

Dialogues on Metaphysics and Religion

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[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. Every four-point ellipsis indicates the omission of a brief passage that seems to present more difficulty than it is worth. Larger omissions are reported, between brackets, in normal-sized type. The numbering of the segments of each dialogue is Malebranche's.

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NINTH DIALOGUE

God always acts according to his nature. Everything he has done is for his glory in Jesus Christ, and he has not formed his plans without considering how to carry them out.

1. Theodore: What do you think today of what was said yesterday, Aristes? Have you really contemplated the notion of the infinite, of being without restriction, of [the] infinitely perfect being? Can you now contemplate it entirely *in itself*, not clothed in the ideas of creatures, not made flesh (as it were), not limited, not degraded so as to fit the weakness of the human mind?

Aristes: Oh, Theodore, how hard it is to separate the ideas of •this or that particular being from the notion of •*being*! How hard it is to avoid attributing to God anything that we are aware of in ourselves! At every moment we *humanize* the deity, and routinely limit the infinite. It is because the mind •wants to comprehend the incomprehensible, •wants to see the invisible God. It looks for him in the ideas of creatures, not going beyond its own sensations, which affect it and pervade it. But how far all this is from representing the deity! And those who judge the divine perfections by what they feel to be going on in themselves—what strange judgments they make concerning God’s attributes and his wonderful providence! I have a glimpse of the things that I am telling you, but I don’t yet see them well enough to *understand* them.

Theodore: You have been meditating, Aristes. I can tell from your answer. You understand that if we are to form sound judgments regarding the divine attributes and the rules of providence, we must never relax in our separation of the ideas of •particular beings from the notion of •*being*, and we must never consult our own inner feelings or sensations.

That’s all that is needed. Let us move on, and be on guard—all three of us—against running aground on that dangerous reef of judging the infinite by something finite.

Aristes: We surely *will* strike that reef, Theodore, for all the currents run that way! I have had experience of that since yesterday.

Theodore: I believe we will, Aristes, but perhaps we’ll avoid being wrecked by it. Let us, at least, not run onto it through •inattention as most people do. I hope that by our concerted •vigilance we will avoid a good many of the dangerous errors into which people rush blindly. Let us not indulge our natural laziness, Aristes. Have courage! Our common master, the author of •our faith, will give us some understanding of •it if we know how to question him with the serious attention, and with the respect and submission, that we owe to his word and to the infallible authority of his church. Let us begin then.

2. You agreed yesterday, Aristes, that God knows and wills—not because *we* know and will, but because knowing and willing are true perfections. What do you think of that now? I plan today to consider God through a consideration of what he *does*—his going outside himself, so to speak, and undertaking to spread himself around in the production of his creatures. So we have to be sure that God does know and will, because if he doesn’t, we can’t see that he could possibly produce anything. For how could he act wisely without knowledge? How could he make the universe without willing to do so? Do you believe then, Aristes, that God who is

sufficient unto himself is capable of forming desires?

Aristes: When you question me in that way, you always cause me to develop new doubts. I'm well aware that you do this for my own good, not wanting to leave unblocked any possible refuge for old opinions. Very well then, Theodore, I shall play along. I have no doubt at all that God knows, but I do doubt that he can ever will anything. For what could he will—he who is fully sufficient unto himself? Willing is something that *we* do, but this is a mark of our poverty: not having what we need, we desire it. But the infinitely perfect being can't will anything, can't desire anything, since he sees that he doesn't lack anything.

Theodore: Oh my, Aristes! You surprise me. *God can't will anything?* But can the infinitely perfect being have created us in spite of himself or without having willed it? We exist, Aristes. This is an established fact.

Aristes: Yes, we *exist*, but we weren't *made*. Our nature is eternal. We are something that necessarily arises out of the deity. We are part of him. The infinitely perfect being is the universe—it is the totality of everything there is.

Theodore: Oh, come on!

Aristes: Don't think that I am impious or crazy enough to *accept* these fantasies. But I would be glad to have you teach me how to refute them, for I have heard there are minds corrupt enough to let themselves be taken in by them.

Theodore: I don't know whether everything we now hear about certain people is true, Aristes, or even whether those ancient philosophers who dreamed up the opinion you are expounding ever believed it to be true. Although there are few extravagances that men are not capable of, I would like to think that the men who produce fantasies like *that* can hardly believe them. The author [Spinoza] who revived this

impiety agreed that God is the infinitely perfect being, so how *could* he have believed that every creature is simply a part or a state of God? Is it a perfection to be unjust in one's parts, unhappy in one's states, ignorant, foolish, impious? There are more sinners than good men, more idolaters than faithful people; what disorder, what strife between God and his parts! What a monster, Aristes! What a frightful and ridiculous chimera! A God necessarily hated, blasphemed, scorned, or at least unknown by most of his parts—for how many people would recognize such a deity? A God who is necessarily wretched or non-sentient in most of his parts or states, a God who punishes or wreaks vengeance on himself! In short, a being who is infinitely perfect yet composed of all the disorders in the universe. What notion is more filled with obvious contradictions than this one? To be sure, if there *are* people capable of making for themselves a God from such a monstrous idea, it is either because they don't want to have a God at all or because they have minds born to look for the properties of triangles in the idea of a circle! Believe me, Aristes, no man of good sense has ever been convinced of this madness, though several persons have propounded it *as though* they were convinced of it. For a twisted sense of self-importance might provide someone with motives for confiding such a view to his companions in debauchery and for wanting to appear quite convinced of it. But no-one could possibly *believe* it to be true, however bad he is at reasoning and however unafraid he is of being mistaken. Someone who puts it forward can't be inwardly persuaded of it—unless the corruption of his heart has so blinded him that it would be a waste of time trying to enlighten him. So let us return to our subject, Aristes.

3. We exist. This is an established fact. God is infinitely perfect. Hence, we depend on him. We don't exist *against* his will. We exist only because he wills that we exist. But

how can God will that we exist when he has no *need* of us? A being who lacks nothing, a being who is fully self-sufficient—how can such a being will something? This is what gives rise to the difficulty. [The verb *vouloir*, mostly translated here by ‘will’, can also more plainly mean ‘want’. So Theodore can be asking: How can a being who lacks nothing *want* something?]

Aristes: It seems to me easy to remove the difficulty. We need only say that God created the world not for himself but for us.

Theodore: But what about us? For whom did he create us?

Aristes: For himself.

Theodore: Then the difficulty is back. For God has no need of us.

Aristes: Let us say then, Theodore, that God made us from sheer goodness, from sheer love for us.

Theodore: Let us *not* say that, Aristes, at least without explanation. For it appears evident to me that

- the infinitely perfect being loves himself infinitely, loves himself necessarily, that
- his will is simply the love he has for himself and his divine perfections, that
- his love cannot be moved from outside him (as ours is from outside us),

and that therefore

- his love cannot lead him to anything outside himself; because he is the sole cause of what he does he must also be its end, what it aims at.

In short, any love in God other than self-love would be disordered, contrary to the unchangeable order that is contained in him and is the inviolable law of his volitions. We can say that God made us ‘from sheer goodness’ in the sense that he made us without being in need of us. But he made us *for*

himself. For God can will only through his own will, which is simply his love for himself. The reason, the motive, the end of his decrees can be only in him.

Aristes: Your reasons appear evident to me, but I’m finding it hard to *accept* them.

Theotimus [intervening for the first time in this dialogue]: Don’t you see, Aristes, that to look for the motive and the end of God’s actions outside him is to *humanize* him? But if this thought of making God act simply from sheer goodness toward men attracts you so strongly, I’ll give you another argument. If God created men out of love for men, why do the damned outnumber the saved twenty to one—a *hundred* to one?

Aristes: Because of the first man’s sin.

Theotimus: Yes. But wouldn’t God prevent a sin that is so fatal to creatures whom he has made ‘from sheer goodness’?

Aristes: He had his reasons.

Theotimus: Then God has in himself good reasons for everything he does, reasons that don’t always square with a certain idea of goodness and charity—an idea that gratifies our self-importance but is contrary to divine law—contrary to the unchangeable order that contains every good reason God can have.

Aristes: But God is sufficient unto himself, Theotimus, so why did he form his plan of creating the world?

Theotimus: God has his reasons, his end, and his motive all in himself. Before he made his decrees, what other than himself *could* there have been that determined him to form them? He is self-sufficient; so it was with a complete freedom that he determined *himself* to create the world. If God *needed* his creatures, he would *necessarily* produce them, because nothing can quell his self-love. Yes, Aristes,

all we can legitimately infer from God's self-sufficiency is that the world is *not* a necessary emanation of the deity—and that's what our faith teaches us also. But to suppose that the richness of God's nature might render him *powerless*—by the argument that because God doesn't •need anything he can't •will anything, and so can't •do anything—is to go against an incontrovertible fact and to deprive the creator of the glory that his creatures will eternally offer him.

4. Aristes: How can that be, Theotimus? Did God create the world because of the glory that he would derive from it? If *that* was the motive that determined the creator, then there is •after all• something outside God that determines him to act. How does it happen that God does without such glory for an eternity—the eternity before he created the world? Anyway, *glory*—what do you mean by that word? Really, Theotimus, you are entering a maze that you'll have trouble getting out of.

Theotimus: A maze indeed. But fortunately Theodore knows his way through it, and won't leave me stranded. [Theodore indicates a willingness to help Theotimus out.]

Aristes: *What, Theodore? God made the universe for his glory*—you approve a thought so human and so unworthy of the infinitely perfect being? Take over from Theotimus if you please. Let us have an explanation.

Theodore: This is where we need to be very attentive and vigilant if we are not to end up on that reef that you know about, Aristes. Watch out that I don't run us onto it. When an architect has constructed a building that is functional and well designed, he is inwardly gratified by it because his work bears witness to his skill in his art. [Here and throughout, 'work' refers to the product, not to the action of making it. This will be important in section 10 of this dialogue and section 7 of

the tenth.] Thus, the beauty of his work can be said to do him honour since it testifies to the qualities that he prides himself on, qualities that he esteems and loves and is glad to possess. And if someone happens to stop to contemplate the building and admire its arrangement and its proportions, the architect derives a further glory from this, one that is also based mainly on the love and esteem that he has for qualities that he possesses and would be glad to have in a higher degree. For if he believed that the profession of architect was unworthy of him, if he attached no value to this art (or science), his work would cease to be an honour to him, and he would be embarrassed by people's praise for his work.

Aristes: Be careful, Theodore: you are heading straight for the reef!

Theodore: This is just an analogy, Aristes. Let me continue. It is certain that God necessarily loves himself and all his qualities. Now it is evident that he can't act except in accordance with *what he is*. Hence, his work bears witness to the attributes on which he prides himself, and he thereby does honour to himself by it. As God loves and esteems himself in a way that can't be stopped, he finds glory and has gratification in works that somehow express his own excellent qualities. This then is one of the senses in which God acts for his glory. And, as you see, this glory is not something outside him, for it is based solely on *his* esteem and love for *his own* qualities. Suppose there were no intellects to admire his work, suppose there were only senseless or stupid men

who failed to see its wonders,
 who on the contrary held this wonderful work to be of no
 account,
 who blasphemed it,

who (because of the monsters it contains) saw it as the necessary effect of a blind nature,
 who were scandalized to see innocence oppressed and injustice enthroned.

Even if all this were so, God would still derive from his work the glory for which he acts, this glory whose driving force is his love and esteem for his own qualities, this glory that determines him at all times to act according to *what he is*, i.e. in a way that testifies to his attributes. Thus, given that God wills to act, it isn't possible that he should *not* act for his glory in this first sense (·the one I have been expounding·), since it isn't possible that he should *not* act according to what he is, and out of his love for himself and his divine perfections. But as he is sufficient unto himself, this glory can't irresistibly determine him to will to act; indeed, I don't think that this glory *can* be a sufficient motive to make him act unless he finds the secret of making his work divine—making it appropriate to his action, which is divine. [The 'secret' will be revealed in section 6.] However great, however perfect the universe may be, in being finite it will be unworthy of the action of a God whose worth is infinite. So God will *not* form the plan of producing it. To my mind, this is the greatest difficulty.

5. Aristes: Why so, Theodore? It is easy to remove this difficulty: let us make the world infinite. Let us make it out of an infinite number of vortices [this is a technical term from Descartes's physics]. For why suppose there is a great sky surrounding everything, with nothing beyond it?

Theodore: No, Aristes. Let us allow the created world to have the character that is suitable for it, not giving it anything approaching the divine attributes. But let us try nevertheless to get the universe out of its non-religious [French: *profane*] state and, by way of something divine, make it worthy of

divine satisfaction, worthy of the action of a God whose worth is infinite.

Aristes: How are we to do that?

Theodore: By uniting it with a divine person.

Aristes: But Theodore! You always fall back on truths of •faith to get yourself out of a difficulty. That is not •philosophizing.

Theodore: What would you have me do, Aristes? I do *this* because it gives me solutions, and because if I don't appeal to faith I'm left with thousands and thousands of difficulties that I can't solve. Anyway, *isn't* the universe sanctified by Jesus Christ (existing *in* him, as it were), and *doesn't* this make it more divine, more worthy of God's action, than all your infinite vortices?

Aristes: Yes, without doubt. But, if man had not sinned, God would not have become man ·in the person of Jesus Christ·.

