

Principles of Philosophy

René Descartes

Copyright © Jonathan Bennett 2017. All rights reserved

[Brackets] enclose editorial explanations. Small ·dots· enclose material that has been added, but can be read as though it were part of the original text. Occasional •bullets, and also indenting of passages that are not quotations, are meant as aids to grasping the structure of a sentence or a thought. The basis from which this text was constructed was the translation by John Cottingham (Cambridge University Press), which is strongly recommended. Each four-point ellipsis indicates the omission of a short passage that seemed to be more trouble than it is worth. Longer omissions are reported between square brackets in normal-sized type.—Descartes wrote this work in Latin. A French translation appeared during his life-time, and he evidently saw and approved some of its departures from or additions to the Latin. A few of these will be incorporated, usually without sign-posting, in the present version.—When a section starts with a hook to something already said, it's a hook to •the thought at the end of the preceding section, *not* to •its own heading. In the definitive Adam and Tannery edition of Descartes's works, and presumably also in the first printing of the *Principles*, those items were not headings but marginal summaries.

First launched: March 2008

Last amended: January 2012 (a confusion relating to II.15)

Contents

Part 1: The principles of human knowledge	1
Part 2: The principles of material things	22
Part 3: The visible universe	42
Part 4: The earth	58

Part 1: The principles of human knowledge

1. The seeker after truth must once in his lifetime doubt everything that he can doubt.

We're bound to have many preconceived opinions that keep us from knowledge of the truth, because in our infancy, before we had the full use of our reason, we made all sorts of judgments about things presented to our senses. The only way to free ourselves from these opinions, it seems, is just once in our lives to take the trouble to doubt everything in which we find even the tiniest suspicion of uncertainty. [Here and throughout this work, 'preconceived opinion'—following Cottingham's translation—translates *praejudicatum*. Sometimes, for a change, it will be translated as 'prejudice', but always meaning something believed in advance, believed long ago and then hung onto. It lacks much of the force of 'prejudice' as we use that word today.]

2. What is doubtful should even be considered as false.

It will be useful to go even further than that: when we doubt something we should think of it as outright *false*, because this will bring more thoroughly into the open truths that are certainly true and easy to know.

3. But this doubt shouldn't be carried over into everyday life.

While this doubt continues, it should be kept in check and used only in thinking about the truth. In ordinary practical affairs we often have to act on the basis of what is merely probable, not having time to hold off until we could free ourselves from our doubts. Sometimes we may—for practical reasons—even have to choose between two alternatives without finding either of them to be more probable than the other.

4. The reasons for doubt regarding sense-perceptible things.

When we're focussed on the search for truth, we'll begin by doubting the existence of the objects of sense-perception and imagination. There are two reasons for this. **(1)** We have occasionally found our senses to be in error, and it's not wise to place much trust in anyone or anything that has deceived us even once. **(2)** In our sleep we regularly *seem to see* or imagine things that don't exist anywhere; and while we are doubting there seem to be no absolutely reliable criteria to distinguish being asleep from being awake.

5. The reasons for doubting even mathematical demonstrations.

We'll also doubt other things that we used to regard as perfectly certain—even rigorous mathematical proofs, even principles that we used to regard as self-evident. There are two reasons for this too. **(1)** We have sometimes seen other people make mistakes in such matters, accepting as utterly certain and self-evident propositions that seemed false to us. **(2)** More important: we have been told that we were created by a God who can do anything. Well, for all we know he may have wanted to make us beings of such a kind that we are *always wrong* in our beliefs, even ones that seem to us supremely evident. This may seem extravagant, but it shouldn't be brushed aside. We have encountered *some* cases of error about something of which the person was perfectly certain, and it's equally possible that certainty is *always* accompanied by error. 'Mightn't we have been brought into existence not by a supremely powerful God but by ourselves or by some other creator?' Yes, but the *less* powerful our creator is, the *more* likely it is that we're an imperfect product that is deceived all the time!

