didn't want us to do what we did. On the contrary, as he is the best of masters, he never asks more than the right intention, and it is up to him to know when and where good intentions should succeed.

5. So it is enough to be sure of this about God: that he does everything for the best, and that nothing can harm those who love him. But to know in detail his reasons for ordering the universe as he has, allowing sin, and granting his saving grace in one way rather than another, is beyond the power of a finite mind, especially one that has not yet attained the delight of seeing God. Still, some general remarks can be made about how God goes about governing things. Thus, we can liken someone who acts perfectly to an •expert geometer who knows how to find the best construction for a problem; to a •good architect who exploits the location and the budget for his building to the best advantage, not allowing anything nasty, or less beautiful than it could be; to a •good head of a household, who manages his property so that no ground is left uncultivated or barren; to a •clever special-effects technician in the theatre, who produces his effect by the least awkward means that can be found; or to a •learned author, who gets the largest amount of subject-matter into the smallest space he can. Now, minds are the most perfect of all things, occupying the least space and thus providing the least hindrance to one another ·because they don't take up space at all·; and their perfections are virtues. That is why we should be sure that the happiness of minds is God's principal aim, which he carries out as far as the general harmony will permit. I'll say more about this later. The simplicity of God's ways relates to the •means he adopts, while their variety, richness or abundance relate to •ends or effects. These should be in balance with one another, as the money for putting up a building has to be balanced against its desired size and beauty. Admittedly, whatever God does costs him nothing—even less than it costs a philosopher ·or scientist· to invent theories out of which to build his imaginary world—for God can bring a real world into existence merely by decreeing it. But in the exercise of wisdom ·by God or a scientist· there is something analogous to the cost of a building, namely the number of independent decrees or theories that are involved. ·For God's creative activity to be economical is for it to involve very few separate decrees; for a scientific theory to be economical in its means is for it to have very few basic principles or axioms·. Reason requires that multiplicity of hypotheses or principles be avoided, rather as the simplest system is always preferred in astronomy.

6. God's wishes or actions are usually divided into the ordinary and the extraordinary. But we should bear in mind that God does nothing that isn't orderly. When we take something to be out of the ordinary, we are thinking of some particular order that holds among created things. ·We do not, or ought not to, mean that the thing is absolutely extraordinary or disordered, in the sense of being outside every order; because· there is a universal order to which everything conforms. Indeed, not only does nothing absolutely irregular ever happen in the world, but we cannot even feign [= 'tell a consistent fictional story about'] such a thing. Suppose that someone haphazardly draws points on a page, like people who practise the ridiculous art of fortune-telling through geometrical figures. I say that it is possible to find a single formula that generates a geometrical line passing through all those points in the order in which they were drawn. And if someone drew a continuous line which was now straight, now circular, now of some other kind, it would be possible to find a notion or rule or equation that would generate it. The contours of anyone's face could be traced by a single geometrical line governed by a formula. But when a rule is very complex, what fits it is seen as irregular. So one

can say that no matter how God had created the world, it would have been regular and in some general order. But God chose the most perfect order, that is, the order that is at once simplest in general rules and richest in phenomena—as would be a geometrical line whose construction was easy yet whose properties and effects were very admirable and very far-reaching. These comparisons help me to sketch some imperfect picture of divine wisdom, and to say something that might raise our minds to some sort of conception, at least, of what cannot be adequately expressed. But I don't claim that they explain this great mystery ·of creation· on which the whole universe depends.

7. Now, because nothing can happen that isn't orderly, miracles can be said to be as orderly as natural events. The latter are called 'natural' because they conform to certain subordinate rules—·ones that are not as general and basic as God's fundamental creative decrees·—which we call the nature of things. This 'Nature' is only a way in which God customarily goes about things, and he can give it up if he has a reason for doing so—a reason that is stronger than the one that moved him to make use of these ·subordinate· maxims in the first place. General acts of the will are distinguished from particular ones. Using one version of this distinction, we can say that God does everything according to his most general will, which conforms to the most perfect order that he has chosen; but that he also has particular wills, which are exceptions (not to the most general of God's laws, which regulates the whole order of the universe, and to which there are no exceptions, but) to the subordinate maxims I have mentioned, ·the ones that constitute 'Nature'·. Any object of God's particular will is something he can be said to want. But when it comes to the objects of his general will—such as are actions of created things (especially rational ones) which God chooses to allow—we ·cannot say that God wants them all, and· must make a distinction. **(1)** If the action is intrinsically good, we can say that God wants it, and sometimes commands it, even if it doesn't happen. **(2)** But an action may be intrinsically bad, and only incidentally good because later events—especially ones involving punishment and reparations—correct its wickedness and make up for the bad with some to spare, so that eventually there is more perfection overall than if this bad thing had not been done. In a case like that we must say that God allows the action but not that he wants it, even though he goes along with it because of the laws of Nature that he has established and because he sees how to derive from it a greater good.

8. It is quite hard to distinguish God's actions from those of created things. Some believe that God does everything, and others suppose that he only conserves the •force he has given to created things, ·allowing them to decide in what •directions the force shall be exercised·. We shall see later on what truth there is in each of these. Now since actions and passions properly belong to individual substances (when there is an action there is some*thing*, some subject, that acts), I have to explain what such a substance is. This much is certain: when several predicates are attributed to the same subject, and this subject is not attributed to any other, it is called an individual substance. ·For example, we call John a substance because we can attribute to him honesty, intelligence, and so on; but we don't call his honesty a substance because, although we can attribute predicates to it ('His honesty is charming, and surprising') we can attribute it to something else, namely to John. In contrast, John cannot be attributed to anything else·. But that explanation is only nominal—·all it does is to relate our calling a thing a 'substance' to other facts concerning what we say about it·. Beyond that, we need to think about what it is for something to be truly attributed to a certain subject—·e.g.

what it is for honesty to be a property of John·. Now it is certain that all true predication is founded in the nature of things, and when a proposition is not identical, that is, when the predicate is not explicitly included in the subject ·as in 'The man who governs Somalia governs Somalia'·, it must be implicitly included in it. This is what philosophers call in-esse [being-in] when they say that the predicate *is in* the subject. So the ·notion of the· subject term must always include ·that of· the predicate, so that anyone who understood the subject notion perfectly would also judge that the predicate belongs to it. We can therefore say that the nature of •an individual substance or of a complete being is to have a notion so complete that it is sufficient to include, and to allow the deduction of, all the predicates of the subject to which that notion is attributed. •An accident, on the other hand, is a being whose notion doesn't involve everything that can be attributed to the subject to which that notion is attributed. Thus Alexander the Great's kinghood is an abstraction from the subject, ·leaving out much detail·, and so is not determinate enough to pick out an individual, and doesn't involve the other qualities of Alexander or everything that the notion of that prince includes; whereas God, who sees the individual notion or 'thisness' of Alexander, sees in it at the same time the basis and the reason for *all* the predicates that can truly be said to belong to him, such as for example that he would conquer Darius and Porus, even to the extent of knowing a priori (and not by experience) whether he died a natural death or by poison—which we can know only from history. Furthermore, if we bear in mind the interconnectedness of things, we can say that Alexander's soul contains for all time traces of everything that *did* and signs of everything that *will* happen to him—and even marks of everything that happens in the universe, although it is only God who can recognise them all.

9. Several considerable paradoxes follow from this, amongst others that it is ·never· true that two substances are entirely alike, differing only in being two rather than one. It also follows that a substance cannot begin except by creation, nor come to an end except by annihilation; and because one substance can't be destroyed by being split up, or brought into existence by the assembling of parts, in the natural course of events the number of substances remains the same, although substances are often transformed. Moreover, each substance is like a whole world, and like a mirror of God, or indeed of the whole universe, which each substance expresses in its own fashion—rather as the same town looks different according to the position from which it is viewed. In a way, then, the universe is multiplied as many times as there are substances, and in the same way the glory of God is magnified by so many quite different representations of his work. It can even be said that each substance carries within it, in a certain way, the imprint of God's infinite wisdom and omnipotence, and imitates him as far as it can. For it expresses (though confusedly) everything that happens in the universe—past, present, and future—and this is a little like infinite perception or knowledge. And as all the other substances express this one in their turn, and adapt themselves to it—·that is, they are as they are *because* it is as it is·—it can be said to have power over all the others, imitating the creator's omnipotence.