Theodore: I don't know about that, Aristes. Even if man hadn't sinned, a divine person would still have united himself with the universe in order to sanctify it, to get it out of its non-religious state, to make it divine, to give it an infinite dignity so that God, who can act only for his glory, should receive from it a glory corresponding perfectly to his action. *Could* God be united to his work without being made man? He did become •man, but couldn't he have become •angel? Yes, he could; he *could* have bestowed on angels the favour that he gave to man. ·So why did he pick *man*? Was it purely because man sinned, and had to be redeemed? No: more was at stake than that·. In becoming man, God brings together the two ·kinds of· substances, mind and body, of which the universe is composed, and through this union he sanctifies the whole of nature. *That* is why I don't think that sin was

the only cause for the son of God becoming man. Anyway, God foresaw sin and permitted it; and that ·in itself· is a sufficient reason ·for saying that it was not purely because of sin that God became man in the person of his son Jesus Christ·. For it is a certain proof that •the universe redeemed by Jesus Christ is worth more than •the same universe in its initial state ·with no sin·; otherwise, God would never have let his work be corrupted. This is a sure sign that God's *main* plan is his son's becoming man. Let us see then, Aristes, how God acts for his own glory. Let us justify the proposition that struck you as being so commonplace and perhaps so devoid of sense and so untenable.

6. First, God thinks of a work whose excellence and beauty would make it express qualities that he irresistibly loves and is glad to possess. But this doesn't suffice to get him to form the plan of producing this work, because he can't stand in any real relationship to a finite world, a non-religious world that doesn't yet have anything divine about it. Such a world can't express *infinity*, one of God's essential attributes; therefore, God can't find his satisfaction in it, and so he can't create it without belying himself. What, then, is he to do? Religion tells us. He *makes his work divine* by the union of a divine person with the two ·kinds of· substances, mind and body, of which he composes it. In this way, he enhances his work infinitely and receives from it, primarily because of the divinity he bestows on it, that •*first glory*, the glory related to that of the architect whose building does honour to him because it expresses the qualities that he takes pride in possessing. . . .

The architect also receives a •*second glory* from the spectators and admirers of his building, and he works so hard to make it the most magnificent and superb building possible because he is aiming at this kind of glory. Similarly, God resolves to make for himself a temple (·namely, the universe·)

in which he will be eternally glorified, mainly because he is aiming at the worship that our sovereign priest ·Jesus Christ· was to establish in his honour. Yes, Aristes, vile and despicable creatures that we are, by way of our divine head we do and eternally shall render divine honours to God, honours worthy of his majesty, honours that he does and always will receive with pleasure. . . . God looks on us in Jesus Christ as gods, as his children, as his heirs, and as co-heirs of his well-beloved son. He *adopted* us in this dear son. It is through him that God gives us access to his supreme majesty. It is through the son that the father takes pleasure in his work. ·I said earlier that God had to find a certain 'secret' [near the end of section 4]. Well, this is it·. It is through this secret, which he in his wisdom found, that he goes outside himself (if I may put it that way). . . . with a magnificence from which he derives a glory capable of satisfying him. . . . Jesus Christ appears only in the fullness of time, but before all the centuries he exists in the creator's plans, and when he is born in Bethlehem *that* is when God is glorified, *that* is when he is satisfied with his work. . . . God's becoming man is the first and chief of his plans. It is what justifies his action ·in creating the universe·. It is, if I am not mistaken, the only solution for thousands upon thousands of difficulties, for thousands upon thousands of apparent contradictions.

Man is a sinner, Aristes: he is not such as God made him. God has thus let his work be corrupted. Reconcile this with his wisdom and his power. Get yourself out of this predicament by yourself without the help of the man-God, without admitting a mediator, without supposing that what God chiefly aimed at was his son's becoming man. I challenge you to do this using every principle of the best philosophy! As for me, whenever I try to philosophize without the help of faith, I am stopped short. •Faith is what guides and

supports me in investigating truths that have something to do with God—such as the truths of •metaphysics. As for •mathematical truths—measures of sizes, numbers, times, motions, everything that differs simply by greater or less—I agree that faith is no help in discovering them; and that experience in conjunction with reason is all we need for getting knowledge in all parts of •natural science.

7. Aristes: I understand what you are saying, Theodore, and I find it quite in conformity with reason. I also feel an inner joy when I see that by following faith we rise to an understanding of truths that St Paul teaches us in several places in his wonderful Epistles. But two small difficulties occur to me. •First, it seems that God wasn't perfectly free in the production of his work, since he gets from it a glory that is infinite and that gives him so much satisfaction. The •second is that the satisfaction God gets from seeing himself so divinely honoured by his creatures ought not to be something he is deprived of for an eternity—that is, through all the time before the birth of Jesus Christ.

Theodore: I reply that the infinitely perfect being is entirely self-sufficient, and therefore he irresistibly and *necessarily* loves only his own substance, only his divine perfections. This is evident and suffices for your •first difficulty. As for the •second, take note that God must never do anything that belies his own qualities, and that he must let essentially dependent creatures have all the marks of their dependency. An *eternal* world looks like a *necessary* emanation of the deity, which implies that it has always existed; but the essential mark of a thing's being dependent is that *it once didn't exist*. It is necessary •also• that God show that he is self-sufficient, show that throughout an eternity he could *do without* his work. Through Jesus Christ, he derives from it a glory that pleases him; and he wouldn't get this glory

if God-as-man were eternal, because that would offend his attributes, which must be honoured as far as possible.

Aristes: I grant you that, Theodore. Only a necessary and independent being should be eternal, and everything that isn't God should bear the essential mark of its dependency. This appears evident to me. But without making the world •eternal, God could have created it •sooner than he did by a thousand million centuries. Why so long a delay in a work from which he derives so much glory?

Theodore: He didn't delay it, Aristes. *Sooner* and *later* are properties of time that have no relation to eternity. If the world *had* been created a thousand million years sooner than it was, the question you have raised would still arise, and •by answering it in your way• you would have to begin again—and so on •backwards• ad infinitum. Thus, God *didn't* create his work 'too late', because an eternity necessarily had to precede it, and 'sooner' or 'later' by a thousand million centuries doesn't make an eternal wait any shorter or longer.

Aristes: I don't know what to say in reply, Theodore. I shall think about what you have just said concerning how God acts only for his glory, only for the love he has for himself. For I see that many consequences flow from this principle. What do *you* think of it, Theotimus?

8. Theotimus: The principle seems to me undeniable. It is *evident* that the infinitely perfect being can find the motive of his volition and the reasons for his conduct only in himself. But I don't know. . . . I think I would like it if God loved us a little more, or that he did something purely out of love for us. After all, scripture teaches us that God so loved us that he gave us his only son. That is a great gift, Aristes, which seems to indicate a rather more disinterested love—a love less focussed on *himself*—than the love that Theodore attributes to him.

Aristes: Well, Theodore, what do you say to that?

Theodore: I say that Theotimus is running onto the reef, or rather he is feeling the current sweeping him towards it—unless he is merely expressing a mock-concern, trying to see how *you* feel about this.

Aristes: You aren't answering the question.

Theodore: That's because I want *you* to answer it. But since you choose not to, at least try to get hold of my thinking. I believe that God so loved us, Aristes, that he gave us his son, as scripture tells us. But I also believe something else that scripture teaches me, namely that God so loved his son that he *gave us to him*, along with all the nations on earth (*Psalms 2:8; Matthew 28:18*). Finally, I also believe on the strength of scripture that if God predestined us in his son, and if he chose his son as the first of the predestined, it is because he wished to make Jesus Christ his high priest so as to receive from him, and from us through him, the adoration that is due to God. [The 'predestined' are those who are chosen in advance to have eternal life in heaven.] Here is the order of things in a nutshell: All things are ours, we are Jesus Christ's, and Jesus Christ is God's. 'All are yours,' St Paul says, 'whether things present or things to come; and you are Christ's; and Christ is God's' (1 *Corinthians 3:21-3*). This is because God is necessarily the end—the aim or purpose—of all his works.

Get a clear thought of God's loving all things in proportion as they are lovable, Aristes. . . . Conceive of him as acting *according to his nature*, and you will have no difficulty understanding that he loves us so well that he does for us everything that he can do, acting as he is bound to act. You will understand that •God loves the natures he has made, loves them for being such as he made them, loves them according to the degree of perfection contained in their

archetypes; and that •he will make them even happier to the extent that they deserve this through conforming to his law. You will understand that at first God created man *just* and *faultless*, and that if he made him *free* it is because he wanted, without neglecting what he (God) owes to himself, to make man happy. You'll find it easy to believe that even after man has sinned and deserved God's anger, God can still love him with so much charity and goodness that he sent his son to deliver man from his sins. You'll have no doubt that God cherishes man as sanctified by Jesus Christ so much that he gives him a share in his inheritance and in eternal happiness. But you *won't* ever reach the thought that God acts exclusively for his creatures, or performs an act of sheer goodness that isn't motivated by the divine attributes. I say it again, Aristes: God can *not* act; but if he *does* act he can only perform actions regulated by *himself*, by the law that he finds in his substance. He can love men, but only because of how they relate to him. . . . So God's love for us is not •self-interested in the sense that he *needs* us for something; but it is so in the sense that he loves us only through his love for himself and his divine perfections, which we express in our nature. . . .

Theotimus: All this seem to me sufficiently well explained, Theodore. [He briefly repeats Theodore's main points, illustrating each with biblical quotations. Then:] Let us move on to something else. After Aristes has thought about all this, I hope he will be convinced of it.

Aristes: I am already quite persuaded, Theotimus, and it's not my doing that Theodore doesn't go into more detail than he does.

9. Theodore: We must try to understand •first• the most general principles, Aristes. And then the rest of the story follows of itself, everything unfolds to the mind in an orderly

way and with wonderful clarity. So let us look again at the notion of the infinitely perfect being, to see what God's plans can be—not the details of his plans, but some of their more general features. The little that we can discover concerning them will turn out later to be of great use to us. ·Let us start, then·. Do you think that God wants to make the most beautiful and perfect work possible?

Aristes: Yes, without doubt. For the more perfect his work is, the more it will express the qualities and perfections in which God prides himself. . . .

Theodore: So the universe is the most perfect that God can make? But really! So many monsters, so many disorders, the multitude of impious men—all *that* contributes to the perfection of the universe? [See note on 'monster' on page 54.]

Aristes: I am at a loss about this, Theodore. God wishes to make a work that is the most perfect possible, for the reason you have given. . . . Yet I can see that the work would be more accomplished if it were free of thousands upon thousands of defects that disfigure it. Here I run head-on into a contradiction. It seems that either •God didn't do what he planned to do or •he didn't adopt the plan most worthy of his attributes.

Theodore: ·Neither of those is right. The trouble is that you haven't yet fully understood the principles. You haven't meditated sufficiently on the notion of [the] infinitely perfect being, from which they flow. You don't know how to make God act according to his nature.

Theotimus: But, Aristes, mightn't it be that the disorders of nature, the monsters, even the impious men, are like the shadows in a picture that give force to the work and make the figures in it stand out?

Aristes: There's an elusive something about that thought that pleases the imagination, but it doesn't satisfy the mind. For it is quite clear to me that the universe would be more perfect if there were nothing disordered in any of its parts, yet there are defects in just about *every* part.

Theotimus: Then it must be that God doesn't *want* his work to be perfect.

Aristes: That can't be right either. For God can't positively and directly will irregularities that disfigure his work and express none of his perfections. . . . That seems to me evident. God *permits* disorder, but he doesn't *make* it, he doesn't *will* it.

Theotimus: 'God permits'—I don't really understand that expression. *Whom* does God permit to freeze the vines and destroy the harvest that he made grow? Why does he permit the occurrence in his work of monsters that he doesn't make and doesn't want? Well, *what?* Are we to say that the universe is not such as God willed or wanted it to be?

Aristes: Yes, for the universe is not such as God made it.

Theotimus: That may be true with regard to disorders that have slipped in through the misuse of freedom. For God did not make men impious; he permitted them to become so. I understand this ·notion of God's permitting something·, though I don't know the reasons for it. But certainly it is only God who makes the monsters—·they don't come from our misuse of our free-will·.

Aristes: They are strange creatures, these monsters, if they don't do honour to him who brings them into existence. ·And there are other problems of the same kind·. Why is it that God covers the whole countryside with flowers and fruit today and will ravage it with frost or hail tomorrow?

Theotimus: It's because the countryside will be more beautiful in its sterility than in its fecundity, though its sterile state doesn't suit *us*. We often judge the beauty of God's works by what use we can make of them, and so we make mistakes about what is really beautiful.

Aristes: Still it is better to infer beauty from usefulness than to infer it from uselessness. A country desolated by a storm—[sarcastically:] what a beautiful thing that is!

Theotimus: Yes, yes. But to be serious about this: a country inhabited by sinners *ought* to be in desolation.

Aristes: If the storm spared the lands of good men, you might be right, though even then God's way of punishing the sinners seems unsatisfactory. It would be more fitting to deny rain to the field of a brute than to make his wheat germinate and grow and then destroy it by hail. That would surely be the shorter way. But, anyway, the *less* guilty are often the ones who are the *more* maltreated. What contradictions there seem to be in God's behaviour! Theodore gave me the principles to dispel these contradictions, but I understood them so badly that I now can't remember them. I can see that you are enjoying my predicament, Theotimus. Well, if you don't want to put me on the right track, let Theodore speak.

Theotimus: Fair enough.

10. Theodore: You see, Aristes, that it isn't enough to have caught a glimpse of the principles. They have to be well understood so that they will be present to the mind when needed. Listen then, since Theotimus doesn't want to tell you what he perfectly well knows. You are not mistaken in thinking that the more perfect a work is the more it expresses the perfections of the workman, . . . and that God thus wants

to make his work the most perfect possible. But you are in difficulties because you grasp only half the principle.