10. The ancients, as well as many able teachers of theology and philosophy a few centuries ago—men accustomed to deep thought, and admirable in their holiness—seem to have had some knowledge of the things I have been saying, and to have been led by that to introduce and defend *substantial forms*. These are much sneered at today, but they are not so far from the truth, nor so ridiculous, as the common run of our new philosophers suppose. I agree that these

forms have no work to do in explaining particular events, and thus no role in the details of physics. That is where our scholastics [= mediaeval Christian philosophers influence by Aristotle, Thomas Aquinas being the most famous example] went wrong, and the physicists of the past followed them into error: they thought they could invoke forms and qualities to explain the properties of bodies, without bothering to find out how the bodies worked—like settling for saying that a clock's form gives it a 'time-indicative quality', without considering what that consists in—·that is, without considering what mechanisms are involved·. Actually, that might be all the clock's owner needs to know, if he leaves the care of it to someone else. But this misuse and ·consequent· failure of 'forms' shouldn't make us reject them. Metaphysics needs a knowledge of them, so much so that without that knowledge—I maintain—we couldn't properly grasp the first principles ·of metaphysics·, and couldn't raise our minds to the knowledge of immaterial natures and the wonders of God. However, ·important truths need not be taken into account everywhere·. A geometer need not worry about the famous labyrinth of the composition of the continuum [that is, the puzzles that arise from the idea that a line has no smallest parts]; and the huge difficulties to be found in trying to reconcile free will with God's providence need not trouble a moral philosopher, still less a lawyer or politician; for the geometer can do all his proofs, and the politician can complete his plans, without getting into those debates, necessary and important though they are in philosophy and theology. In the same way a physicist can explain his experiments—sometimes using simpler experiments he has already made, sometimes proofs in geometry and mechanics—without needing to bring in general considerations belonging to another sphere. And if he does ·go outside his sphere, and· appeal to God's co-operation, or to some soul or 'spiritual force' or other thing of that kind, he is talking nonsense, just as much as someone who drags large-scale reflections about the nature of destiny and our freedom into an important practical deliberation. Indeed men often enough unthinkingly make this mistake, when they let the idea of what is 'fated' to happen tangle their thoughts, and sometimes are even deterred by that idea from some good decision or some important precaution.

11. I know I am putting forward a considerable paradox in claiming to rehabilitate the ancient philosophy, in a way, and to re-admit substantial forms when they have been all but banished. But perhaps you won't just brush me off if you realize that I have thought a lot about the modern philosophy, that I have spent much time on experiments in physics and proofs in geometry, and that for a long time I was sure that these entities [substantial forms] are futile. Eventually I had to take them up again—against my will, as though by force—after my own researches made me recognize that thinkers these days do less than justice to St. Thomas and to other great men of his time, and that the views of scholastic philosophers and theologians contain much more good stuff than people suppose, provided they are used relevantly. I am convinced, indeed, that if some exact and thoughtful mind took the trouble to clarify and digest their thoughts, in the way the analytic geometers do, he would find them to be a treasure-house of important and completely demonstrable truths.

12. Picking up again the thread of our reflections, I believe that anyone who thinks about the nature of substance, as I have explained it above, will find that there is more to the nature of body than extension (that is, size, shape, and motion), and that we can't avoid attributing to body something comparable with a soul, something commonly called 'substantial form'—though it has no effect on par-

ticular events, any more than do the souls of animals, if they have souls. It can be proved, indeed, that the notion of size-shape-movement is less sharp and clear than we imagine, and that it includes an element that belongs to imagination and the senses, as do—to a much greater degree—colour, heat, and other such qualities, which we can doubt are really there in the nature of external things. That is why qualities of such kinds could never constitute ·the basic nature of· any substance. Moreover, if there is nothing but size-shape-movement to make a body the thing that it is, then a body can never persist for more than a moment ·because bodies constantly gain and lose tiny bits of matter·. However, the souls and substantial forms of bodies other than ours are quite different from ·our· thinking souls. Only the latter know their own actions; and they don't naturally go out of existence, but ·last for ever and· always retain the foundation of the knowledge of what they are. This is what makes them alone liable to punishment and reward, and what makes them citizens of the republic of the universe, of which God is the monarch. It also follows that all other creatures must serve them. I shall say more about that later.

13. The foundations that I have laid down give rise to a big problem, which I must try to solve before moving on. I have said that the notion of an individual substance involves, once and for all, everything that can ever happen to it; and that by looking into that notion one can see in it everything that will ever be truly sayable of the substance, just as we can see in the nature of a circle all the properties that are deducible from it. But this seems to destroy the difference between contingent and necessary truths, to rule out human freedom, and to imply that all the events in the world—including our actions—are governed by an absolute fate. To this I reply that we have to distinguish what is certain from what is necessary. Everyone agrees that future contingents are assured, because God foresees them; but we don't infer from this that they are necessary. You may say:

> But if some conclusion can be infallibly deduced from a definition or notion, it is necessary. And you contend that everything that happens to a person is already included implicitly in his nature or notion, just as a circle's properties are contained in its circle; so you are still in trouble.

I shall now resolve this problem completely. To that end, I remark that there are two kinds of connection or following-from. One is absolutely necessary, and its contrary implies a contradiction; such deduction pertains to eternal truths, such as those of geometry. The other is necessary ·not absolutely, but· only ex hypothesi, and, so to speak, accidentally. ·It doesn't bring us to *It is necessary that P*, but only to *Given Q, it follows necessarily that P*·. Something that is necessary only ex hypothesi is contingent in itself, and its contrary doesn't imply a contradiction. This ·second· kind of connection is based not purely on ideas and on God's understanding alone, but also on his free decrees, and on the history of the universe. Let us take an example. Since Julius Caesar will become the permanent dictator and master of the Republic, and will overthrow the freedom of the Romans, these actions are comprised in his ·perfect or complete· notion; because we are assuming that it is the nature of such a perfect notion of a subject to include everything, so that the predicate can be contained in the subject. It could be put like this: it is not because of that notion or idea that Caesar will perform the action, since that notion applies to him only because God knows everything. You may object: 'But his nature or form corresponds to that notion, and since God has imposed this character ·or nature or form· on him, from then on he must necessarily act in accordance with it.' I could reply to that by bringing up the

case of future contingents: they have as yet no reality except in God's understanding and will, yet since God has given them that form in advance, they will nevertheless have to correspond to it. ·So I could counter-attack by challenging you to choose between two options, each of which you will find uncomfortable: either (1)· say that future contingents are really necessary, and not contingent, or **(2)** say that God does not know them in advance. But I prefer to •resolve difficulties rather than •excusing them by likening them to other similar ones; and what I am about to say will throw light on both of the above problems. Applying now the distinction between different kinds of connection, I say that whatever happens in accordance with its antecedents is *assured* but is not *necessary*; for someone to do the contrary ·of such an assured outcome· is not impossible in itself, although it is impossible ex hypothesi—·that is, impossible given what has gone before·. For if you were capable of carrying through the whole demonstration proving that this subject (Caesar) is connected with this predicate (his successful ·power-grabbing· enterprise), this would involve you in showing that Caesar's dictatorship had its foundation in his notion or nature, that a reason can be found there—·in that notion or nature·—why he decided to cross the Rubicon rather than stop at it, and why he won rather than lost the day ·in the battle· at Pharsalus. ·You would be discovering· that it was rational and therefore assured that this would happen, but not that it is necessary in itself, or that the contrary implies a contradiction. (In a somewhat similar way it is rational and assured that God will always do the best, although ·the idea of his doing· what is less perfect implies no contradiction.) What you discovered would not be something whose contrary implies a contradiction because, as you would find, this ·supposed· demonstration of this predicate of Caesar's is not as absolute as those of numbers or of geometry. It presupposes ·(you would find)· the course of events that God has freely chosen, and that is founded on **(1)** his primary free decision, which is always to do what is most perfect, and, on the basis of that, **(2)** his decision regarding human nature, namely that men will always (though freely) do what seems the best. Now, any truth which is founded on this sort of decision is contingent, even though it is certain, because •decisions have no effect whatsoever on the •possibility of things. And (to repeat myself) although God is sure always to choose the best, that doesn't stop something less perfect from being and remaining possible in itself, even though it won't happen—for what makes God reject it is its imperfection, not its being impossible ·which it is not·. And nothing is necessary if its opposite is possible. So we are well placed to resolve these kinds of difficulty, however great they may seem (and in fact they are equally serious for everyone else who has ever dealt with this matter). All we need is to bear in mind •that each such contingent proposition has reasons why it is so rather than otherwise—or (to put the same thing in other words), •that there is an a priori proof of its truth which makes it certain, and which shows that the connection of its subject with its predicate has its foundation in the nature of each; but •that this proof is not a demonstration of the proposition's necessity, because those reasons ·for its truth· are based only on the principle of contingency or of the existence of things, that is, on what is or what appears the best among a number of equally possible things. Necessary truths, on the other hand, are based on the principle of contradiction, and on the possibility or impossibility of essences themselves, without any regard to the free will of God or of created things.

Sections 14–23

14. Now that we have some grasp of what the nature of substances consists in, I should try to explain their dependence on one another, and the active and passive aspects of their goings-on. Well, firstly, it is very evident that created substances depend on God, who conserves them and indeed produces them continuously by a kind of emanation, just as we produce our thoughts. For God considers from every angle the general system of particular events that he has thought fit to produce in order to manifest his glory, turning it on all sides, so to speak. And as he considers all the faces of the world in all possible ways—for no aspect escapes his omniscience—each view of the universe, as though looked at from a certain viewpoint, results in a substance that expresses the universe in just that way, if God sees fit to actualize his thoughts by producing such a substance. And as God's view is always correct, so too are our perceptions; where we go wrong is in our judgments, which are our own. I said above, and it follows from what I have said here, that each substance is like a separate world, independent of every other thing except God. So all our phenomena—all the events that occur in us—are simply consequences of our being [here = 'of our nature']. These events maintain a certain order in conformity with our nature, or with the world that is in us, so to speak, and this enables us to set up rules which we can use to guide our conduct, and which are justified by their fit with future events; so that often we can judge the future by the past without falling into error. That would give us a basis for saying that these phenomena are veridical [= 'that they tell the truth'], without bothering about whether they are external to us, or whether others are aware of them too. Still, it emphatically *is* the case that the perceptions or expressions of all substances correspond with one another, in such a way that each one, by carefully following certain principles or laws that it has conformed to, finds itself in agreement with others which do the same—as when several people agree to meet together in some place on a certain day, and succeed in doing this. For them all to express the same phenomena their expressions don't have to be perfectly alike; it is enough that they are correlated—just as a number of spectators think they are seeing the same thing, and do in fact understand each other, even though each one sees and speaks according to his point of view. Now it is God alone (from whom all individuals continuously emanate, and who sees the universe not only •as they do but also •completely differently from them all) who is the cause of this correspondence in their phenomena, and brings it about that what is particular to one is public to all. Without that there would be no connection between them. This gives us a basis for saying that no particular substance ever acts on or is acted on by another particular substance. The sense in which this is true is far removed from common usage, but it is good nevertheless. Bear in mind that what happens to each substance is a consequence of its idea or complete notion and of nothing else, because that idea already involves all the substance's predicates or events, and expresses the whole universe. In reality nothing can happen to us except thoughts and perceptions, and all our future thoughts and perceptions are only the consequences—contingent ones—of our preceding thoughts and perceptions. So if I could command a clear view of everything that is happening or appearing to me right now, I would be able to see in it everything that will ever happen

or appear to me. And it would not be prevented, and would still happen to me, even if everything outside of me were destroyed except for God. But when we have perceptions of a certain kind, we think that they come from outer things acting on us; and I want to look into what this belief is based on, and what truth there is in it.

15. I needn't spend long on this. All I need just now is to reconcile what is said as a matter of metaphysics with what is said in everyday talk, which I do by saying that we rightly [or: reasonably] attribute to ourselves the phenomena that we express more perfectly, and attribute to other substances what each expresses best. So a substance that •expresses everything, ·as every substance does·, and is in that ·metaphorical· sense •infinitely extended, comes to be limited by the more or less perfect manner of its expression. This gives us a notion of how substances obstruct or limit one another; and consequently we can say that in this sense they act on one another, and are obliged to adjust themselves to one another, so to speak. ·What follows is the reason why this way of speaking, though not correct as a matter of strict and basic metaphysics, is nevertheless reasonable, or right in its own way·. It can happen that a change that raises the level of expression of one substance lowers that of another. Now, a particular substance has power in expressing well the glory of God, and in doing that it is less limited. And each thing, when it exercises its power, that is to say when it is active, changes for the better, and extends itself, in proportion to how active it is. So when a change occurs that affects several substances (and actually all changes touch them all), I believe we can ·properly· say that •one that immediately passes to a higher level of perfection or to a more perfect expression exercises its power and acts; and •one that passes to a lower level shows its weakness and is acted on. I hold also that every action of a substance that has perception signifies some pleasure, whereas every passivity [= 'every instance of being-acted-on'] involves some sadness, and vice versa. It can easily happen, though, that a present advantage is destroyed by a greater evil later on; which is why we can sin when we are active or exerting our power and enjoying doing so.

16. My remaining task is to explain how it is possible that God should sometimes have influence on men or on other substances by an out-of-the-ordinary or miraculous concourse. [Leibniz's word *concours* can mean co-operation, or (more weakly) going-along-with or permitting. He here ties it to *influence* (French), suggesting that in these cases God *acts upon* men and other substances, though that is not his considered view about what happens.] ·This question arises because· whatever happens to created substances is purely a consequence of their nature, which seems to imply that nothing extraordinary or miraculous can happen to them. Remember, though, what I said above about the place of miracles in the universe: that they always conform to the universal law of the general order, even though they over-ride subordinate rules ·and are in that sense out of the ordinary·. And since each person and each substance is like a little world that expresses the larger world, anything that happens within a substance belongs to the general order of the universe, which is indeed expressed by the essence or individual notion of that substance. Yet an extraordinary action by God on a single substance, though it does conform to the general order, can still be called miraculous. This is why if we include in our nature everything that it expresses, nothing is supernatural to it, because it extends to everything—because an effect always expresses its cause, and God is the true cause of substances. But the powers and the limits of our nature come (as I have just explained) from ·the facts about· what it expresses more perfectly; and for that reason what it expresses more perfectly belongs to it

in a particular manner. Many things are beyond the powers of our nature, indeed of all limited natures. So in order to make this easier to grasp, I say that what marks off miracles and the extraordinary concourse of God is that they cannot be foreseen by the reasoning of any created mind, however enlightened, because no such mind can rise to having a clear view of the general order. On the other hand, everything that is called 'natural' depends on less general rules that created things can understand. In order, then, to have not only meanings but words that are above reproach, it would be good if we linked certain modes of speech with certain thoughts ·in the following way·. We can use 'our essence' to stand for something including •all that we express ·however imperfectly; and in that sense·, our essence has no limits, and can rise to anything, because it expresses our union with God himself. We can use 'our nature' or 'our power' to designate what is limited in us, ·that is, to designate •the more-perfectly-expressed fragment of all we express·; and anything that surpasses the nature ·or power·—in *this* sense—of any created substance is supernatural.

17. Having several times mentioned subordinate rules, or laws of Nature, I think it would be good to give an example. Our new philosophers standardly employ the famous rule that God always conserves the same quantity of motion in the world. This is indeed most plausible, and in days gone by I thought it to be beyond doubt. But I have since realised where the mistake lies. It is that Descartes and many other able mathematicians have believed that •the quantity of motion (i.e. the speed at which a thing moves) multiplied by •its size exactly equals •the moving force ·that it exerts·; or, geometrically speaking, that forces are directly proportional to speeds and bodies. Now it is rational that the same force should always be conserved in the universe. ·Here are reasons for the two halves of that thesis. As regards the addition of force·: Looking carefully at the observable facts, we can clearly see that perpetual mechanical motion doesn't occur; because if it did the force of a machine, which is always slightly lessened by friction and so must soon come to an end, would be restored, and consequently would increase of itself without any input from outside. ·As regards the loss of force·: We also observe that a body's force is lessened only to the extent that it gives some of it to adjacent bodies, or to its own parts in so far as they have their own independent motion. ·So the new philosophers were right about the conservation of force. Where they went wrong was in this·: they thought that what can be said of •force could also be said of •quantity of motion. I am now going to show the difference between force and quantity of motion. In doing this I shall make an assumption: that a body falling from a certain height gains enough force to rise back up again, if its direction carries it that way, unless it is prevented. For example, a pendulum would return exactly to its starting position unless the resistance of the air and other little obstacles didn't slightly lessen the force it had acquired. I shall also make this assumption: that as much force is necessary to raise a one-pound body A to the height of four fathoms, as to raise a four-pound body B to the height of one fathom. All this is accepted by our new philosophers. It is clear, then, that body A, having fallen four fathoms, has acquired exactly as much force as has body B that has fallen one fathom. For body B, when it has completed its fall, has the force needed to climb back up to the start (by the first assumption), and so has the force to carry a four-pound body (its own body, that is) to the height of one fathom ; and, similarly, the body A, when it has completed its fall, has the force needed to climb back to its start, and so has the force to carry a one-pound body (its own body, that is) to the height of four fathoms. Therefore (by the second assumption) the

forces of these two bodies are equal. Let us now see whether the quantities of motion are the same on the one side as on the other. Here they will be surprised to find that there is a very great difference. For Galileo has demonstrated that the speed acquired in A's fall is double the speed acquired in B's, although the height is quadruple. So let us multiply body A (= 1) by its speed (= 2), and the resultant quantity of motion = 2. On the other hand, multiply the body B (= 4) by its speed (= 1), and the resultant quantity of motion = 4. Therefore the quantity of motion of body A at the end of its fall is half that of body B at the end of its fall, yet their forces are equal. So quantity of motion is clearly different from force, QED. This shows how force should be calculated from the size of the effect it can produce—for example by the height to which a heavy body of a particular size and type can be raised, which is very different from the speed it can reach. To double the speed you must more than double the force. Nothing is simpler than this proof. M. Descartes got this wrong through putting too much trust in his thoughts, even when they were not properly mature. But I am amazed that his followers have not since recognised this mistake. They are, I'm afraid, starting to resemble some of the Aristotelians whom they mock, getting into their habit of consulting their master's books rather than reason and Nature.