God wants his work to honour him—you understand that. But now note the other half:

God does not want his actions to dishonour him. He wants his actions as well as his work to bear the character of his attributes. Not satisfied that *the universe* honour him by its excellence and its beauty, he wants his *ways of producing it* to glorify him by their simplicity, their fruitfulness, their universality, their uniformity—by all the characteristics expressing qualities that he glories in possessing.

So don't suppose that God willed unconditionally to make the most perfect possible work. Rather, he willed to make the most perfect of those that could be made in ways most worthy of him. For what God in his plans wills simply, directly, unconditionally is always to act in the most divine manner possible; and that is to make his actions as well as his work bear the character of his attributes; it is to act exactly according to what he is—according to the *whole* of what he is. . . . Hold on to this principle, my dear Aristes, and don't let it get away! It may be the most fruitful of all principles.

I say it again: don't think that God ever forms a plan blindly—I mean, without considering what will be needed to carry it out. That is how *men* act, and they often regret their decisions because of difficulties that they lead to. Nothing is *difficult* for God, but some ways of going about things are, though not difficult for him, unacceptable because they are not worthy of him. His ways must bear the character of his attributes, as well as his work. God must therefore take into consideration ways as well as works. It isn't enough that his work honours him by its excellence; his ways of working must also glorify him by their divinity. Suppose that

a world •more perfect than ours could be created and conserved, but only by ways that are correspondingly •less perfect, so that the latter world would express God's qualities less well than ours does

—I'm not afraid to say that God *cannot* prefer this supposed world to the universe that he has actually created. He is too wise, he loves his glory too much, he acts too exactly in accordance with his nature, for such a preference to be possible for him. For God is indifferent in his plans (·that is, the choice between two plans is for him a mere toss-up, so to speak·) only when they are equally wise, equally divine, equally glorious for him, equally worthy of his attributes—only when they are exactly equal in how they proportion the beauty of the work to the simplicity of the ways of producing it. When they are not equal in this respect, although God can *not act at all* because he is sufficient unto himself, he cannot choose and follow the lesser course. He can *not act*; but he can't act uselessly, or increase the complexity of his ways of acting unless this correspondingly increases the beauty of his work. His wisdom forbids him from following any but the wisest possible plan. His love for himself doesn't permit to choose one that does not honour him the most.

11. Aristes: I get your principle, Theodore. [He repeats it in some detail. Then:] A more perfect world ·than ours·, but one produced in a less simple and less fruitful way, would not bear the character of the divine attributes as much as ours does. This is why the world is filled with impious people, with monsters, with disorders of every variety. God could convert all men, prevent all disorders. But he shouldn't do that at the price of disturbing the simplicity and uniformity of his conduct, for he should honour himself by the wisdom of his ways as well as by the perfection of his creatures. He doesn't *permit* monsters; it is he who *makes* them. But he

makes them only •in order to avoid changing anything in his conduct, only •out of respect for the generality of his ways, only •to follow exactly the natural laws that he has established; and he has established those *not* because of the monstrous effects they were bound to produce but for effects that are more worthy of his wisdom and his goodness. He wills monsters and the rest only indirectly, only because they are a natural consequence of his laws.

Theodore: How quickly you draw your conclusions!

Aristes: That is because the principle is clear; it is because it is fruitful.

Theodore: This principle seems at first to be too general to have much substance to it. But when we follow it closely we are captivated by the astonishing truths that it reveals—how many of them there are and how quickly they swarm in on us! You can learn from this that the most general principles are the most fruitful. . . . Hold fast to them, if you can, and follow them: they will give you a good view of the country in a short time.

Aristes: That's what I find when I meditate a little on what you are telling me, Theodore; and even now, without any mental effort, I seem to see in your principle, all at once, the resolution of many difficulties that I have always had concerning God's conduct. I understand that all the effects that contradict one another, the works that fight against with and destroy one another, the disorders that disfigure the universe, don't show any contradiction in the cause that governs the universe, any defect of understanding or lack of power, but show a prodigious fruitfulness and a perfect uniformity in the laws of nature.

Theodore: Slow down, Aristes; we'll go into all this more exactly later on.

12. Aristes: I even see how your principle delivers the reason for men's predestination. I used to believe that God had chosen certain individuals from all eternity—chose them as a sheer act of the will, with no human or divine reasons for choosing the ones he did—and that *then* he consulted his wisdom for means for sanctifying them and leading them surely to Heaven. But I now understand that I was mistaken. God doesn't form his plans blindly without relating them to means. . . . There are in him reasons for the predestination of the elect. He does so because the future church formed •in his way does him more honour than any other church formed •in any other way. . . . God didn't predestine either us nor even Jesus Christ because of our natural merits, but for reasons given to him by his inviolable law, by unchangeable order, by the necessary relation of perfections that are contained in his substance. . . . Am I in fact following your grand principle, Theodore?

Theodore: Quite well. But aren't you afraid of going too far into theology? You are already in the thick of the greatest mysteries.

Aristes: Let us get back •to metaphysics•. It's not for me to penetrate these •theological• mysteries.

Theotimus: You do well to move back quickly, Aristes, because •that theological territory is perilous•. St Augustine doesn't want us to seek reasons for the choice God makes among men. Predestination is not done *for* anything or *because of* anything; the reason why God takes this man and leaves that one is simply that he is merciful to whom he pleases to show mercy.

Aristes: What, Theodore! Does St Augustine claim that God consults his wisdom in carrying out his plans but not in forming them in the first place?

Theodore: No, Aristes, he doesn't. Theotimus seems to be expounding St Augustine in terms of the thought of certain •other• men. The sacred doctor wasn't denying that God had reasons for his choice and for distributing his grace as he does; he was merely rejecting a *bad* reason that the heretics of his time, •the Pelagians•, attributed to God. He was always ready to consider reasons that are consistent with the faith and don't deprive grace of its unforced freedom. It would be as well for you to know, and be able to answer, the reasoning of these heretics. Here it is, in brief [from here to the end of this paragraph]: God wants all men to be saved and to arrive at knowledge of the truth. Hence, they can all be saved by their own efforts—efforts that come purely from their own natures. But if they can't do this without the help of internal grace (say the more moderate •Pelagians•), let us see whom God will give this grace to. He makes a choice of some rather than others—all right, but his choice must be rational. Now, it is a common notion [= 'an obviously necessary truth'] that he who •selects the worse •chooses badly. So God, if he doesn't bestow his grace equally on all and instead *chooses* some, must choose those who are better, choose the less wicked over the more wicked. For it can't be doubted that the choice he makes of some rather than others is wise and rational. He has no partiality •or bias• toward any person. So it is absolutely necessary that the reason for his choice in the distribution of his grace is to be found in the good use that we can still make of our natural powers. It is for us to will, to desire to be healed, to believe in the mediator, to implore his mercy—in short, to *make a start*—and God will come to our aid. By using our free will properly we will *merit* God's bestowing his grace on us.

Aristes: These people reason well.

Theodore: Perfectly well, but from false ideas. They

didn't consult the notion of the infinitely perfect being, and ·instead· made God act as men do. Listen, why do you think God makes it rain?

Aristes: To make our farm-lands fertile.

Theodore [sarcastically]: So if we want rain to fall on a certain field we have only to sow or plant in it! God doesn't make it rain equally on all lands; so he has to choose; and he must choose rationally, making rain fall on lands that have been planted rather than fallow land or sand or sea. ·Obviously not!· With this in mind as a comparison, find the fallacy in the reasoning of these ·Pelagian· enemies of grace. But please don't pick away at inessentials.

Aristes: I understand, Theodore. Our cultivating lands or letting them lie fallow makes no difference to how much rain falls on them. That's because ordinarily rain falls only in consequence of the general laws of nature according to which God conserves the universe. In the same way, the distribution of grace doesn't come from our own merits. God bestows primary grace only in consequence of certain general laws [see twelfth dialogue, sections 16-21]. He doesn't act in the manner of •men—of •particular causes and •limited intellects. The reason for his choice comes from the wisdom of his laws, and the wisdom of his laws comes from how they relate to his attributes—from their simplicity, from their fruitfulness, in short from their divinity. So the choice God makes among men when distributing his grace is rational and perfectly worthy of his wisdom, though it is not based on differences in men's natures or on inequalities in their merits.

Theodore: There you go, Aristes! In a few words you have overthrown the firmest support of Pelagianism. A man who takes water needed for his field and pours it into the sand or into the sea would not be wise. Yet that's exactly what

God does in consequence of his laws, and in doing it he acts most wisely, divinely. This is sufficient to silence the proud heretics who offer to teach God to make a wise and rational choice among men!

Well now, Theotimus, are you still anxious about Aristes' falling into the crevasse? I mean the one with which St Augustine—not without reason—threatens those who look to their own merits to explain why they have been chosen? Aristes wants the distribution of grace to be entirely unforcedly free, so let's not be worried on his account. Rather, let us be sorry for certain others (you know who they are) who claim that God chooses his elect out of sheer goodness toward them, without wisdom and reason on his part. ·They are in a very bad way·, for it is a horrible sacrilege to believe that God is not wise in developing his plans as well as in carrying them out. . . . Grace is not distributed according to our merits (as St Augustine maintains, following St Paul and all the church); but it is directed by a law to which God makes no exceptions. For God made a plan containing the predestination of *these* individuals rather than *those* because there is no plan wiser than this, none more worthy of his attributes. This is what your friends couldn't grasp.

13. Theotimus: What can you expect, Theodore? It is so natural for us to run onto the reef of judging God from our own case. We all like independence; and we see submitting to reason as a kind of servitude, and see *having* to obey reason as a kind of powerlessness. So we are afraid of making God wise at the price of making him impotent—wise in consulting reason, impotent in having to obey it. But God is his own wisdom. Sovereign reason is co-eternal with him ·because· he and it are one and the same thing. He necessarily loves it; and although he is obliged to follow it he remains independent. ·That is, he doesn't depend on

anything other than himself; this squares with his obedience to reason, because sovereign reason is *not* other than God. Everything God wills is wise and rational, not because •God is above reason, not because •what God wills is just simply and solely because he wills it, but because •he cannot belie himself, cannot will anything that doesn't conform to his law, to the unchangeable and necessary order of his perfections.

Theodore: To be sure, Theotimus, we overturn everything if we claim that God is above reason and that his plans are guided by nothing but his sheer will. That false principle—which Descartes held—casts darkness so thick that it confuses the good with the bad, and the true with the false, and turns everything into a chaos where the mind no longer knows anything. Here is an example of the damage it does. St Augustine conclusively proved original sin by the disorders we find in ourselves.

Man suffers; so he is not innocent. Mind depends on body; so man has gone rotten, and is not such as God made him. (God can't have subjected the more noble mind to the less noble body, for *order* doesn't allow it.)

These are superb arguments, but what force do these inferences have for those who aren't afraid to say that God's will is the sole rule of his actions? They have only to reply:

- This is what God willed.
- It is our self-importance that makes us think it unfair that we should suffer.
- It is our pride that takes offence at the mind's being subject to the body.
- Since God *did* will these alleged disorders, it is impious to submit them to the judgment of reason, because God's will does not recognize reason as the rule of its conduct.

According to this principle, the universe is perfect because God willed it. By the standard of God's plans, monsters are works as accomplished as any other things. It is good for us to have eyes situated as they are in our heads, but if God had put them somewhere else—anywhere else—that would have been no less wise. Turn the world upside down, make a chaos of it, and it will still be just as admirable, since all its beauty consists in conformity with the divine will—which isn't obliged to conform to order. And—I would add—which isn't known to us! So all the beauty of the universe *disappears* when looked at through this great principle, this principle that •God is superior to the reason that enlightens all minds, and that •God's actions are governed by nothing but his sheer will.

Aristes: Oh, Theodore, how well your principles hang together! I see already, from what you have just said, that it is *in God* and *in an unchangeable order* that we see beauty, truth and justice. We aren't afraid of criticizing God's work, of noting defects in it, and of even concluding from them that it has gone rotten. What emboldens us to do this is that in it are judging God's conduct by what we know of *his* law; the unchangeable order that we partly see is the very law of God, inscribed in his substance in characters eternal and divine. . . . Are we impious or foolhardy to judge in this way what God must or must not do? Not at all. Rather, to suspend our judgment on these matters we would need to be either impious or blind. That is because we judge God not by our authority, Theodore, but by the sovereign authority of the divine law.

Theodore: There we have a reflection worthy of you, my dear Aristes. Do not forget then to study this law, since it is in this sacred code of unchangeable order that judgments of such importance are to be found.

TENTH DIALOGUE

God's magnificence in the size and indefinite number of his different works. The simplicity and fruitfulness of his ways of conserving and developing them. God's providence in the first shove that he gives to matter. This first step of his action, which is not determined by general laws, is directed by infinite wisdom.

Theotimus: What do you think of the general principles that Theodore proposed yesterday, Aristes? Have you followed them? Didn't their generality, their sublimity, put you off and tire you out? Speaking for myself, I admit to being confused. I wanted to follow them, but they escaped me like phantoms, so that I have taken lot of trouble with little result.

Aristes: When a principle has nothing to say about anything that affects the senses, that makes it hard to follow and to grasp. We embrace something that has no *body*—how are we to hold onto it?

Theotimus: We quite naturally take it to be a phantom. For the moment the mind is distracted the principle vanishes, and we find to our surprise that we don't have hold of anything. Then we grasp the principle again, but it escapes once more. In fact, it escapes us only when we close our eyes (as we often do without being aware of it), and yet we believe that it is the principle that vanishes. This is why we look on it as a phantom that creates an illusion in us.

Aristes: True, Theotimus. I think that is why general principles have a certain resemblance to chimeras, and why the general run of people, not being constituted for the work of *attending*, treat them as chimerical.

Theotimus: Still, there is an enormous difference between the two things (·general principles and chimeras·). For •general principles please the •mind that they enlighten by their evidentness, whereas •phantoms please the

•imagination that brings them into existence. ·And that points to another difference·. Because these principles. . . are presented to the mind through its attention, they *seem* to be made by the mind; but I think you know ·as I do· that they exist *before* we do, and aren't brought into existence by the power of our ·intellectual· activity. For all these unchangeable truths are simply relations holding amongst *ideas*, which exist necessarily and eternally. Whereas phantoms, which are produced *by* the imagination or are produced *in* it as a natural result of general laws of the union of soul and body, exist only briefly.

Aristes: I agree, Theotimus, that •nothing is more solid than the truth and that •the more general a truth is the more reality it has and the more light it casts. Theodore has convinced me of this. But I am such a rough, unpolished, sense-bound creature that I often find general truths to be not to my taste, and I'm sometimes tempted to give them up altogether.

Theotimus: Ah. . . Theodore?

Theodore: You'll do nothing of the sort, Aristes. Truth is worth more than onions and cabbages; it is excellent food. [Theodore calls it *manne* = 'manna', a miraculous food that the Israelites in the desert picked up from the ground every morning, at first gathering one omer (four litres) per person; *Exodus* 16.]

Aristes: Most excellent, I agree. But at times it seems quite empty and unsubstantial. I don't find much taste to it, and

each day you want us to gather it up afresh. It's not much fun.

Theodore: Well then, Aristes, let us spend today as the Jews spent their sabbath. Perhaps yesterday you did the work of two days.

Aristes: Certainly I worked hard, Theodore, but I got nothing.

Theodore: Yet when I left you yesterday you were thoroughly engaged in drawing consequences. The way you were going about it, you ought to have your two measures quite full.

Aristes: What measures? two omers? Then give your principles more *body*, Theodore, if you want me to fill these measures. Make them more sensible [here = 'easier to connect with the senses'] and more palpable. They slip through my fingers; the slightest heat melts them; and, after I have worked hard, I find I have nothing.

Theodore: You are nourished without noticing it, Aristes. These principles that pass through your mind and escape from it always leave behind some light.

Aristes: That is true. I feel that strongly. But...to start again every day and forgo my usual food! Couldn't you make the principles of your philosophy more •sensible?

Theodore: I'm afraid that would make them less •intelligible. Believe me, Aristes, I always make them as sensible as I can. But I am afraid of spoiling them. It is permissible to *incarnate* the truth [= 'put flesh onto it, present it as solid and sensible'] in order to keep the mind focussed on it—our naturally weak mind that gets no hold on anything that has no *body* to it. But it is still necessary for •the sensible to lead us to the intelligible, •flesh to take us to reason, and •the truth to appear just as it is, without any disguise. What is really solid isn't the

sensible; only what is intelligible can nourish intellects, by its evidentness and its light. You know this. Try to remember it. and to follow me.

Aristes: What do you want to talk about?

1. Theodore: About general providence, that is, the ordinary course of action that God takes in governing the world.

You have known—and perhaps also have forgotten—that the infinitely perfect being, •though self-sufficient, was able to make the plan of forming this universe; that he •created it for himself, for his own glory; that he •put Jesus Christ at the head of his work, at the start of his designs and procedures, so that everything would be divine; that he •did not have to undertake the most perfect *possible* work but only the most perfect one that could be produced in the wisest and most divine ways. . . . Thus we have the creator ready, so to speak, to go outside himself, outside his eternal sanctuary, ready to set to work to produce creatures. Let us see something of his magnificence in his •work, but let us •also follow him closely in the majestic way he goes about his ordinary course of •action.

The magnificence in his work bursts out everywhere. Wherever we look in the universe, we see a profusion of amazing things, and if we stop being amazed by them that is surely because we stop giving them the attention they deserve. Consider the astronomers, who measure the size of heavenly bodies and want to know how many stars there are: the more they come to know, the *more* struck with wonder they are. At one time the sun appeared to them to be as large as the Peloponnese, but today the best of them take it to be a million times larger than the earth. The ancients counted just one thousand and twenty-two stars; but today no-one ventures count them. God himself had already told us that no man could ever know the number; but •even without

that assurance· the invention of telescopes now forces us to acknowledge that our star-catalogues are far from complete. They list only the stars that can be seen without glasses, and those are surely a tiny minority of the total. I think indeed there are many more of them than we'll ever discover, more than are visible through the best telescopes; and yet many of those unviewable stars are probably as big and as majestic as our sun. How great, then, is God in the heavens! How elevated he is in their heights! How magnificent he is in their brilliance! How wise and powerful he is in their orderly movements!

2. But, Aristes, let us take leave of the large. Our imagination gets lost in those immense spaces that we wouldn't venture to limit but which are afraid to think of as unlimited. How many wonderful things there are on the earth we inhabit, on this imperceptible speck (to those who are concerned only with celestial bodies). But this earth, which our astronomer friends count for nothing, is still too vast for me. I confine myself to your gardens. What animals, what birds, what insects, what plants, what flowers, and what fruit!

Sitting in the shade the other day, I decided to observe the variety of plants and small animals that I found beneath my eyes. Just sitting there, I counted more than twenty sorts of insects within a very small space and at least as many different plants. I took one of these insects. . . ., examined it attentively, and I'm willing to say about it what Jesus Christ says about the lilies of the field, that Solomon in all his glory was not so magnificently ornamented. I spent some time admiring this little creature—so unfairly treated as negligible, and indeed so unworthily and cruelly treated by the other animals to whom it apparently serves as food. Then I began to read a book that I had with me, and found in it something astonishing, namely that the world

contains an infinite number of insects at least a million times smaller than the one I had been examining and ten thousand times smaller than a grain of sand. [Leeuwenhoeck, a pioneering microscopist, had said this in a letter to the Royal Society.] Do you know what unit of measurement is used by people wanting to talk about minuteness or, if you will, the magnitude of these living atoms? For, although they are small in relation to us, they are nonetheless quite large in relation to others. That measure is the diameter of the eye of those small domestic animals that bite us so much. . . . It is by subdivisions of this measure—for it is too big itself for their purposes—that observers of the curiosities of nature measure the insects that exist in liquids and of which they prove by principles of geometry that an infinity can be discovered that are at least a thousand times smaller than the eye of the common louse. Don't be upset by that basis for measurement; it is one of the most exact and most common. This little animal has made itself well enough known, and some can be found all the year around. These investigators are glad to have a means whereby the facts that they advance can be verified at any time, making secure our judgments about the multiplicity and fineness of the wonderful works of the author of the universe.

Aristes: That surprises me a little. But tell me, Theodore, regarding these animals that are imperceptible to our eyes and that appear to be almost like atoms under good microscopes—are *they* the smallest? Couldn't there be many others that the skill of man will never reveal? Perhaps the smallest that have ever been seen are to others that won't ever be seen as an elephant is to a gnat. What do you think?

Theodore: We are getting lost in the small as we did in the great, Aristes. There is no one who can say he has finally come to the smallest of the animals. Formerly it was the mite;

but today the little mite has become monstrously big! The more powerful our microscopes become, the more persuaded we are that the wisdom of the creator is not limited in the smallness of the amounts of matter he can deal with, and that from an atom that is imperceptible to our senses—from a sort of *nothing*, as it were—he makes things that surpass the imagination and even exceed the most capacious intellects. I will explain this to you.

3. The variety and succession of beauties that ornament the universe are simply a result of the general laws governing how motion is passed along, and all those laws depend on a single very simple and natural law, namely that bodies that are pushed or collided with always move in the direction from which the least pressure comes, their movement being proportional to how small that pressure is. All the shapes and states of matter have no cause except motion, and this motion is communicated in accordance with laws that are so simple and natural that nature seems to act only by blind impulse. When we have become convinced of all this, we understand clearly that it isn't *the earth* that produces plants, and that *sexual intercourse* couldn't possibly create such a wonderful work as the body of an animal. We may indeed believe that general laws of the communication of motion suffice for the •development and growth of parts of organic bodies, but we can't be persuaded that they could ever •create such a complex machine. We see that if we don't want to fall back on miracles, we are *forced* to the conclusion that the seed of a plant contains in miniature the plant that grows from it, that an animal contains in its entrails the animal that will come from it. It goes further. We understand that each germ must contain a whole species which it is capable of conserving; for instance, that

each grain of wheat contains in miniature the cluster of grains that grow out of it, each grain in that cluster

contains in miniature the cluster that grows out of *it*, and that each of the grains in *those* clusters can be as fertile as were those in the first cluster.

What we call 'an animal' or 'a plant' is made up of an almost infinite number of organic parts; the unaided laws of motion alone couldn't possibly adjust all these to one another and to the achieving of certain ends. Those simple and general laws *are* sufficient for the •growth and the eventual •appearance to us of those wonderful works, each of which God formed in the first days of the creation of the world; and that •growth-inducing power is a considerable thing. •And there is more to it than merely making the little animal or plant get *bigger*•. The minute animal or the seed of a plant doesn't have precisely the same proportion of size, solidity, and shape among its parts as the animals and the plants do; •so if we took a microscope to the sperm of a donkey we wouldn't see tiny donkeys•. But in the germ of a plant or animal the essential working parts are so wisely arranged that the general laws of motion will eventually bring them to have •not just the size but also• the shape and the form that we observe in them. I now take that for granted.

4. Think about it, Aristes! A fly has as many organic parts as a horse or an ox, and perhaps more. A horse has only four feet, whereas a fly has six—and also wonderfully structured wings. You know what the head of an ox is like. Well, look through a microscope at the head of a fly and compare it with the ox's head, and you'll see that I am not just bullying you •into accepting my view•. The eye of an ox has only one lens, whereas we can now see several thousand lenses in the eye of a fly. Moreover, a cow has only one or two calves each year, while a fly has a swarm containing more than a thousand flies (the smaller the animal, the more fertile it is). And you may have heard that bees in their present form don't have a king to honour but only a queen to woo, she being the

sole source of the entire tribe. (Swammerdam, a famous pioneering microbiologist, says that one bee produces about four thousand.) Now, try to imagine the awful smallness, the wonderful delicacy, of all the bees—the thousands of organized bodies—that the mother-bee carries inside her. And take in this (though your imagination is frightened by it): it is inconceivable that a fly should be •formed from a maggot (or a maggot from an egg) rather than merely being •contained in it.

Aristes: As matter is divisible to infinity, I have no trouble grasping that God could make miniature versions of every large thing that I see. A Dutch scientist, I hear, has discovered the secret of showing in the cocoons of caterpillars the butterflies that emerge from them. In tulip bulbs I have often seen, even in the middle of winter, whole tulips with all the parts that they •will• have in spring. So I can well suppose that every seed contains a plant and every egg an animal similar to the one they came out of.

5. Theodore: You are not there yet. Around six thousand years ago the world began and bees started producing swarms. Suppose •conservatively• that each swarm contains a thousand creatures. The first bee must be at least a thousand times larger than the second, and the second a thousand times larger than the third, and so the third to the fourth, and so on progressively down to •bees in• the six thousandth •generation, which are buzzing around us now•. This is clear from our supposition, given that a container is always larger than what it contains. Conceive then (if you can!) the wonderful fineness that all the *present* bees had when they were contained in the *first* bee.

Aristes: That's easy! We need only look for the right value of the last term of a series such that

- its first term expresses the natural size of a honey-bee.

- each succeeding term is one thousandth of the size of its immediate predecessor, and
- the series has six thousand and one terms.

The bees around us *now* were, at the beginning of the world, smaller than they are today: a thousand times a thousand times a thousand times. . . you carry on from there Theodore, saying 'a thousand times' 5997 more times and then saying 'smaller!' *That* is their right size •in the first bee•, according to your supposition.

Theodore: I understand you, Aristes. . . . All we need is to write a fraction in which

the numerator is *one*, and

the denominator is *one* followed by a mere eighteen thousand zeroes.

There's a fine fraction! But aren't you afraid that a unit so broken and shattered will dissipate, and that your bee will become *nothing*?

Aristes: Certainly not, Theodore. For I know that matter is divisible to infinity, and that 'small' things are small only by comparison with larger things. What we call an 'atom' can be divided for ever, any part of extension is in a sense infinitely large •because it is infinitely larger than some of its parts•. My imagination balks at this, but I have no trouble *conceiving* it, and thus conceiving that God can make in miniature everything we see on a larger scale in the world which we look on in wonder. Indeed the smallness of bodies can never be a hindrance to God's power; I conceive this clearly. For geometry demonstrates that there is no basic unit in extension, and that matter can be divided endlessly.

Theodore: Very good, Aristes. [He and Aristes play around with these ideas a little, e.g. wondering how many bees the first bee must have contained to provide for six thousand generations. Then:]

6. Theotimus: Let us drop these speculations, Theodore. God furnishes us with enough works within our reach without dwelling on those we cannot see. The wonderful construction of any *one* animal or plant shows well enough that the creator's wisdom is infinitely beyond us. And he makes them each year in such profusion that his magnificence and grandeur must astound and impress *even* the stupidest of men. We needn't look to other organisms: we find in our own body a machine composed of a thousand working parts and all are so wisely adjusted to their purpose, so well interconnected, and so well arranged in a hierarchy, that this *on its own* is enough for us to abase and prostrate ourselves before the author of our being. [He gives an example: the complexity of mammalian musculature.]