18. This point about how force differs from quantity of motion is of some importance, not only **(1)** in physics and in mechanics for discovering the true laws of Nature and rules of motion, and indeed for correcting some practical errors that have glided into the writings of certain able mathematicians, but also **(2)** in metaphysics for understanding its principles better. ·What follows illustrates point **(2)**·. Motion, if one considers only what it strictly consists in just in itself (namely, change of place), is not an entirely real thing; when several bodies change their relative positions, those changes in themselves do not settle which of the bodies should be said to have moved and which to have remained at rest. (I could show this geometrically, if I were willing to interrupt myself to do so.) But the force or immediate cause behind those changes has more reality to it; and there is an adequate basis for ascribing it to one body rather than to another, that being our only way to know to which body the motion mainly belongs. Now, this force is something different from size, shape, and motion, and this shows us that—contrary to what our moderns have talked themselves into believing—not everything that we can conceive in bodies is a matter of extension and its modifications. So here again we have to reintroduce certain beings or 'forms' that the moderns have banished. And it becomes more and more apparent that although all particular natural events can be explained mathematically or mechanically by those who understand them, the general principles of corporeal nature and even ·the somewhat less general principles· of mechanics belong to metaphysics rather than to geometry, and have to do with certain indivisible forms or natures, as the causes of appearances, rather than with corporeal or extended mass. This line of thought could reconcile the mechanical philosophy of the moderns with the caution of some intelligent and well-intentioned people who fear, with some reason, that we might be endangering piety by moving too far away from immaterial beings. ·In case that remark is too compressed, I shall now—down to the end of this section—amplify it. On the one hand, my position enables us to agree with the moderns that in scientifically explaining physical events we can proceed *as though* we were materialists, appealing to nothing but material bodies and their properties. On the other hand, we are saved from outright materialism (and thus from the risk of sliding into atheism, which materialism brings with it), by my views

about what is needed to complete the physics of bodies. (1) I hold that the laws governing the behaviour of bodies involve a concept of force that cannot be extracted from the concept of body; so it is sheerly additional to anything the materialists are comfortable with; and it points in the direction of *immaterial* beings as what might contain or exert the forces. **(2)** I hold that after we have established all the laws of matter, there remains the question 'Why are *these* the laws of matter?', and that the only tenable answer is 'Because God chose that they should be'·.

19. As I don't like to judge people harshly, I shan't make accusations against our new philosophers who claim to expel final causes from physics; but still I can't deny that the consequences of this view seem to me dangerous. [The final cause of an event is what it was for, what goal it was aimed at, what intention it was done with. Its efficient cause is what makes it happen, causing it from behind, as it were. A tidal wave might have as its efficient cause an under-sea earthquake; and if it had a final cause, it might be to punish the people in a sinful coastal city.] It is especially dangerous when it is combined with the view I refuted in section 2 of this Discourse, which seems to go as far as to eliminate purposes altogether—·from theology as well as from physics·—as if *God* acted without intending or aiming at any end or good! Against this, I hold that it is to final causes that we should look for the principle [= 'ultimate explanation'] of all existent things and of the laws of Nature, because God always aims at the best and the most perfect. I freely admit that we may go wrong in trying to work out what God's ends or purposes are; but that happens only when we want to limit them to some particular design, thinking he had only some single thing in view, whereas in fact he takes account of everything all at once. So for example it is a great mistake to think that God made the world only for us, although it is true that he did make it—all of it—for us, and that there is nothing in the universe that does not touch us [Leibniz uses the same verb here as when saying in section 15 that all changes 'touch' all substances], and which is not also adjusted to fit the concern he has for us, in accordance with the principles laid down above. So when we see some good effect or some perfection that happens or follows from the works of God, we can safely say that God intended it. We sometimes fail to act well, but not God: he doesn't do things by accident. This is why, far from risking exaggeration in this—like political observers who go to absurd lengths in attributing subtlety to the designs of princes, or like literary commentators who look for too much learning in their author—one could never over-state the complexity of thought that this infinite wisdom involves. On no subject do we run less risk of error, so long as we only make affirmations, and avoid negative propositions that limit the designs of God. Everyone who sees the admirable structure of animals is led to recognise the wisdom of the creator of things; and I advise those who have any feelings of piety, and indeed of true philosophy, to avoid saying—as do certain self-proclaimed free-thinkers—that we see because we happen to have eyes, but not that the eyes were made for seeing. If one seriously maintains these views that hand everything over to the necessity of matter or to some kind of chance (although each of these must seem ridiculous to those who understand what I have explained above), one will have trouble recognising an intelligent author of Nature. For an effect must correspond to its cause; indeed, the best way to know an effect is through its cause. If you introduce a supreme intelligence as the organiser of things, it doesn't make sense to go on to explain events purely in terms of the properties of matter, without bringing in the organizing intelligence. It would be as though, in explaining a great prince's victory in a successful siege, a historian were to say:

> It was because the small particles of gunpowder, released by the touch of a spark, shot off fast enough to impel a hard, heavy body against the walls of the place, while the particles making up the strands of copper in the cannon were so densely interwoven that they were not pulled apart by that speed;

instead of showing how the conqueror's foresight made him choose the appropriate time and means, and how his power overcame all obstacles.

20. This reminds me of a beautiful passage by Socrates in Plato's *Phaedo,* which agrees splendidly with my views on this point, and seems to have been aimed straight at our over-materialist philosophers. This agreement made me want to translate it, although it is a little long. Perhaps this sample will stimulate someone to make available to us many other beautiful and solid thoughts to be found in the writings of this famous author. [At this point there is a gap in Leibniz's manuscript, into which, he wrote, 'The passage from Plato's *Phaedo* where Socrates ridicules Anaxagoras, who introduces mind but does not make use of it, is to be inserted.' He had included an abridged version of that passage in another of his writings a few years earlier. That version constitutes the remainder of the present section.]

·Start of quotation from Phaedo·

[It is Socrates who speaks.] I once heard someone reading from a book that he said was by Anaxagoras, containing these words: 'All things were caused by an intelligent being that set them out and embellished them.' This pleased me greatly, for I believed that if the world was caused by an intelligence, everything would be made in the most perfect possible manner. That is why I believed that someone wanting to explain why things are produced, and why they perish or survive, should search for what would be most suitable to each thing's perfection. So such a person would only have to consider, in ·the thing he was studying, whether· himself or in something else, what would be the best or most perfect. For someone who knew what was most perfect would also know what would be imperfect, for the knowledge of either is knowledge of the other. Considering all this, I rejoiced at having found an authority who could teach me the reasons for things: for example, whether the earth is spherical or flat, and why it is better that it should be one way rather than the other. I expected also that in the course of saying whether or not the earth is at the centre of the universe, he would explain to me why its position is the most suitable for it to have. And that he would tell me similar things about the sun, the moon, the stars, and their movements. And finally that after having told me what would be best for each thing in particular, he would show what would be best over-all. Filled with this hope, I lost no time in acquiring Anaxagoras's books and whipping through them; but I found nothing like what I had been reckoning on: to my surprise, I found him making no use of ·the idea of· the governing intelligence that he had put forward, that he had nothing more to say about the embellishments and the perfection of things, and that he brought in an implausible ·notion of· ether. It's as though someone were to say at the outset that Socrates acts with intelligence, and then move on to explaining the particular causes of Socrates's actions thus: Socrates is seated here because he has a body composed of bone, flesh and sinews, the bones are solid but they are separated at joints, the sinews can be stretched or relaxed—all that is why the body is flexible, and, rounding out the explanation, why I am sitting here. Or as though someone, wanting to explain our present conversation, appealed to the air, and to the organs of speech and hearing and such things, forgetting the real causes, namely that the Athenians thought

it better to condemn than to acquit me, and that I thought it better to remain here than to escape. If I had not had that thought—if I had not found it more just and honourable to suffer the penalty my country chooses to impose than to live as a vagabond in exile—I swear these sinews and bones would long ago have put themselves among the Boeotians and Megarans! That is why it unreasonable to call these bones and sinews causes. Someone might say that without bones and sinews I could not do what I do, and he would be right; but the true cause is different from a mere condition without which the cause could not be a cause. Some people offer as their whole explanation of what holds the earth in its place the movements of bodies surrounding it; they forget that divine power sets everything out in the most beautiful manner, and do not understand that the right and the beautiful join forces to form and maintain the world.

·End of quotation from Phaedo·

21. Well now, since God's wisdom has always been recognised in the detail of the physical structure of certain bodies, ·especially animals and plants·, it must also be shown display itself in the general economy of the world and in the constitution of the laws of Nature. That is so true that this wisdom can be seen in the general laws of motion. Here is how. If there were nothing to a body but extended mass, and motion were only change of place, and if everything should and could be deduced with geometrical necessity from those definitions alone, it would follow (as I have shown elsewhere) that a tiny body upon bumping into an enormous stationary body would give it the same speed as it itself had, without losing any of its own. And a number of other rules which, like this one, are completely contrary to the formation of a system, would have to be admitted. But a system is provided by the decision of the divine wisdom to conserve always the same total force and direction. I even find that some natural effects can be demonstrated twice over, first through efficient causes, and then through final causes—for example by bringing in God's decision to produce his effect always in the easiest and the most determinate ways. I have shown this elsewhere, in explaining the rules of reflection and refraction of light, about which I shall say more presently.