Aristes: It is true, Theotimus, that just the anatomy of the human body or of the most negligible of animals gives so much illumination to the mind and impresses it so strongly that we would have to be numb not to acknowledge *God as the author of the work.*

7. Theodore: You are both right. But, as for me, what I find most wonderful is that God makes all these excellent works—or anyway makes them grow and develop before our eyes—by precisely following certain very simple and fruitful general laws that he has prescribed for himself. I don't wonder at *•trees covered with flowers and fruit as much as I wonder at •their marvellous growth in consequence of natural laws.* A gardener takes an old string, smears it with a fig, and buries it in a furrow; then some time later—I have seen this—all those little seeds, the ones we feel between our teeth when we eat figs, have pushed out into the earth, growing roots in one direction and an orchard of fig trees in the other. *That is what I wonder at!* I'll give you five more examples of the sort of thing I mean. *•Irrigation of the fields,*

following natural laws and using an element as simple as water, brings up from the earth an infinity of plants and trees of different kinds. •One animal instinctively and brutishly comes together with another and thereby perpetuates its species. •A •male• fish follows the female and fertilizes the eggs she leaves in the water. •Land ravaged by hail is some time later quite restored, covered with plants and its usual riches. •From lands that have been spared, the wind snatches up seeds and spreads them with the rain on lands that have been desolated. All of this and countless other effects are produced by this law, so simple and so natural:

Each body moves towards the least pressure.

These results in accordance with this law—that is certainly something to wonder at! Nothing in the universe is more •beautiful or more •magnificent than the profusion of animals and plants we were talking about. But, believe me, nothing is more •divine than how God fills the world with them, the use he makes of a law that is so simple that it seems to be good for nothing.

Aristes: I am of your opinion, Theodore. We can leave it to *•the astronomers to measure the size and movements of the stars in order to predict eclipses, to •the anatomists to dissect the bodies of animals and plants in order to identify the working parts and see how they are connected with one another, in brief to •the physical scientists to study the detail of nature in order to wonder at all its marvels.* Let us mainly stay with the general truths of your metaphysics. I think we have done enough by way of disclosing the magnificence of the creator in the infinite multiplicity of his wonderful *•works.* Let us now follow him some way through his course of *•action.*

8. Theodore: When you have examined the general rules of providence, Aristes, you will marvel even more at the

parts of the universe, or rather at the infinite wisdom of its author. When we examine God's work without relation to *how* he made and conserves it, ever so many *defects* in it leap to the eye, and sometimes trouble the minds even of philosophers so greatly that they look on this wonderful work either as •the necessary effect of a blind nature or as •a monstrous mixture good and bad created things brought into existence by a good god and a bad one. But, when we bring into consideration *the ways in which* God necessarily governs the universe in order to make his action •as well as his work• bear the character of his attributes, these defects that disfigure created things don't reflect back on the creator. For if there are defects in his •work, if there are monsters and thousands upon thousands of disorders, there are quite certainly none in his •actions. You already understood this, but your grasp of it needs to be improved.

9. Do you still remember my demonstrating to you that it is contradictory that any creature should be able to move a straw by its own efficacy? [seventh dialogue]

Aristes: Yes, Theodore, I remember that, and I am convinced of it. Matter can be moved only by its creator.

Theodore: Only the creator, therefore, can make *any* change in the material world, because all the possible states of •any perceptible bit of• matter consist merely in its perceptible shape and the shapes of its imperceptible parts, and the only cause of any of these shapes is *motion*.

Aristes: I don't understand very well what you are telling me. I'm afraid of a surprise. [Regarding the untranslated expression *l'étendue*—meaning either 'extension' or 'that which is extended'—look back to the explanation inserted in the first dialogue, section 2 (page 3, to which Theodore now refers.)]

Theodore: I proved to you, Aristes, that matter and *l'étendue* are but one and the same thing. Remember that. I am

reasoning on the basis of that assumption, or rather of that truth. For *l'étendue* is all it takes to make a material world, or at least a world that is just like the one we inhabit. •We need to get straight about this, because• if you don't now have the same ideas as I do, discussion between us would be pointless.

Aristes: I do remember your proving to me that *l'étendue* is a being or a substance and not a state of substance, on the ground that we can think of it without thinking of anything else. For it is indeed evident that anything we can perceive by itself is not a *state* or *way of being* but a *being* or a *substance*. This is the only way we have of distinguishing substances from their states; I'm convinced of this. But this thought keeps coming back into my mind: •granting that *l'étendue* is a substance•, mightn't matter be some *other* substance?

Theodore: It is another word, but it is not another thing, provided that by 'matter' you mean the stuff that our world is composed of. For that is certainly composed of *l'étendue*; and I don't think you meant •to suggest• that the material world is composed of two •kinds of• substances. One of them would be useless, and I think it would be yours, for I don't see that anything really solid can be made of it. How would we make a desk, chairs, furniture out of your matter, Aristes? Such a piece of furniture would be very rare and very precious! But give me a portion of *l'étendue* and there is nothing I can't make of it by means of motion.

Aristes: It is •precisely• *that* that I don't understand very well, Theodore.

10. Theodore: Yet it is quite easy, provided we judge things by the •ideas that represent them rather than resting content with quick judgments based on the •senses. Think of an indefinite portion of *l'étendue*, Aristes. If all its parts preserve

the same spatial relations to one another, this is simply a big mass of matter. But if something starts to move, and the parts of this thing continually change their locations relative to the other parts, then an infinity of forms are introduced. I mean an infinity of shapes and configurations. I use 'shape' for the form of a body large enough to make itself sensed, and 'configuration' for the shape of the insensible parts of large bodies.

Aristes: Yes indeed—all sorts of shapes and configurations, but perhaps not enough for all the different kinds of bodies that we see. The bodies that you make purely out of your *étendue* differ only accidentally or superficially, whereas most of those we see may differ essentially or deeply. Earth is not water; a stone is not bread. Yet it seems to me that using *l'étendue* and nothing else you could only make bodies of the same species.

Theodore: So, Aristes, the snap judgments of the senses are back! A stone is not bread, true enough. But I ask you: Is flour wheat? Is bread flour? Are blood, flesh and bones bread? Are they *vegetation*? Are these bodies of the same or different species?

Aristes: Why do you ask me that? Anyone can see that bread, flesh, and bones are essentially different kinds of bodies.

Theodore: I ask you because flour is made from wheat, bread is made from flour, flesh and bones from bread. It is the same matter throughout. And if you still insist that all these bodies are of different species, why won't you allow that essentially different bodies can be made from the same portion of *l'étendue*?

Aristes: Because your 'shapes' and 'configurations' are accidental to matter and don't change its nature.

Theodore: True, matter always remains matter whatever shape we give it; but a round body can be said not to be of the same species as a square body.

Aristes: What! If I take some wax and change its shape, won't it still be the same wax?

Theodore: It will be the same wax, the same matter; but it can be said to be not the same body, for certainly what is round isn't square. Let us get rid of ambiguities.

—It is essential to a round body that all the parts of its surface are equidistant from the part which is its centre, giving it a certain shape; but it isn't essential to it that its internal or insensible parts have such and such a specific configuration.

—It is essential to wax that its small parts have a certain configuration, but that isn't changed by whatever shape we may give to its mass.

—It is essential to matter that it is extended, but it is not essential to it that there be a specific shape in its mass or a specific configuration among its insensible parts.

In short: round body needs shape, wax needs configuration, matter needs neither. Now ask yourself: what happens to wheat when it is milled? to flour when it is kneaded and baked? It is clear that what has changed is the configuration of the insensible parts along with the shape of the mass. I don't see how any change could be more essential than that.

11. Aristes: It is claimed, Theodore, that a change of substantial form is added to the other changes you have mentioned.

Theodore: Yes, I know it is. But I can't think of anything more accidental to matter than a fictional substantial form. What change can it make in the wheat when we grind it?

Aristes: It is only because of that ·substantial form· that the wheat becomes flour.

Theodore: What? ·You are saying that· if it weren't for the substantial form, wheat that is finely ground wouldn't turn into flour?

Aristes: Well, perhaps flour and wheat are not essentially different. Perhaps *they* are two bodies of the same species.

Theodore: And flour and dough, are *they* of the same species? Be careful ·how you answer·, for dough is just flour and water blended together. Do you think that by kneading them we can't make dough without the help of a substantial form?

Aristes: We can; but without that ·substantial form· we can't make bread.

Theodore: So it's a substantial form that changes dough into bread. At last we've arrived! Now, *when* does this happen to the dough?

Aristes: When the bread is baked, when it is done.

Theodore: True, for unbaked bread is not strictly bread. It still has only the substantial form of wheat or flour or dough. . . . But what if the substantial form failed to arrive? In that case would the well-baked dough *not* be bread? Now, this form doesn't come until the dough is baked, so let us try to do without it—that is, let step in metaphysically at the point where the dough is baked but the substantial form hasn't yet arrived, and consider what we have in the oven at that point. Isn't it clear that what we have is *bread?*· It turns out to be difficult to bring the substantial form into an account of the powers of matter; we don't know how to go about it.

Aristes: Go ahead and have your fun, Theodore, but not at *my* expense, for I swear that I have always regarded these alleged 'forms' as fictions of the human mind. ·Rather than going on with your fun·, tell me how so many people have held this opinion.

Theodore: It is because the senses lead us to it quite naturally. When we sense different ·kinds of· objects we have sensations that *are* essentially different, and this leads us to think that the objects ·also· differ essentially. And in a way they *do*, for the configurations of the insensible particles of wax are essentially different from those of water . But as we don't see these small parts, their configuration, their difference, we judge that the masses they compose are substances of different species. Now experience teaches us that all bodies have the same basic underlying *stuff*, because one can be made out of another. So we conclude that there must be something that makes them different in species, and we assign this role to the substantial form.

12. Aristes: I understand very well, Theodore, how much we need the great principle that you proved at such length in our previous sessions [third, fourth and fifth dialogues], namely that we mustn't judge the nature of bodies by the •sensations they arouse in us but solely by the •idea that represents them and is the model on which they have all been formed. Our senses are false witnesses, and needn't be listened to except regarding facts. They indicate confusedly to us how bodies in our environment relate to our own, doing this well enough for the preservation of life; but there is nothing exact in their testimony. Let us at all times follow the principle.

Theodore: Let us follow it, Aristes, and understand that all the states of *l'étendue* are and must be nothing but shapes, configurations, sensible and insensible motions; in short, only spatial relations. An indefinite ·portion of· *l'étendue*

in which there is no motion—i.e. no change in the spatial relations among its parts—is therefore just a great mass of unformed •matter. Once motion is put into this mass and its parts move in an infinity of ways, then there is ·in it· an infinity of different •bodies. ·Why an *infinity* of them?· Because it is impossible for all the parts of this ·portion of· *l'étendue* to change their spatial relations to one another by the same amount; and so we can't conceive of the parts' moving without producing an infinity of shapes, i.e. of different bodies. For example, your head keeps the same spatial relation to your neck and to the other parts of your body, which is why what you have is one body. But the parts of the air surrounding you move in different ways across your face and the rest of your machine, so the air doesn't unite with you to make one body. Think about the individual parts of your bodily tissues, one by one, and imagine that one particular part •remains in the same (or nearly the same) spatial relation to such and such neighbouring parts, while •its relations with a number of other neighbouring parts keeps changing. In carrying out this thought you will ·mentally· construct an infinity of small channels in which the bodily fluids will circulate. One part of a tissue in your hand doesn't move away from an adjoining part of the same tissue, but it constantly changes its situation in relation to the ·animal· spirits, the blood, the other bodily fluids, and an infinite number of small bodies that brush against it in passing and then escape through the pores left in our flesh by the interlacing of the tissues. This is what makes a given part or a given tissue precisely what it is. Bear in mind then all the parts of which your tissues are composed. Relate them to one another and to the bodily fluids of your body, and you will have no trouble seeing the truth that I am trying to get you to understand.

Aristes: I follow you, Theodore. Certainly nothing is clearer than that all the possible states of *l'étendue* are simply spatial relations, and that it is only the variety of motion and rest of parts of matter that produces the variety of shapes—the variety of different bodies—that we wonder at in the world. When we make judgments about objects on the basis of our sensations of them we are constantly in a strange predicament; for we often have essentially different sensations of the same objects, and similar sensations of very different substances. The testimony of the •senses is always obscure and confused. We have to judge all things by the •ideas that ·clearly and accurately· represent their nature. If I consult my senses, snow, hail, rain, and steam are bodies of different species. But by consulting the clear and luminous idea of *l'étendue* I can grasp (it seems to me) that a little motion can change ice to water, and even to steam, without changing the configuration of the small parts of which these bodies are composed. I also grasp that by changing the configuration ·of those extremely small parts· we could turn anything into anything. For, since bodies differ essentially only in size, configuration, motion and rest of the insensible parts of which their masses are composed, it is obvious that (for example) to make gold out of lead or out of anything you like, we need only to split up and then recombine the small parts of lead so as to give them the size and configuration that are essential to the small parts of gold—the size and configuration that makes stuff *gold*. This is easily *conceived*. But I believe that ·in practice· those who are looking for ways to make gold out of other substances are less likely to make new gold than they are to reduce to smoke and ashes the gold they started with!

Theodore: True, Aristes. For who knows what the size and configuration *is* of the small parts of this prized metal? And

even if that were known, who knows what the configuration is of the small parts of lead or quicksilver? [Theodore continues with further grounds for pessimism about the project of making gold out of quicksilver, contrasting this with the ease with which steam turns into rain, and likening it to the mysteries of how water becomes part of a plant. Theotimus complains that he is rambling, and Theodore turns to the topic of providence.]