22. It is good to point this out, in order to reconcile •those who hope to explain mechanically how the parts of an animal are initially inter-woven and what machine they compose, with •those who explain that same structure through final causes. Both are good, both can be useful, not only for admiring the great workman's ingenuity but also for making useful discoveries in physics and medicine. Authors who go these different ways ought not to heap abuse on each other ·as they sometimes do·. For I see that those who focus on explaining the beauty of divine anatomy make fun of others who think that such a beautiful variety of organs could have come from a seemingly chance motion of certain fluids; they call such people rash and profane. The latter, on the other hand, call the others simple and superstitious, and liken them to the ancients who accused of impiety the physical scientists who maintained that thunder is produced not by Jupiter but by some kind of matter in the clouds. It would be best to combine the two approaches, because—if I may use a down-to-earth example—I recognise and praise a workman's skill not only by showing what designs he had in making the parts of his machine, but also by explaining the tools he used to make each part, especially when those tools are simple and cleverly devised. God is such a skillful worker that he could produce a machine a thousand times more ingenious than those of our bodies, using only various quite simple fluids that were devised so that ordinary laws of Nature were all it took to arrange them in the right way

to produce such an admirable effect; but that doesn't alter the fact that none of this would happen if God were not the author of Nature. Explanations in terms of efficient causes are deeper and in some way more immediate and more a priori [here = 'more truly explanatory'], but for the details of events such explanations are hard to come by, and I believe that our scientists usually fall far short of achieving them. By contrast, the way of final causes is easier, despite which it often enables us to conjecture important and useful truths, truths that the other more physical route—·that is, the way of efficient causes·—would have taken ages to reach. Anatomy provides substantial examples of this. I also think that Snell, who first formulated of the rules of refraction, would have been a long time finding them if he had tried to come at them first by ·way of efficient causes, which would put him in need of· discovering how light is formed. Instead of that, he seems to have followed the method the ancients used for reflection ·of light·, which is in fact that of final causes. They looked for the easiest way to get a ray of light from one point to another by reflection in a given plane (assuming that this is the way Nature was designed), and this led them to the discovery that the angle of incidence always equals the angle of reflection. Snell, I think, more ingeniously applied this to refraction. [Leibniz here gives an extremely cryptic and unclear statement of what Snell discovered about how light is bent when it passes from one medium to another, e.g. from air to water; and he says that it implies that light always follows the easiest or anyway the most determinate route from a given point in one medium to a given point in another. He is taking it for granted that the concepts of easiest and most determinate somehow involve final causes.] (Fermat came at the matter in the same way, though without knowing of Snell's work.) Descartes tried to demonstrate this same theorem in terms of efficient causes, but his demonstration is nowhere near as good; and there is room to suspect that he would never have found the theorem by his method if he had not been told in Holland of Snell's discovery ·through final causes·.

23. I have thought it appropriate to emphasize a little the relevance to bodies of •final causes, •incorporeal natures and an •intelligent cause, so as to show that these have a role even in physical science and mathematics. I have wanted to do this because it may (on the one hand) clear contemporary physics of the charge of impiety that has been levelled at it, and (on the other) raise the minds of our philosophers from purely material considerations to thoughts of a nobler kind. Now it is appropriate to return from bodies to immaterial natures, and in particular to minds; and to say something about the means that God employs to enlighten them and to act on them. There is no doubt that here too there are certain laws of Nature, which I will be able to discuss more fully elsewhere. Just now it will be enough to say a little about ideas [sections 23–7], about whether we see all things in God [section 29], and about how God is our light [section 28]. I should point out that many errors arise from the misuse of ideas. ·For example·, some ancient and modern philosophers have based a very imperfect proof of God on the natural assumption that when we reason about something we have an idea of it. The 'proof' goes like this:

(1) I can think about God, so
(2) I have an idea of him.
(3) This idea involves his having all perfections.
(4) Existence is one of the perfections.

Therefore

(5) God exists.

·The defect in this is its move from **(1)** to **(2)**·. We often think of impossible absurdities—for example of the highest speed, or of the largest number, or of [a certain geometrical impossibility]—and the ideas involved in such thinking are in a certain sense 'false', in contrast with 'true' ideas of things

that are possible. So we can boast of having an idea—·that is, a 'true' idea·—of a thing only when we are assured of its possibility. So the above argument falls short. Still, it does at least prove that God necessarily exists *if he is possible*. ·That is a significant result, because it attributes to God something that is not true of other things·. It is indeed an excellent privilege of the divine nature to need only its possibility or essence in order actually to exist.

Sections 24–37

24. To understand the nature of ideas better, I must say a little about the different kinds of knowledge. When I can pick a thing out from among others, but cannot say what marks it out from them, my knowledge of it is confused. In this way we sometimes know vividly, without being in any way in doubt, whether a poem or a painting is good or bad, because it has a certain *je-ne-sais-quoi* that pleases or displeases us. But when I can explain the criteria I am going by, my knowledge is clear. An assayer's knowledge is ·clear· like this; he can distinguish true from false gold by means of certain tests or marks that make up the definition of gold. But the clearness of knowledge is a matter of degree, because the notions entering into the definition usually need to be defined in their turn, and are known only confusedly. But when everything that comes into a definition or an item of clear knowledge is known clearly, right down to the primary notions, I call that knowledge *adequate*. And when my mind takes in, clearly and at once, all the primary ingredients of a notion, it has *intuitive* knowledge of it. This is very rare; most human knowledge is only confused, or suppositive. [Leibniz's use of his invented word *suppositif* in section 25 shows that his thought is this: an item of knowledge to which this term applies involves a notion or idea that one *supposes* to be firmly included in one's conceptual repertoire; this contrasts with consciously bringing the idea to mind and *seeing that* one has it in one's repertoire.] It is also worthwhile to distinguish nominal definitions from real ones: I call a definition 'nominal' when we can still doubt whether the notion defined is possible. [Leibniz gives a complex geometrical example.] This shows that any reciprocal property [= 'any statement of necessary and sufficient conditions'] can serve as a nominal definition; but when the property shows the thing's possibility, it makes a *real* definition. [The source of 'nominal' is the Latin *nomen*, 'name'; the source of 'real' is the Latin *res*, 'thing'. A nominal definition, Leibniz holds, tells you only about the meaning of a word, whereas a real definition informs you about the thing.] Now as long as we have only a nominal definition, we can't be sure of the consequences that we draw from it, because if it conceals some contradiction or impossibility it could also have opposing consequences. This is why truths don't depend on names, and are not arbitrary as some new philosophers have believed. A final point: real definitions differ considerably from one another. When possibility is proved only by experience, the definition is merely •real and nothing more—as with the definition of quicksilver, which we know to be possible because we have encountered a fluid that is an extremely heavy yet fairly volatile. But when the

thing can be shown to be possible a priori—·that is, without help from experience·—as when the definition shows how the thing could be generated, then the definition is both real and •causal. And when a definition takes the analysis the whole way down to the primary notions, without assuming anything that itself requires an a priori proof of its possibility, the definition is •perfect, or •essential.

[In this section and elsewhere, 'vivid' translates the French *clair*, and 'clear' translates the French *distinct*. These are usually rendered as 'clear' and 'distinct' respectively, but the first of those is nearly always a flat mistranslation (though not in the second sentence of section 37). The French word *clair* primarily means 'vivid', 'bright', 'strongly present to consciousness', so that Descartes can say that one's awareness of an intense pain is *clair*, and bright light is *lumière claire*—even if it is dazzling and in no way clear. That is why Leibniz can say in this section, as Descartes did before him, that something's presence to the mind can be at once confused and vivid—not confused and clear! Once 'clear' has been freed from that misuse, it becomes available as a good translation for the French *distinct*.]

25. ·Let us get clear about suppositive knowledge·. When I think of a thousand, I often do so without contemplating the idea—as when I say that a thousand is ten times a hundred, without bothering to think what 10 and 100 are, because I *suppose* I know, and see no immediate need to stop to think about it. ·On those occasions, my thought that a thousand is ten times a hundred is suppositive·. In cases like that, I relate to the idea in the same way as I do in a thought in which there lurks an impossibility. Even if in a given case the relevant idea is all right, and doesn't involve an impossibility, I cannot learn that this is so by suppositive thinking. So it easily *can* and quite often *does* happen that I am mistaken about a notion that I suppose or believe I understand when in fact it is impossible, or at least incompatible with the others to which I join it; and whether I am mistaken or not, this suppositive manner of conceiving is the same.