13. Certainly it is by the sun that God gives life to the world we live in. It is by it that he raises mists. It is by the motion of mists that he produces winds. It is by the contrary directions of winds that he amasses the mists and makes them into rain; and it is by rains that he makes our lands fertile. It doesn't matter whether I have the details of this right, Aristes. You do in any case believe (for example) that rain makes the plants grow; for if it doesn't rain everything dries up. You believe that a certain plant has the power of purging, another of nourishing, still another of poisoning; that fire softens wax, hardens clay, burns wood, and that in burning wood it turns part of the wood into ashes and then into glass. In short, you don't doubt that all bodies have certain qualities or powers, and that the ordinary providence of God consists in putting these powers to work to produce the wonderful variety in his work. Now all there is to these powers, and to their being put to work, is the efficacy of *motion*, since it is through motion that everything gets done. For it is obvious that fire burns only through the motion of its parts; that it can harden clay only because the particles that it spreads in all directions bump into particles of water in the clay and set them in motion so that they leave the clay; and similarly with fire's other effects. So fire has no force, no power, except through the motion of its parts; and this force comes to be applied to a given thing through the thing's moving near to the fire. In similar fashion. . .

Aristes [interrupting]: What you say of fire I extend to cover all natural causes and effects. Carry on from there.

14.Theodore: You understand then that ordinary providence consists principally in two things: •laws of the communication of motion, since everything in bodies takes place by means of motion; and •the wise way in which God arranged things at the time when he created them, so that his work could be conserved by the natural laws that he had decided to follow.

As for the natural laws of motion: God chose the simplest. He willed and still does that every moving body move (or tend to move) in a straight line, and that when it bumps into another body it diverge as little as possible from a straight line. He also did and does will that •a body shall move in the direction in which it is being pushed; that •if it is pushed at the same time in opposite directions, the stronger push overcome the weaker; and that •if the two pushes are not in exactly opposite directions, the body shall move in a line that is the diagonal of a parallelogram the sides of which are parallel to these pushes and differ in length as the pushes differ in strength. [Strictly, Theodore speaks not of the strengths of pushes but of the size or greatness of motions.] In short, God chose the simplest laws deriving from the single principle that *the stronger shall overcome the weaker*. Also, I hold that •*there will always be in the world the same quantity of motion in any given direction*. We learn this from experience; and there is also another reason for accepting it, namely that God is unchangeable in his nature, so that the more uniformity we assign to his actions the more we make them express his attributes. On the basis of •this I contend that the centre of gravity of any body will be the same before and after a collision, whether that centre is in motion or at rest. There is no need, Aristes, to go into more detail regarding

the natural laws God follows in the ordinary course of his providence. Let them be what you like—it doesn't matter much at the moment. You know for sure •that only God moves bodies, •that everything he does in them he does through motion, •that he gets the motion of one to lead to motion in another only in accordance with certain laws (never mind what they are), and •that his laws come into play only when bodies collide [seventh dialogue]. You know •that the collision of bodies is, because of bodies' impenetrability, the occasional or natural cause that kicks in in accordance with the general laws. You know •that God always acts in a simple and uniform manner; •that a body in motion will always move straight ahead, but •that impenetrability obliges a moving body to change direction; but •that this change is the least possible—whether this is because moving bodies always follow the same laws or because the laws they follow are the simplest there are. That is enough concerning the general laws of the communication of motion. Let us come now to the ·initial· formation of the universe, and to the wise way in which at the time of the creation God *arranged* all the parts of the universe, positioning them for all the succeeding centuries in the light of these general laws; for what is marvellous in divine providence consists in *that*. Follow me, please.

15. I am thinking of a mass of matter without motion, Aristes. It is just a block, ·and I want to do three things with it. •First·, I want to make a statue out of it. A little motion will soon do that for me: all I have to do is to move away the unwanted matter, and what remains is the statue (before I did this, the two lots of matter constituted *one body* because they were at rest with relation to one another). •Secondly·, I want this statue to have not only the shape of a man but also human organs and all the parts we don't see. Again, a little motion will make them for me. Take the heart, for

example. I want to make the heart out of some of the matter in the statue; I *move* the matter surrounding that matter, while keeping all the rest motionless. That portion of matter will no longer be joined to the rest as *one body*; and thus the heart is formed. And I can conceptually do the same thing to get the other organs such as I conceive them to be. This is evident. •Finally, I don't just want my statue to have the organs of the human body; I want the mass of which it is made to be turned into flesh and bones, into blood and animal spirits, into brain and so on. Again, a little motion will provide what I want. Assuming that flesh is composed of tissues with such and such a configuration, interlaced with one another in such and such a manner,

then if the matter that fills in between the interlacings of the tissues I am conceiving begins to move, so that it alters its spatial relations to the matter of which these tissues are to be composed, ·that separates out the tissues from the matter surrounding them, thus making them different bodies from their surroundings·, and there you have it—flesh. And I conceive that blood, ·animal· spirits, vessels, and all the rest of the human body can be formed in the same way, with a little motion. But what is infinitely beyond the capacity of our minds is to know just which parts are to be taken away, which to be left. [This is the only occurrence here of the notion of taking-away and letting-stay. Until now, Theodore has spoken only of 'moving' portions of matter.] Let us now suppose that in this machine that is like our own ·bodies· I want to take *a very small portion* of matter and give it a certain shape, certain organs, a certain configuration in its parts that suits me; again, all this will be brought about by means of motion. And it can't be brought about in any other way, for it is evident that it is only through motion that two portions of matter that make *one body* can be separated ·so as to make *two*·. Thus, I have no trouble conceiving that in a human

body God can form •another such body a thousand or ten thousand times smaller, and in •this one yet another, and so on •downwards•, with each new one being a thousand or ten thousand times smaller than its predecessor in the series; and that he can do this in a single creative stroke giving an infinity of different motions (only he knows what they are) to the infinite parts of a certain mass of matter.

Aristes: What you are saying about the human body can easily be applied to all the organic bodies of animals and plants.

16. Theodore: Very good, Aristes—*yes!* Now conceive of an indefinite mass of matter as large as the universe and suppose that God wants to make a beautiful work of it, a work that will last, a world in which the beauties will be conserved and perpetuated in their species. How will he go about it? Will he at first move parts of matter at random, turning it into the world *gradually* by following certain laws? Or will he instead make it all at once? Bear in mind that the infinitely perfect being knows every result of every motion that he can communicate to matter, whatever we suppose the laws of the communication of motion to be.

Aristes: It seems clear to me that God won't move matter more than he needs to; and since *the first* effect he can have on all the parts suffices to produce *every* sort of work, he surely won't want to create those works gradually by a great deal of unnecessary motion.

Theotimus: But what will become of the general laws of the communication of motion if God doesn't use them?

Aristes: That perplexes me a little.

Theodore: What are you perplexed about? •At the moment of creation• these laws are not yet in effect—or rather they don't exist. For those laws govern *what* is the occasional

cause of *what* when bodies communicate motion to one another in collisions. When there are no occasional causes, those laws don't exist. Thus, before God moved matter, and consequently before there could be any collisions, God didn't need and couldn't follow general laws for the communication of motion. And another point: God's only purpose in following general laws is to make his conduct uniform and make it bear the character of his unchangeability. Thus, the *first* step in this conduct, the *first* motions, can't and needn't be determined by these laws •because that first shove given to matter is a *single* event, and the concept of *uniformity* gets no grip on it•. Finally, if there were to be laws strictly governing the first formation of organic bodies of animals and plants, there would have to be an infinity of them, so that they would hardly be *general*. Thus, the first impress of motion that God initially made in matter didn't need to be and in fact *couldn't* be governed by certain general laws; so this step had to be taken exclusively with a view to the beauty of the work that God wanted to form and was going to preserve through future time in consequence of general laws. Now, this first impress of motion wisely distributed was all it took to form *all at the same moment* the animals and plants (the most excellent works that God has made from matter) and all the rest of the universe. This is evident, because bodies differ among themselves only in their over-all shapes and in the configurations of their parts, and motion by itself can do all that, as you agreed. . . .

17. Theotimus: That being so, I see very well that it would be a waste of one's time to try explaining on Cartesian principles, or on any others like them, the biblical account of the creation.

Theodore: . . . But it isn't a waste of our time to investigate what must happen to matter in consequence of the laws of

motion. Here is why. Although God formed all the parts of the universe all at once, he had to bear in mind the laws of nature that he wanted to abide by so that his conduct would bear the character of his attributes. His work couldn't have remained beautiful if he hadn't related it to the laws of motion. . . . Theotimus, you have read Descartes's physics, and you'll read it some day, Aristes, for it is well worth reading. So I don't have to go into these explanations any further.

We ought now to examine what this first impress of motion had to be—the shove through which God at one instant formed the universe for a certain number of centuries; for that is a scenic look-out, as it were, from which I want to get you to look and wonder at the infinite wisdom of God in how he arranged matter. But I'm afraid that your imagination may already be worn out by the exceedingly general matters we've have been discussing, and won't have left you with attention to contemplate so vast a subject. For, Aristes, what wisdom there is in this first step in God's action, in this first impress of motion he will make! What relations he has to think about, what combinations of relations! Before this first act, God certainly knew clearly what all its results would be, including the combinations they would enter into—not only all the physical combinations but all the combinations of the physical with the moral, and of the natural with the supernatural. He compared *all* these results with *all* the results of *all* possible combinations from *all* possible alternative starting-points. He made all these comparisons in planning to make the work that was to be most excellent in ways that would be wisest and most divine. . . . So there he is, unhesitatingly resolving to take

this first step. Try to see where the first step leads, Aristes. Note that a grain of matter pushed at first to the right rather than to the left, moved with greater rather than less force, could change everything in the physical realm, and thence in the moral, and even in the supernatural! Think then of the infinite wisdom of him who has compared and regulated everything so well that from the first step he takes he orders everything to its end and proceeds majestically, invariantly, always divinely, without ever belying himself, without ever changing his mind, until he takes possession of the spiritual temple that he builds through Jesus Christ and to which he relates every step in his conduct.

Aristes: You are right to end our discussion here, Theodore, for we would soon get lost in so vast a subject.

Theodore: Think about it, Aristes, for starting tomorrow we must go into it.

Aristes: If we set sail on that ocean we'll drown.

Theodore: No, we won't, provided we stay on our ship. Remaining in the church and always subject to its authority, we can strike lightly against the rocks yet not be shipwrecked. Man is made to worship God in the wisdom of his conduct: let us try to lose ourselves happily in its depths. There can be a great reward for this: the human mind is at it best when in strict silence it worships God's perfections; but this silence of the soul can be had only after we have contemplated what is beyond us. So, Aristes, courage! Contemplate and admire the general providence of the creator. I have placed you at a vantage point from which you should discover wisdom that is incomprehensible.

ELEVENTH DIALOGUE

The same subject continued. General providence in the arrangement of bodies and in the infinitely infinite combinations of the physical with the moral, of the natural with the supernatural.

Theodore: Have you. . . . observed from the vantage point ·I gave you· the beautiful order of created things and the simple and uniform conduct of the creator?

Aristes: Yes, Theodore, but I am short-sighted. I have discovered plenty of territory, but so confusedly that I don't know what to say to you. You have placed me too high. We discover things from a distance but we don't know *what* we are seeing. You have as it were winched me above the clouds, and my head spins when I look down.

Theodore: Well then, Aristes, let's go down a little.

Theotimus: But lower down we won't see anything.

Aristes: Oh please, Theodore, a little more detail!

Theodore: Let us go down, Theotimus, since Aristes wants us to. But let the three of us bear in mind our vantage point; for we shall soon have to climb up to it again once our imaginations are somewhat reassured and strengthened by some detail that is more sensible and more within our reach.

1. Remember our bees of yesterday, Aristes. This little animal is a wonderful piece of work. How many different organs, what order, what connections, what relations in all its parts! Don't imagine that it has fewer parts than elephants do; apparently it has more. Then try to grasp the number and marvellous interplay of all the springs of this little machine. The feeble •action of light is what releases all these springs. The mere •presence of objects determines and directs all their motions. Now think about the workmanship that went into these small animals—work that is so exactly

formed and so diligently carried out! It doesn't come from their own wisdom and foresight (which they don't *have*) but from the wisdom and foresight of God, who assembled all those many springs and arranged them so wisely in relation to so many different objects and purposes. Certainly, Aristes, you would know more than has ever been known by the philosophers [here = 'philosophers and scientists'] if you knew in detail the reasons for the construction of the parts of this small animal.

Aristes: I believe it, Theodore. This is beyond us already. But if such great skill and profound understanding are necessary to make a simple little insect, what must it be like to produce an infinity of them in a nested series in which each one is more than a thousand times larger than the next in the series? (That figure is right, because each bee has a thousand offspring, and the container must be larger than what it contains.) That frightens the imagination, but the mind detects the wisdom of ·God·, the author of so many marvels.

Theodore: Why so Aristes? If the little bees are organized in the same way as the bigger ones, whoever conceives a big one can conceive an infinity of smaller ones each contained within another. So it's not the large number and small size of these animals, all of them alike, that should increase your wonder at God's wisdom. It's just that your frightened •imagination wonders at the minuteness of what is usually seen only on a large scale.

Aristes: I thought there was no such thing as wondering *too much*, Theodore!