26. To get a good grip on what ideas are, be warned of an ambiguity. Some people take an idea to be a form or differentia [= 'aspect or property'] of our thought; so that we have the idea in our mind only when we are thinking of it, and whenever we think of it again, we have different but similar ideas of the same thing. Others, however, seem to take an idea to be the immediate object of a thought, or to be some kind of permanent form, which continues to exist even when we are not contemplating it. ·I side with the latter group, and here is why·. Our soul always possesses the ability to represent to itself any nature or form when the occasion for thinking of it arises. ·This ability is permanent, even though the individual thoughts in which it is exercised come and go·. And I believe that this •ability of our soul, when it expresses some nature, form, or essence, is properly called an •idea of the thing; and it is in us—always in us—whether or not we are thinking of the thing. For our soul ·always· expresses God and the universe, and all essences as well as all existences. ·That requires our soul to have ideas of all those things at all times, which it can do only if ideas are abilities rather than individual mental or events or aspects or properties of such events·. This fits in with my principles, for nothing naturally enters our mind from outside; and it is a bad habit of ours to think of our soul as receiving messenger species, or as if it had doors and windows. We have all these forms in our mind and indeed always have had; because the mind always expresses all its future thoughts, and is already thinking confusedly of everything it will ever think clearly. We couldn't be taught something unless we already had the idea of it in our mind, the idea being like the matter out of which the thought is formed. Plato understood this very well, when he put forward his doctrine of *reminiscence*. The latter

is very sound, provided we take it in the right way—cleansing it of the error about pre-existence, and not imagining that if a soul takes in and thinks about something now it must at some earlier time have clearly known and thought about it. He also confirmed his opinion by a beautiful experiment. He introduces a small boy whom he gradually leads to ·an acceptance of· very difficult geometrical truths about incommensurables, without teaching him anything, only asking him an orderly sequence of suitable questions. This shows that our souls have virtual knowledge of all these things; that to grasp truths they need only to have their attention drawn to them; and thus that our souls at least have the ideas on which those truths depend. They might even be said to possess these truths, if we consider the truths as relations between ideas.

27. Aristotle preferred to compare our souls to as-yet blank tablets that could be written on, and he held that there is nothing in our understanding that doesn't come from the senses. This squares better with everyday notions, as Aristotle usually does (unlike Plato, who goes deeper). Ordinary usage does sanction these doctrines or rules of thumb, in the spirit in which people who follow Copernicus still say that the sun 'rises' and 'sets'. Indeed, I often find that we can give them a good sense in which they are ·not merely passable or excusable, but· entirely true; in the way in which (as I have already remarked ·in section 15·) it can truly be said that particular substances act on each other, and that we receive knowledge from outside by the agency of the senses, because some external things contain or express more particularly the reasons why our soul has certain thoughts. But when we are pursuing precise metaphysical truths, it is important to recognise how much our soul contains and how independent it is of other things. These—its 'extent' and its independence—go infinitely further than plain folk imagine, although in ordinary talk we attribute to the soul only what we are most plainly aware of, only what belongs to us in one special manner, because there is no point in going any further. Still, it would be good to choose specific terms for each way of talking, so as to avoid ambiguity. So those expressions that are in our soul whether conceived or not, can be called 'ideas'; but those that are conceived or formed ·in a consciously self-aware manner· can be called 'notions', or 'concepts'. But in whatever way we take the term 'notion', it is always false to say that all our notions come from the so-called external senses. For my notion of myself and of my thoughts, and therefore of being, substance, action, identity, and many others, come from an internal experience.

28. Now in strict metaphysical truth God is the only external cause that acts on us, and he alone affects us directly in virtue of our continual dependence. Therefore no other external object touches our soul and directly triggers our perceptions. So it is the continual action of God upon us that enables us to have in our souls ideas of all things. ·Here is how that happens·. All effects express their causes, and so the essence [= 'intrinsic nature'] of our soul is a particular expression, imitation or likeness of God's essence, thought and will, and of all the ideas contained in it. So we can say that God alone is our immediate external object, and that we see all things through him. When we see the sun and the stars, for example, it is God who gave us the relevant ideas and who conserves them in us; and who by his ordinary concurrence, following the laws he has established, brings it about that we actually think of them when our senses are suitably disposed. God is the sun and the light of souls, 'the light which lighteth every man that cometh into this world' [*John* 1:9]; and this is not a new opinion. In addition to holy scripture and the fathers, who have always been more

for Plato than for Aristotle, I remember having sometimes noticed that many people in the time of the Scholastics held that God is the light of the soul, or, as they used to say, 'the active intellect of the rational soul'. The Averroists twisted this the wrong way, but others have taken it in a manner worthy of God and capable of raising the soul to knowledge of its true good.

29. However, I don't share the opinion of some able philosophers—·most notably Malebranche·—who seem to maintain that our ideas themselves are in God and not at all in us. In my view this comes from their having ·partly grasped but· not yet thought through the points I have just been making about substances and about the whole extent and independence of our soul—points which imply that the soul contains everything that happens to it, and expresses God (and with him all possible and actual beings) as an effect expresses its cause. Anyway, it is inconceivable that I should think with someone else's ideas! Furthermore, when the soul thinks of something it must actually come to be in a certain state, and it must have contained in advance not only a completely determinate •passive power of coming to be in that state, but also an •active power in virtue of which its nature has always contained signs of the future production of this thought, and •dispositions to produce it when the time comes. And all this—·the passive power, the active power that includes the forward-looking signs, and the disposition·—has wrapped up in it the idea involved in the thought.

30. As regards God's action on the human will, there are a number of quite difficult issues that it would be tedious to pursue here. Here in outline is what we can say. In his ordinary concourse with our actions, God merely follows the laws he has established; that is to say, he continually preserves and produces our being in such a way that our thoughts occur spontaneously and freely in the order laid down by the notion of our individual substance, in which they could be foreseen from all eternity. Furthermore, he determines our will to choose what appears ·to us· the best, yet without necessitating it. He does this by decreeing that our will shall always tend towards the apparent good, thus expressing or imitating the will of God to the extent that this apparent good has (as it always does have) some real good in it. ·I comment now on 'without necessitating it'·. Absolutely speaking, our will is in a state of indifference, as opposed to necessity: it has the power to do otherwise, or to suspend its action altogether, each alternative being and remaining possible. It is therefore up to the soul to take precautions against being caught off its guard by events that come into its ken; and the way to do this is to resolve firmly to be reflective, and in certain situations not to act or judge without mature and thorough deliberation. It is true, however, and indeed it was settled from all eternity, that a particular soul will not employ this power ·to pause, reflect, deliberate· on some particular occasion. But whose fault is that? Does the soul have anyone to complain of except itself? Any complaint *after the fact* is unfair if it would have been unfair *before*. But would it have been decent for this soul, just before sinning, to complain against God as if he were determining it to sin? What God determines in these matters cannot be foreseen, so how could a soul know that it was determined to sin unless it was already doing so? It is simply a matter of not choosing to; and God couldn't have set an easier or fairer condition than that; and accordingly judges do not look for the reasons that led a man to have an evil intent, but concern themselves only with how evil it is. 'But perhaps it is certain from all eternity that I shall sin?' Answer that yourself: perhaps not! And instead of dreaming on about what you can't know and

can't learn from, act according to your duty, which you do know. 'But how does it happen that this man will certainly sin?' The reply is easy: it is that otherwise it wouldn't be this man. [Notice: He doesn't say '*he* wouldn't be this man', which is how most translations have put it.] For God sees from all time that there will be a certain Judas whose notion or idea, which God has, contains that future free action. That leaves only the question of why such a Judas, the traitor, who in God's idea is merely possible, actually exists. But no reply to that question is to be expected here on this earth, except that in general we should say: Since God found it good that Judas should exist, despite the sin that he foresaw, this evil must be repaid with interest somewhere in the universe; God will extract some greater good from it; and the bottom line is that this course of events—·the actual one· that includes the existence of this sinner—will turn out to be the most perfect out of all the possible ways things could have gone. But while we are journeying through this world we can't always •explain the admirable economy of that choice; we must settle for •knowing it without •understanding it. And at this point it is time to acknowledge the richness and unfathomable depth of the divine wisdom, and not to look for a detailed account of it—an account that would be infinitely complex. It is quite clear, though, that God is not the cause of evil. Man's soul been possessed by original sin ever since he lost his innocence, but ·that was not the start of it·. Even before that, all created things—·just because they were created·—were intrinsically limited or imperfect in a way that makes them capable of sin and of error. St. Augustine and others have held that the root of evil lies in •nothingness, and I think that this should be taken as saying what I have just said: namely, that evil comes from the •lacks and limits of created things, which God graciously remedies by the degree of perfection that he is pleased to give. This grace of God in both its ordinary and its extraordinary versions [see sections 6 and 16] varies in how deep and wide it goes. ·But· it is always enough not only to save a man from sin but also to secure his salvation, as long as he uses his own resources to combine himself with that grace. It is not always sufficient to overcome a man's inclinations; if it were, ·his inclinations would have no effect on anything, and· he would no longer be responsible for anything. That kind of sufficiency belongs only to absolutely effective grace, which is always victorious, whether through itself or through the combination of circumstances.

31. Finally, God's graces are purely gifts, and creatures have no claim on them. We can't fully explain how God chooses to distribute them by appealing to his foreknowledge (whether absolute or conditional) of how men are going to act in the future; but we mustn't think of them as absolute ·or arbitrary· decrees for which there are no rational grounds. As for God's foreknowledge of our faith or good works: it is quite true that God has chosen only those whose faith and charity he foresaw, foreseeing that he would endow them with faith. But the old question comes up again: Why will God make a gift of faith or of good works to some people and not to others? ·A difficulty about this arises from the fact that grace is effective in a man only to the extent that he brings something of himself to it·. Although to act well a man needs to be stimulated to the good, and converted, he must also then do it ·by means of his own resources·, and men vary in what their inner resources are, corresponding to how they vary in what grace is given them. So included in God's knowledge is not only his foresight of faith and of good deeds, but also his foresight of what a man himself will contribute towards them—his natural dispositions in that direction. It seems to many thinkers that we could say this: God sees what a man·'s natural dispositions will be,

and thus what he· would do without grace or extraordinary assistance, or at least what he will contribute from his own side in addition to anything that may be contributed by grace. So God could have decided to give grace to those whose natural dispositions were the best, or at any rate were the least imperfect or sinful. But if that were so, those natural dispositions, to the extent that they are good, are also the effect of grace (ordinary grace, this time), because ·in this respect too· God has favoured some people more than others. Now, since according to this doctrine, God knows perfectly well that the natural advantages he gives will be the ground for his grace or extraordinary help, doesn't everything in the end depend on his mercy? Well, we don't know how or how much God takes account of natural dispositions in his dispensing of grace. So I think that the most exact and the safest thing to say is what is dictated by my principles (and I have already said it once), namely: Among possible beings there must be the person of Peter or of John whose notion or idea contains this whole sequence of ordinary and extraordinary graces, and all the rest of these events with their circumstances; and from amongst an infinity of other equally possible people it pleased God to choose that person for actual existence. After this it seems that there is nothing more to ask, and that all the difficulties disappear. For as to this single great question why it pleased God to choose this person from among all other possible persons, it would be very unreasonable not to be satisfied with the general reasons I have given, the details being beyond us. So, instead of having recourse to •an absolute ·and arbitrary· decree that is unreasonable because there are no reasons for it, or to •reasons that fail to resolve the difficulty because they need reasons in their turn, it would be best to say in agreement with St. Paul that there are •certain great reasons for God's choices, reasons of wisdom or of fitness that are unknown to mortals; God has conformed to these reasons, which are founded on the general order whose aim is the greatest perfection of the universe. The themes of this Discourse—the glory of God and the manifestation of his justice, his mercy and his perfections generally, and finally the immense profundity of riches that enraptured the soul of St. Paul—all come down to that in the end.

32. I have to add only that the thoughts I have just been explaining—and in particular the great principle of

- •the perfection of God's operations, and that of
- •the notion of a substance containing all its events with all their circumstances

—so far from harming religion, serve to reinforce it. They blow away some very serious difficulties, inspire souls with love of God, and elevate minds to the understanding of incorporeal substances—doing all this far better than did any previous theories. For it is quite clear that all other substances depend on God, as thoughts emanate from our substance ·and in that way depend on it·; that God is all in all, and is intimately united to all created things in proportion to how perfect they are; that he alone by his influence determines them from outside. ·Elaborating this last point·: If to act on something is to affect it immediately ·i.e. directly·—which is correct in the ·strict· language of metaphysics—it can be said that in this sense *only God* acts on me and can do me good or harm. Other substances ·cannot, strictly speaking, help or harm me, because they· contribute only to ·God's· reason for ·making· those changes. ·The other substances do *come into* those reasons·, because God takes account of all substances when he shares out his blessings and makes them adjust to one another. So it is he alone who produces the connection or communication [= something like 'interplay'] among substances: he brings it about that the states of one coincide or agree with those of another, and

as a result that one substance can correctly perceive what state another is in. But we needn't always mention the universal cause in particular cases; and in common parlance the items that we say 'act on' a given substance ·putting it into a certain state· are the ones that enter into God's reasons ·for putting it into that state·, in the sense that I explained above. We can also see that every substance has a perfect spontaneity, that everything that happens to it is a consequence of its •idea or of its •nature. and that nothing affects it from outside except God alone. (In substances with intellect, this spontaneity becomes freedom.) This is why a certain person of very lofty mind and revered holiness used to say that the soul should often think as though there were only God and it in the world. [Garber says that this probably refers to St. Theresa.] Nothing can make us understand immortality better than this independence and extent of the soul, which absolutely shelters it from everything external, since it alone constitutes its whole world, and together with God is sufficient for itself. It is possible for the soul to come to an end through absolute annihilation; but its coming to end in any *other* way—·being destroyed by dissolution, through damage, like a machine·—is just as impossible as it is that the world should destroy itself unaided. Changes in the extended mass we call our body could not have any effect on the soul, nor could the dissolution of that body destroy what is indivisible, ·namely, the soul·.

33. We also see how to clear up that great mystery of the union of the soul and the body: how does it come about that the passive and active states [or: the undergoings and doings] of the one are accompanied by active and passive states—or anyway by corresponding states—in the other? ·This is a mystery because· it is utterly inconceivable that the one should influence the other, and it is not reasonable to fall back on the extraordinary operation of the universal cause—·God·—to explain normal everyday events. Here, however, is the true explanation ·of those events·. I have said that whatever takes place in the soul or in any substance is a consequence of its notion, so that the mere idea or essence of the soul carries with it ·the requirement· that all the soul's states or perceptions must arise spontaneously from its own nature. And they must do this in just such a way that they correspond, unaided, to whatever happens in the whole universe,

> but more particularly and more perfectly to what happens in the body that is assigned to the soul in question. That is because, in a way and for a time, the soul expresses the state of the universe through the relation of other bodies to its own.

This also tells us how our body *belongs to* us without being *attached to our essence*. And I believe that people who know how to think long and hard will favour my principles for just that reason: that they will be able easily to see what the connection between soul and body consists in, a connection that seems otherwise to be inexplicable. We can also see that the perceptions of our senses, even when they are vivid, must necessarily contain some confused feeling. For since all the bodies in the universe are in sympathy [= 'harmony', 'correspondence'], our body receives the impressions of all the others, and although our senses •are related to everything, our soul cannot possibly •attend to each particular thing. Thus our confused feelings result from a downright infinite jumble of perceptions. In somewhat the same way the confused murmur that people hear when nearing the sea shore comes from the putting together of the reverberations of countless waves. For if several perceptions don't fit together so as to make one, and no one of them stands out above the rest, and the impressions they make are all just about equally strong and equally capable of catching the soul's attention,

it can perceive them only confusedly.

34. ·In this section I use the notion of *unum per se*, a Latin phrase meaning 'a unity through itself'. This applies to anything whose intrinsic nature makes it one, single, an individual, as distinct from something that is not inherently *one* though it may suit us to treat it as *one*. Each organism is a *unum per se*; a pile of leaves or a gallon of water is not·. If we suppose that bodies that compose a *unum per se*, such as ·the body of· a man, are substances and that they have substantial forms, and that lower animals have souls, we must acknowledge that these souls and substantial forms cannot completely come to an end, any more than, in the view of other philosophers, atoms or the ultimate parts of matter can come to an end. For no substance ever comes to an end, though a substance may greatly alter. These ·souls or substantial forms of lower animals· also express the whole universe, although more imperfectly than minds do. But the principal difference ·between them and minds· is that they don't know what they are or what they do, and so—not being able to look into themselves reflectively—they can't discover necessary and universal truths. ·That is because the way to discover necessary truths is to look into oneself and see how one's ideas are inter-related·. For lack of such self-reflection, they have no moral quality; which means that as they pass through hundreds of transformations (as when a caterpillar changes into a butterfly), it would make no moral or practical difference if we said that they cease to exist. We can even say that they really do cease to exist, as when we say that bodies perish through dissolution. But the thinking soul, which knows what it is and can say that pregnant word 'I', not only (as a matter of metaphysics) is much more enduring than the others, but also (as a matter of morals) endures and constitutes the same person. For it is memory, or the knowledge of this I, which makes the thinking soul capable of punishment and reward. Similarly, the immortality required by morality and religion doesn't consist merely in the lasting-for-ever that all substances have, for that would not be something to hope for if it didn't involve the memory of what one has been. Suppose that someone could suddenly become the King of China, but only on condition of forgetting what he had been, as if he had just been born all over again. Would it not in practice, or in terms of perceivable effects, be the same as if he had been annihilated and a King of China created then and there? And that is something that that individual could have no reason to want.