Theodore: Yes, but your wonder must be from *reason*. Don't worry: if you enjoy wondering, you will find a great deal of material to satisfy you in the great number and small size of these bees one contained in another.

Aristes: Why so?

Theodore: Because they are *not* all alike.

Aristes: I *imagined* as much. You claimed yesterday that the larvae of these bees, and the eggs from which these larvae come, have as many organs as the bees themselves; but what likelihood is there of *that*? [He is implying that the eggs/larvae and the bees are not alike because the eggs/larvae have *fewer* organs than the bees have.]

2. Theodore: Your *imagination* was doing badly, Aristes! For, quite on the contrary, larvae have all the organic parts of bees and *also* the parts that are essential to larvae, i.e. parts that are absolutely necessary if the larvae are to be able to look about, eat, and prepare nourishing juice for the bee that they carry, in larval form, within them and that they sustain by means of these organs.

Aristes: Oh ho! So larvae are *even* more wonderful than bees: they have many *more* organic parts.

Theodore: Yes, Aristes. And the eggs from which the larvae develop are even more wonderful than the larvae themselves, and so on up the line. So bees a thousand years ago had many more organic parts than their descendants do today. This is a strange paradox. But note this: it is easy to see that general laws of the communication of motion are too simple for the *construction* of organic bodies.

Aristes: Yes, that seems right to me. Still, these *laws* are sufficient to make things *grow*, and that is a great thing. Some people claim that insects come from putrefaction. But if an insect has as many organic parts as a bull, I would as soon say that the big animal could be formed from a heap of mud as that bees are engendered from a piece of rotten flesh.

Theodore: You are right. And just because the laws of motion can't *construct* bodies that have an infinity of organs, the insects must be *already constructed*, and *contained in* the larvae from which they emerge. But, Aristes, don't think that when the bee is contained in the larva from which it is to emerge it has the same relations of size, solidity, and configuration as it will have when it comes out. For it has often been observed that, for example, the head of a chicken embryo in the egg—analogous to the larva of an insect—is larger in proportion to the rest of the body than is the head that the hatched chicken will have, and that the bones get their consistency only after the other parts. All I'm saying is that all the organic parts of bees are formed in their larvae, and fit so well with the laws of motion that the bees can grow and take their shape as bees just through their own construction and the efficacy of the laws of motion, without God's providing finishing touches through extraordinary providence, *i.e.* through miracles. *This* is what constitutes the incomprehensible wisdom of divine providence. It is how providence can be justified, even though it often produces monstrous animals; for God isn't obliged to perform miracles to prevent monsters from being formed. At the time of creation he constructed animals and plants for future centuries. He established laws of motion necessary for making them grow. Now he *rests*, because all he does now is to follow those laws.

Aristes: What wisdom there is in the general providence of the creator!

Theodore: Do you want us to climb back up to the ‘scenic look-out’ from which we can survey the marvels of providence?

Aristes: It seems to me I am there, Theodore. I wonder at, and I worship with all the respect of which I am capable, the infinite wisdom of the creator in the variety and incomprehensible precision of the various motions that he initially gave to the small portion of matter in which he formed all at once the bees for all time. The *bees*? Not just *them*, but an infinity of larvae that can be regarded as animals of a different species; and he has crammed in an insensible nutriment by a thousand means that are beyond us. All this is done in accordance with the laws of motion, laws that are so simple and so natural that, although God does •everything by means of them in the ordinary course of his providence, it seems that he does •nothing, doesn’t affect anything, in short that he is resting.

Theodore: You find then, Aristes, that this action is divine, and that it is more excellent than what is credited to God by some other theologies. For example, more excellent than that of a God who acts at every moment by particular volitions, instead of following these general laws; or a God who wants to free himself from the cares of governing of his work, and who therefore gives to all the insects *souls*, or rather *intellects* strong enough for them to be able •to form their bodies or at least •to direct them according to their needs, regulating everything they do.

Aristes: What a comparison!

3. Theodore: Courage then, Aristes! Look further! At the instant when God first set into motion the parts of that little

bit of matter from which he made bees—or any other insect you please—for all time, what do you think he foresaw? At a particular place and time, one little bee caused a man to turn his head so that he caught sight of a woman for whom he then developed a criminal passion, whereas without the bee he would never have noticed her. At another time and place, a bee unwisely got into the nostrils of a horse, causing it to rear up and throw its rider, who was killed by the fall; he was the best king in the world, and his tragic death had an infinity of unfortunate consequences. Now, do you think that at the moment of the first push God foresaw all that? But let us not combine the physical with the moral, because that involves problems that can’t be resolved without appeal to certain principles that I haven’t explained to you. Do you think that God foresaw that a certain insect by a certain motion would produce something monstrous or disordered simply in the material world?

Aristes: Who can doubt that God foresaw all the consequences of that first input of motion that turned a certain portion of matter, all in an instant, into the whole species of bees? He even foresaw at a glance all the consequences of *each* of the infinity of motions any *one* of which he could have given at the outset to that same portion of matter. He also foresaw all the consequences of all the combinations of that portion of matter with all the others, and how they would move according to each of the possible choices of specific general laws.

Theodore: Well, then, Aristes: wonder at and worship the depth of the wisdom of God who devised that first impress of movement into a certain small portion of matter, after an infinite number of comparisons of relations, all made by an eternal act of his intellect. From that portion of matter, move on to another, then to a third. . . Survey the *entire universe*,

and then judge, on the basis of one sweeping overview, the infinitely infinite wisdom that settled on the first input of motion by which the whole universe was formed in all its parts and for all times—doing this in such a way that its result is assuredly the most beautiful work that can be produced in the most general and simplest ways, or rather in such a manner that the work and the ways of producing it express, better than any other work made in any other way, the perfections that God possesses and glories in possessing.

Aristes: [He exclaims over the size of this achievement of God's. Then:] You have placed me at the true vantage point from which we see the infinite wisdom of the creator.

Theodore: Do you know, Aristes, that as yet you are seeing nothing?

Aristes: *Nothing?*

4. Theodore: ·Actually, you see· quite a lot, but it is as nothing compared to the rest. You have surveyed the infinitely infinite combinations of motions of matter. But combine the ·physical with the ·moral, ·i.e.· ·motions of bodies with ·volitions of angels and men. Combine in addition the ·natural with the ·supernatural, and relate all this to Jesus Christ and to his church. It's not likely that in the first movements that God put into matter he neglected to direct his action with a view to how these motions ·and their consequences· would relate to his great, his *principal* work—for that's what his church *is*. Understand then how wisely the first motions of matter had to be settled if it is true that

the ·order of nature is subordinate to the ·order of grace,

if it is true that

death overtakes us in consequence of natural laws,

and there's nothing miraculous about a man's being crushed when a house collapses on him.

For you know that it is the fortunate or unfortunate moment of death on which our eternity depends.

[The point is: How we spend eternity depends on our spiritual state when we die; that state may vary from time to time; so *when* we die may make the difference between salvation and damnation for us. The statement that the order of nature is subordinate to the order of grace means that in God's ordering of the universe it is the case that

x dies at time t because that will send him (say) to heaven and *not* that

x will go to heaven because he dies at time t.

Therefore, when God at the instant of creation creates all the structure and sets it in motion, he has to foresee which material events—·e.g. times of dying·—will relate in suitable ways to the supernatural events that he plans to have happen.]

Aristes: Not so fast, Theodore. It is God who fixes that moment. ·The time of· our death depends on him. It's only God who can give us the gift of staying in existence.

5. Theodore: Who doubts that? Our death depends on God in several ways—at least seven of them·. It **(1)** depends on God because it depends on us: it is in *our* power to leave a house that threatens to collapse, and it is God who gave us that power. It **(2)** depends on God because it depends on the angels: God gave *them* the power and the commission to govern the world—the exterior of his church so to speak. ·If we die at a time that is fortunate for us·, our fortunate death **(3)** depends on God because it depends on Jesus Christ: in *him* God has given us a head who watches over us and won't allow an *unfortunate* death to come upon us if we ask him in the right way for the gift of persevering [here = 'living for ever']. But also (and you seem to be questioning this) our death also **(4)** depends on God in that he ordered and produced that first input of motion which was to have among its consequences that a certain house would collapse

at a certain time in certain circumstances. Everything (5) depends on God because it is he who established all the causes, free causes as well as necessary ones, and his foreknowledge is so great that he uses the free as well as the necessary. For God didn't communicate his power to minds at random: he did it only after having foreseen all the results of the movements of minds as well as those of matter. Besides, everything (6) depends on God because no cause can act except through the efficacy of God's power. Finally, everything (7) depends on God because he can interrupt the ordinary course of his providence by miracles, and he does so whenever the unchangeable order of his perfections requires it, by which I mean: whenever the demands of his unchangeability are of less moment than the demands of his other attributes. But we'll explain all this to you more exactly later on. But take this in now: Our salvation is already assured in the network of causes, free as well as necessary, and that all the effects of general providence are interlinked in such a way that, because of the general laws, •the tiniest motion of matter can contribute to an infinity of important events, and •each event depends on an infinity of subordinate causes. You may marvel yet again at the depth of the wisdom of God: before taking his first step, he related the first motions of matter not only to •all the natural or necessary results of this step but also—with even more reason—to •all the moral and the supernatural results according to every possible supposition. That is, he saw what *all* the physical, moral, and supernatural implications would be of his 'first step', for *every* possible first step and for *every* possible set of laws of motion.

Aristes: Certainly, Theodore, from the vantage point at which you have placed me I can see a wisdom that has no limits. I understand clearly and distinctly that general

providence bears the marks of an infinite intellect, and that it is incomprehensible—but not in the way that those who have never examined it find it incomprehensible. *Oh, the depth of the treasures of God's wisdom and knowledge! How impenetrable are his judgments and how incomprehensible his ways!* A providence founded on an absolute will is far less worthy of the infinitely perfect being; it bears the character of God's attributes much less than this providence that is ordered by the inexhaustible treasures of *wisdom and of foreknowledge*. [This is aimed at Descartes, who held that God does not have reasons for what he does, so that when he decides to do something the rock-bottom story is just that *he decides to do it*—an employment of his will which is 'absolute' = unconditioned = not constrained by reasons.]

6. Theodore: That is what I wanted to get you to see. Let us now get down to some details that will relax your mind and make •sensible some of the things you have just been •conceiving. Have you never amused yourself by keeping in a box and feeding a caterpillar or some other insect that is commonly thought to be transformed into a butterfly or a fly?

Aristes: Oh my, Theodore! From the large you suddenly jump back to the small. You keep coming back to insects.

Theodore: That's because I like it when we admire something that everyone else regards as negligible.

Aristes: I remember taking care of silkworms when I was a child. I enjoyed seeing them make their cocoons and bury themselves alive in them, and then later revive themselves.

Theotimus: Right now, Theodore, I have in a sandbox an amusing insect of whose natural history I know a little. Its Latin name is 'Formica leo', and it is transformed into one of those species of insects that have a very long belly and are

called, I believe, *demoiselles*. [The word is not translated because the standard insect-related translation of it, 'dragonfly', is wrong here: *both* the name 'Formica leo' *and* what the two men say about how the insect lives and reproduces show that their topic is not the dragonfly but the lion ant. The flying form of this used to be lumped in with dragonflies under the label *demoiselle*; the two look a little alike.]

Theodore: I know what it is, Theotimus. But you are wrong in believing that it is transformed into a *demoiselle*.

Theotimus: I have *seen* it, Theodore: it is an established fact.

Theodore: Yes, Theotimus, and the other day I saw a mole transformed into a blackbird! How do you think one animal can be *transformed* into another? That would be as difficult as for insects to be *formed* from a bit of rotten flesh.

Theotimus: I understand, Theodore. Formica leo isn't transformed. It simply divests itself of its clothing and its armour and abandons its horns. . . . I have in fact seen these horns in the tomb that they make in the sand and from which they emerge—no longer as Formica leo but as the more magnificent *demoiselle*.

Theodore: There you are. Formica leo and *demoiselle* are not strictly two animals of different species: the former *contains* the latter. [Theodore then describes in lengthy detail the behaviour of Formica leo, including its food-hunting and finally its making a 'tomb' in which it buries itself. He continues:] And then, after some weeks we see it come out in all its glory and in the form of a *demoiselle*, having left several envelopes and cast-off skins of Formica leo. Now, how many organic parts must there be for all these motions? How many vessels are needed to conduct the blood with which a Formica leo nourishes itself and its *demoiselle*? It is clear then that this animal, having stripped itself of all those

parts in its tomb, has many fewer organs when it appears in the form of a flying insect than it had in the form of Formica leo (unless we maintain that organs can be constructed and mutually adjusted through the laws of motion, ·which we know they can't·). ·I stress the need for a system of •organs that make all these movements possible, because the only alternative is· to suppose that God empowered some •intellect to take care of the needs of these insects, maintaining the species and constantly renewing it; and that supposition makes •divine providence ·merely· •human and makes it bear the marks of a limited intellect.

Aristes: Certainly, Theodore, Formica leo has a greater diversity of organs than the flying insect does, and for the same reason the silkworm has more than does the butterfly. [He adds details about silkworms, leading on to:] There is more artistry in the eggs of silkworms than in the worms themselves. Given that the organic parts of the worms are *in* the egg, as you say, it is clear that the whole egg contains more artistry than the worms alone, and so on ad infinitum.