35. ·In those remarks I have been separating morality from metaphysics; but in some contexts we must run the two in a single harness·. To show by natural reasons that God will preserve for ever not only our substance, but also our person (that is, the memory and the knowledge of what we are—although clear knowledge of this is sometimes suspended in sleep or in fainting spells), we must unite morality with metaphysics. That is, we must think of God not only as the •root cause of all substances and of all beings, but also as the •leader of all persons or thinking substances, or as the absolute monarch of the most perfect city or republic—which is what the universe composed of the assembled totality of minds is. For God himself is the most accomplished of all minds, as he is also the greatest of all beings. For minds certainly are the most perfect of beings, and express God best. If bodies are only true phenomena—·that is, reliable appearances to minds·—then minds are the only substances there are; and if they are not that, they are at any rate the most perfect. And since—as I have sufficiently explained—the expressing of God and the universe is the whole nature, goal, virtue or function of substances, there is no room to doubt that substances that do this knowing

what they are doing, and able to understand great truths about God and the universe, express them incomparably better than the natures that belong to lower animals and are incapable of knowing any truths, or—·lower down still·—to things that lack feeling and knowledge altogether. The difference between substances that think and ones that don't is as great as that between a mirror and someone who sees. God can have conversations (so to speak) with minds, and can even enter into society with them by telling them what he thinks and wants—doing this in a special way that lets them know and love their benefactor. Since he himself is the greatest and wisest of minds, it is natural to think that minds—thinking substances—must concern God infinitely more than all other things, which can serve only as the tools of minds. Similarly, we see that wise folk always value a man infinitely more than any other thing, however precious it may be; and it seems that the greatest satisfaction an otherwise contented soul can have is to see itself loved by others. Between our love for one another and our love for God, however, there is a difference. His glory and our worship could not add to his satisfaction, because his sovereign and perfect happiness *leads to* the knowledge that created things have, and so cannot be partly *caused by* that knowledge. However, whatever is good and rational in finite spirits is also possessed by God in a suitably higher form; and just as we would praise a king who preferred to save the life of a man rather than of the most precious and rarest of his animals, so we should not doubt that the most enlightened and just of all monarchs would think the same.

36. Minds are actually the most perfectible of substances, and their perfections have the special feature that they obstruct one another the least, or rather that they help one another—for only the most virtuous could be the most perfect friends. From which it plainly follows that God, who always aims at the greatest perfection in general, will have the greatest care for minds, and will give to them (not only in general, but also to each particular mind) the highest level of perfection that the universal harmony will allow. It can be said indeed that God's being a mind is what qualifies him as the reason why things exist. If he couldn't voluntarily choose the best, there would be no reason why one possible thing should exist rather than some other. So of all the features of created things that God takes into account, he attends first and foremost to the quality ·that he shares with them, namely that· of being a Mind. [In this section, mind/Mind tracks Leibniz's *esprit*/*Esprit*.] Only minds are made in his image, are of his race (so to speak), are like children of his house, for only they can serve him freely, and act in imitation of the divine nature, knowing what they are doing. A single mind is worth a whole world, since it not only expresses the world, but also knows it, and governs itself there after the fashion of God. Thus, it seems that although each substance expresses the entire universe, Minds express God rather than the world, whereas other substances express the world rather than God. And this nobility in the nature of Minds—bringing them as near to divinity as is possible for mere created things—leads to God's deriving infinitely more glory from them than from any other beings. That is why this moral quality of God's, which makes him the lord or King of Minds, is one in which he takes a quite special interest—an interest that might be called personal. It is in this that he humanizes himself, willingly lays himself open to being thought of in anthropomorphic ways, and enters into society with us as a prince does with his subjects. This concern is so dear to him that the happy and flourishing state of his empire, which consists in the greatest possible happiness of the inhabitants, becomes the highest of his laws. For happiness is to people what perfection is to beings ·in general·. And if

the ultimate explanation of the existence of the real world is the decree that it should have the greatest perfection that it can, then the ultimate aim for the moral world—the city of God, the noblest part of the universe—should be to infuse it with the greatest possible happiness. So we mustn't doubt that God—in order that his city should never lose any person, as the world never loses any substance—has arranged everything so that Minds not only (of course) can live for ever, but also retain for ever their moral quality. Consequently they will always know what they are; otherwise they wouldn't be liable for reward or punishment, which are essential to any republic, and especially to the most perfect one, where nothing could be neglected. In fact since God is at once the most fair and mild of kings, and since he demands of his subjects only a good will, provided it is sincere and serious, they couldn't wish for a better condition. To make them perfectly happy, God asks only that they love him.

37. Ancient philosophers knew very little of these important truths. Only Jesus Christ expressed them divinely well, and in such a clear and down-to-earth way that even the dullest minds could understand them. Thus his gospel has entirely changed the face of human affairs. He has told us about the kingdom of heaven, that perfect republic of Minds meriting the title 'City of God', whose admirable laws he has revealed to us. He alone has shown how much God loves us, and how exactly he has provided for everything that affects us: •that, caring for sparrows, he will not neglect the rational creatures who are infinitely dearer to him; •that all the hairs of our heads are counted; •that the sky and the earth will perish before any change in the word of God or in any of the conditions for our salvation; •that God cares more about the least of thinking souls than about the whole machine of the world; •that we need not fear those who can destroy bodies but could not harm souls, because God alone can make souls happy or unhappy; •that the souls of the just are, in his hands, safe from all the revolutions of the universe, since nothing can act on them except God alone; •that none of our actions is forgotten; •that everything is taken into account, even an idle remark or a well used spoonful of water; and, finally, •that all must result in the greatest well-being for good people, that the righteous shall be like suns, and that we have never experienced or conceived anything giving us a fore-taste of the happiness that God prepares for those who love him.

Leibniz's summaries

1. God is perfect, and does everything in the most desirable way.

2. Against those who maintain that there is no goodness in God's works, and that the rules of goodness and beauty are arbitrary.

3. Against those who think that God could have done better.

4. The love of God requires complete contentment and acceptance with regard to what he has done, but we don't have to be quietists.

5. What the rules of perfection of God's conduct consist in; the simplicity of means is balanced against the richness of ends.

6. God does nothing disorderly, and it isn't possible even to *feign* events that are not regular.

7. Miracles conform to the general order, although they run counter to subordinate rules. What God wants and what he allows; general and particular will.

8. In order to distinguish between God's actions and those of created things, it is explained what the notion of an individual substance consists in.

9. Each substance expresses the whole universe in its own way; and everything that happens to it is included in its notion, with all the circumstances and ·because it expresses everything else· the whole series of external things.

10. The doctrine of substantial forms has some value, but such forms make no difference to observable events, and shouldn't be used to explain particular effects.

11. The reflections of the so-called Scholastic theologians and philosophers should not be completely despised.

12. The notions that make up extension involve something imaginary, and can't constitute the substance of body.

13. Since the individual notion of each person involves once and for all everything that will ever happen to him, we can see in that notion the a priori proofs or reasons for the occurrence of every event—seeing why one thing happens rather than another. But although these truths are certain, they are still contingent, for they are based on the free will of God and of created things. It is true that there are always reasons for their choices, but those reasons incline without necessitating.

14. God produces a variety of substances according to his different views of the universe; and he intervenes so as to bring it about that the particular nature of each substance makes what happens to it correspond to what happens to all the others, without their directly acting on one another.

15. When one finite substance 'acts on' another, all that happens is that the first undergoes an increase in the degree of its expression while the other undergoes a decrease, which happens because God formed them in advance so that they would fit together.

16. Our essence expresses everything, so it expresses God's extraordinary concourse. But our nature or clear expression is finite, and follows certain subordinate rules; it doesn't extend far enough to take in God's extraordinary concourse.

17. An example of a subordinate rule of natural law, which shows that God always systematically conserves the same *force*, but not (contrary to the Cartesians and others) the same quantity of *motion*.

18. The distinction between force and quantity of motion is important. For one thing, it shows that to explain how bodies behave we must bring in metaphysical considerations apart from extension.

19. The usefulness of final causes in physical science.

20. A memorable passage by Socrates in Plato's *Phaedo* against over-materialist philosophers.

21. If mechanical rules depended only on geometry and not on metaphysics, the observed facts would be quite different.

22. Reconciliation of two methods, one working through final causes and the other through efficient ones, in order to satisfy both sides: those who explain Nature mechanically, and those who appeal to immaterial natures.

23. Returning to immaterial substances, I explain how God acts on the mind's understanding, and discuss whether we always have an idea of what we are thinking about.

24. What vivid and dark, clear and confused, adequate and inadequate, intuitive and suppositive knowledge are; nominal, real, causal and essential definition.

25. In what cases our knowledge is combined with the contemplation of an idea.

26. That we have within us all ideas; Plato's doctrine of reminiscence.

27. How our soul can be compared with a blank tablet, and in what way our notions come from the senses.

28. God alone is the immediate object of our perceptions, who exists outside of us, and he alone is our light.

29. However, we think directly through our own ideas and not through God's.

30. How God inclines our soul without necessitating it; that we have no right to complain; we should not ask why Judas sinned, since that free act is included in his notion; we should only ask why Judas the sinner was admitted into existence in preference to some other possible people. Original imperfection or limitation, prior to sin; the different levels of grace.

31. The reasons for election, foreseen faith, absolute decrees. Everything comes down to God's reason for deciding to admit into existence a certain possible person, whose notion contains a certain series of graces and free actions. Which removes the difficulties at a stroke.

32. The usefulness of these principles in matters of piety and religion.

33. Explaining the communication between the soul and the body, which has been taken to be inexplicable or miraculous. The origin of confused perceptions.

34. How minds differ from other substances, souls or substantial forms. The immortality that we require implies memory.

35. The excellence of minds; God attends to them ahead of other creatures; minds express God rather than the world, and other simple substances express the world rather than God.

36. God is the monarch of the most perfect republic, composed of all minds, and the happiness of this city of God is his main aim.

37. Jesus Christ revealed to men the wonderful mystery and laws of the Kingdom of Heaven, and the splendour of the supreme happiness that God prepares for those who love him.

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