Theodore: I wish you had read Malpighi's book on the silkworm, and what he has written on the formation of the chicken in the egg. You would then perhaps see that everything I tell you has some basis. Yes, Aristes, the egg is the work of an infinite intellect. Men find nothing in the silkworm's egg; and in the chicken egg they see only the white and the yolk and perhaps threads that they also take for the embryo of the chicken. . . . [There ensues a long conversation about eggs, and the different ways in which they fit into the life-spans of different species of animal. All this is offered as yet further proof of the amazing complexity of God's ordinary providence. This takes us to near the end of the next section.]

7. . . . Aristes: It is incomprehensible.

Theodore: It is indeed. But it is good to understand clearly that God's providence *is* absolutely incomprehensible.

8. Theotimus: Theodore, I must tell you of an experiment that I made. One day in the summer, I took a lump of meat that I enclosed in a bottle, and I covered it with a piece of silk. I saw various flies come to lay their eggs on this silk, and as soon as the eggs had hatched, the larvae chewed through the silk and let themselves fall onto the meat, which they very soon devoured. But by then it smelled too bad, so I threw it all away.

Theodore: That is how flies come from what is rotten. . . . After the larvae have eaten well, they enclose themselves in their cocoons and come out as flies; and because of that the ordinary man thinks that insects come from what is rotten.

Theotimus: That is certainly right. Several times I have put some meat in a clean bottle and then hermetically sealed it, and I have never found larvae in the bottle [After some more discussion of the idea that flies are generated by rotten meat—a topic that Theodore thinks too feeble to deserve much discussion—the conversation wheels back onto familiar ground. The following few speeches talk of comprehending or conceiving *that* such-and-such is the case. The topic isn't •having an idea of *how* it might be the case, but rather •grasping the mere thought of its *being* the case somehow.]

Aristes: Certainly we can't comprehend that a machine composed of an infinity of different organs, perfectly well-coordinated and arranged for different tasks, might be merely the effect of that simple and natural law that *a body is moved in the direction of least pressure*. For that law is more fitted to destroy this machine than to form it. But no more can we comprehend that animals *contain* all their descendants.

Theodore: If we don't comprehend that this is so, we do at any rate comprehend that it isn't impossible since matter is infinitely divisible; but we shan't ever comprehend that laws of motion might *construct* bodies composed of an infinity of organs. We have enough trouble conceiving that these laws might gradually make them grow. What we easily conceive is that the laws can destroy them in a thousand ways. We don't comprehend *how* the union of two sexes can be a cause of fertility, but we easily comprehend that this is not impossible—given that the bodies in question are already formed. But that this union should cause the organization of the parts of an animal, and of the whole animal—that is certainly something we shall never comprehend. [Theodore's main point here is a denial of the main implication of what Aristes has just said.]

Aristes: I have heard, though, that Descartes had started a Treatise on *The Formation of the Foetus* in which he claims to explain how an animal can be formed from the mixture of the seed of the two sexes.

Theodore: That philosopher's unfinished work can help us comprehend how the laws of motion suffice to make the parts of an animal grow little by little. But no-one will ever show that these laws can form the parts and bind them all together. Apparently Descartes recognized this himself; for he did not pursue his ingenious conjectures any farther.

[In the course of the ensuing conversation, Aristes suggests that Descartes might have done better if he had applied his ideas only to plants, not to animals. Then:]

9. Theodore: By no means. The enterprise would have been equally impossible. If seeds didn't contain in miniature what we see on the large scale in the plants, the laws of motion would never be able to make them fertile.

Aristes: Plants in seeds, an apple tree in a pip! This is still hard to believe, even though we know that matter is infinitely divisible.

Theotimus: I made an observation that greatly contributed to persuading me of this. . . . I took about twenty of the largest beans, Aristes, opened two or three of them, and saw that they were made up of two parts that are easily separated and (I have learned) are called their 'lobes'. [He planted the others, removing and examining some every couple of days for two weeks, and found that •the seed was partly caught between the lobes, •that the root grew down from part of the seed while •the plant grew upwards from a different part, and that in due course the lobes turned into above-ground leaves which protect the central part of the plant.] Thus I was persuaded that the seed of the bean contained the plant's root and the plant itself. and that the bean's lobes were the 'soil' in which this small plant was already seeded and already had its roots. . . .

Aristes: I believe all of that. But that this seed contains *the plant we shall see in twenty years* is what is difficult to imagine, and your observation doesn't show that it is so.

Theotimus: True. But we do now see that the plant is in the seed. Without the help of a microscope we can see that even in winter the tulip is in its bulb. We can't now see in the seed every part of the plant. Come on, then, Aristes, let's try to *imagine* them! We *can't* imagine how the plants that will appear in a hundred years are in the seed. This is something we have to *conceive*. It can at any rate be conceived. But we do not see that plants can be formed purely through the general laws of the communication of motion. We can't imagine how that can happen. Even less can we conceive it. So what reasons can we have for maintaining that this does happen, and for denying what Theodore was just telling us?

Aristes: I would be strongly inclined to believe that God conserves animals and plants by particular volitions—deciding separately on each movement of each portion of matter—if Theodore hadn't shown me that if we take away from providence its generality and its simplicity we make it human and make it bear the character of a limited intellect and of a particular cause. So we must come back to where we were, and believe that when God first put motion into matter he structured it so wisely that he formed all at once the animals and the plants for all time. This *could* happen, because matter is infinitely divisible. And it *did* happen, because this is the action that is most worthy of the infinitely perfect being.

Theotimus: Add to that, Aristes, that scripture teaches us that God is now at rest and that at the beginning he didn't just make the plants for the first year of creation but also made seed for all the rest: 'Let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself, upon the earth' (*Genesis* 1:11). Those last words, 'whose seed is in itself', added to these, 'and he rested on the seventh day from all his work which he had made' (2:2), seem to me to indicate that God doesn't act to conserve his creatures in the way he acted to form them in the first place. He has only two ways of acting: by •particular volitions, and through •general laws. And what he is doing now is just to follow his own laws except where there happen to be good reasons obliging him to interrupt the course of his providence—reasons I don't think you will find in the needs of animals and of plants.

10. Aristes: Undoubtedly not. For ·even· if there were only half as many plants and animals as there are, there would still be plenty. Tell me, what is the point of there being so many plants that are useless to us, so many insects

that bother us? These little animals are the work of infinite wisdom, I admit. But that's just what makes the difficulty. Why should God form so many excellent works to nourish the swallows and devour our buds? Wouldn't the world be just as perfect if caterpillars and chafers didn't come and strip trees of their leaves and their fruit?

Theodore: Aristes, if you judge God's work exclusively in relation to yourself, you will soon blaspheme against providence; you will soon make strange judgments about the wisdom of the creator.

Aristes: *What!* Isn't it for •man that God made everything?

Theodore: Yes, Aristes, for •one •man in particular, Jesus Christ, the man of whom St Paul wrote in *Hebrews 2* that God has subjected *everything* to him. God made everything for his church, and made his church for his son; so he made everything for his son. But—coming now to •man in general—if God *did* make fleas 'for man' it was to bite and to punish him! Most animals have their own special vermin, but man has several species •of vermin• all to himself—that's how true it is that God made everything for man! It was to devour man's wheat that God made locusts; it was to infest man's lands that God gave wings (as it were) to the seeds of thistles; it was to blight all man's fruit that God formed an infinity of species of insects. In this sense, if God didn't do everything 'for man', he came close!

Bear in mind, Aristes, that God's foresight is infinite. . . . Before giving to matter the first push that forms the universe for all time, . . . he foresaw that in certain circumstances man would sin, and that his sin would be passed along to all his posterity in consequence of the laws of the union of soul and body. Hence, since he willed to permit this deadly sin, he must in the light of his foresight have combined the physical with the moral so wisely that all his works would

always inter-relate in the most harmonious possible way. And a part of this perfect harmony consists in the order of justice according to which, •man having revolted against •the creator as God foresaw must happen, •creatures revolt (as it were) against •man and punish him for his disobedience. That is why so many different animals make war on us.

11. Aristes: What? Before man sinned God had *already* prepared the instruments of his vengeance? For you know that man wasn't created until after all the rest. That seems very harsh to me.

Theodore: Man didn't have enemies before his sin; his body and his environment were submissive to him; he didn't have pains inflicted on him. It was right that God protected him by special providence, committing him to the care of some guardian angel to prevent the unfortunate consequences of the general laws of the communication of motion. If man had preserved his innocence, God would have always had the same concern for him, for he never fails to do right by his creatures. Well, then! Don't you *want* God to use his foresight and choose the wisest possible combination of the physical and the moral? Would you *want* an infinitely wise being •not to make his conduct have the marks of his wisdom? or •to make man and *try him out* before making the creatures that trouble us? or •to change course and revise his work after Adam sinned? Aristes, God never has second thoughts about anything he has done, and never belies himself •by working in ways that don't exhibit his attributes. [The remainder of this paragraph expands Malebranche's words—though apparently not his thought—in ways that •small dots• can't easily indicate.] God's first step is controlled by his foresight of everything that is to follow it—but that's only a tiny part of the story. It's not just a matter of surveying

•everything that will ensue if the first shove is S_1 , but also comparing that with

•everything that will ensue if the first shove is S_2 ,
 everything that will ensue if the first shove is S_3 ,
 and so on through countless possible first moves; and *each* of those sets of consequences is a stand-in for an infinity of such sets, corresponding to the infinity of possible sets of natural laws from which God has to choose just one; and the evaluation of each of the members of this infinity of infinities of consequences is also a stand-in for countless different evaluations, depending on how God chooses to link the physical and moral realms, and the natural and supernatural realms. I say it again, Aristes: God foresaw that man in certain circumstances would rebel. After having compared all the different possible ways things might go, he thought he must permit sin. (I say *permit*, for he didn't *make* man sin, that is, subject man to the necessity of sinning.) So he was bound in wisely combining the physical with the moral to make his action bear the marks of his foresight. So (you say) he prepared the instruments of his vengeance prior to sin. Why not, since he foresaw this sin and wanted to punish it? If God had made innocent man miserable, if he had *used* these instruments prior to sin, we would have something to complain of. But is a father forbidden to keep rods ready to chastise his child, especially if he foresees that the child is certain to disobey him? Shouldn't he also show the child these threatening rods in order to keep him to his duty? Can we doubt that bears and lions were created before sin? And doesn't it suffice to believe that these cruel beasts which God now uses to punish us respected Adam's innocence and the divine majesty that he reflected? But if you think it bad that God prepared instruments for punishing man before any sin was committed, console yourself. For God by his foresight

also found the remedy for the evil before it had happened. Certainly, before Adam's fall God already had the plan of making his church holy through Jesus Christ. For St Paul teaches us that, in their union that preceded sin, Adam and Eve were a representation of Jesus Christ and his church:

·A man. . . shall be joined unto his wife, and they two shall be one flesh·. This is a great mystery: but I speak concerning Christ and the church. (*Ephesians* 5:31-2)

—so that the •first Adam. until he sinned, was the figure of the •second ·Adam·, 'the figure of him that was to come' (*Romans* 5:14). . . . God permitted sin. Why? Because he foresaw that

•his work redeemed in a certain way
 would be better than
 •the same work as first constructed.

He established general laws that would bring ice and hail to the fields; he created cruel beasts and an infinity of nasty animals. Why so? Because he foresaw sin. He set up an infinity of marvellous relations among all these works; he pre-figured Jesus Christ and his church in a thousand ways. That is an effect of his foresight and his wisdom, and a sure sign of them. . . .

12. Aristes: I understand what you are saying. God had good reasons for creating large animals that could punish us. But why so many small insects that do us no good and no harm either, ones whose mechanisms may be more marvellous than those of the large animals? ·It wasn't so that these works would increase our admiration for God, because· the mechanisms are hidden from our eyes and don't give us knowledge of the creator's wisdom.

Theodore: Without pausing to prove that even the smallest animal has some relation to us, I reply that God's chief

purpose in forming these small insects was not •to help or hurt *us* but rather •to adorn the universe with works worthy of his wisdom and his other attributes. The ordinary man treats •those• insects as negligible, but some men do attend to them; and apparently even angels wonder at them. Anyway, these small works do express God's perfections and make the universe more perfect in itself though less comfortable for sinners; and that is enough reason for God to have created them (given that he could conserve them without bringing in extra general laws)—enough reason, that is, even if the insects in question were neglected by every intellect. . . .

Aristes: I understand that, Theodore. A world filled with an infinity of animals large and small is more beautiful and shows more intelligence than would another in which there were no insects. And such a world doesn't (so to speak) *cost* God more than any other, i.e. doesn't require a more complex and less general providence, and so it bears as much as any other •possible world• the character of divine unchangeability. So we shouldn't be surprised that God made so many insects. [Sections 13 and 14 contain a long

exchange of views about the multifarious ways in which the natural world 'figures' or 'represents' Jesus Christ and/or his relationship to the church. This starts with **Aristes:** 'Grubs crawl on the ground, leading there a sad and humiliating life. But a tomb is made from which they emerge in glory. It has seemed to me that by this God wanted to represent the life, death, and resurrection of his son and indeed of all Christians.' **Theodore** sees Jesus as represented in the plant world: 'The seed that we sow must die, so to speak, in order to be revived and yield its fruit. I find here a natural representation of Jesus Christ, who died to regain life in glory.' **Theotimus** adds another: 'In the dispositions of bodies God has represented the dispositions of the holy soul of Jesus, and especially the extremeness of his love for his church. . . . The lower animals are not capable of *love*, strictly speaking, but they express that great passion in their behaviour, and preserve their species in about the same way that men do. So they represent naturally the violent love of Jesus Christ that led him to shed his blood for his church.' This material, nearly one-sixth of the whole dialogue, is low-grade theological poetry, and without philosophical interest even of an indirect kind.]