6. We have free will, enabling us to avoid error by refusing to assent to anything doubtful.

Still, whoever created us and however powerful and however deceitful he may be, we experience within ourselves a *freedom* to hold off from believing things that aren't completely certain and thoroughly examined. So we can guard ourselves against ever going wrong.

7. We can't doubt that we exist while we are doubting; and this is the first thing we come to know when we philosophize in an orderly way.

In rejecting everything that we can in any way doubt, even pretending to think it false, we can easily suppose that there's no God and no heaven, that there are no bodies—so that we don't *have* bodies, hands and feet and so on. But we can't suppose that we, who are having such thoughts, are nothing! 'At a time when I am thinking, I don't exist'—that's self-contradictory. So this item of knowledge—*I'm thinking, so I exist*—is the first and most certain thing to occur to anyone who philosophizes in an orderly way.

8. In this way we discover how soul and body differ, i.e. what the difference is between a thinking thing and a corporeal one.

This is the best way to discover what sort of thing the mind is, and how it differs from the body. How does it do that? [Descartes answers this in terms of 'we'; this version uses the singular 'I' just for clarity's sake.] Well, here I am supposing that everything other than myself is unreal, while wondering what sort of thing I am. I can see clearly that *I* don't have any of the properties that bodies have—I don't have a spatial size or shape, and I don't move—because those properties all fall on the supposed-to-be-unreal side of the line, whereas we've just seen that I can't suppose that *I* am unreal. So I find that the only property I can ascribe to myself is *thought*. So

my knowledge of my thought is more basic and more certain than my knowledge of any corporeal thing.

9. What is meant by 'thought'.

I take the word 'thought' to cover everything that we are aware of as happening within us, and it counts as 'thought' *because* we are aware of it. That includes not only understanding, willing and imagining, but also sensory awareness. To see some of the force of this, let's connect it with the thought-experiment I conducted in section 7. Consider these two inferences:

I am seeing, therefore I exist.

I am walking, therefore I exist.

If I am using 'seeing' and 'walking' to name bodily activities, then neither inference is secure, because I might think I am seeing or walking in *that* sense at a time when my eyes are closed and I'm not moving about (this happens in dreams); I might even think that I am seeing or walking at a time when I don't have a body at all. But if I use 'seeing' and 'walking' as labels for the actual *sense of* or *awareness of* seeing or walking, then the inferences are perfectly secure, because they don't go beyond the mind, which senses or thinks that it is seeing or walking.

10. Logical definitions for very simple and self-evident matters only make them more obscure. Don't think of such items of knowledge as hard to discover.

I'm not going to explain many of the other terms (·in addition to 'thought'·) that I have already used or will use later on, because they strike me as being sufficiently self-explanatory. I have often noticed that philosophers make the mistake of trying to explain things that were already very simple and self-evident, by producing logical definitions that make things worse! When I said that the proposition *I am thinking, therefore I exist* is 'the first and most certain thing to occur

to anyone who philosophizes in an orderly way', I wasn't meaning to deny that one must first know •what thought, existence and certainty are, and know •that it's impossible for something to think while it doesn't exist, and the like. But these are utterly simple notions, which don't on their own give us knowledge of anything that exists; so I didn't think they needed to be listed.

11. How our mind is better known than our body.

The knowledge of our mind is not simply prior to and (1) more certain than the knowledge of our body, but is also (2) more evident. [Descartes is here distinguishing (1) being rightly sure that P is true from (2) having a good grasp of *why* P is true.] To see why this is so, we need to take account of something that the natural light clearly shows us, namely that *nothingness doesn't have any attributes or qualities*. This implies that wherever we find some attributes or qualities there must be some thing or substance that they belong to; and the more attributes we discover in a single •thing or substance the more brightly open is our knowledge of •it. Well, we find more attributes in our mind than in anything else, because anything that gives me knowledge of something other than myself *has to* lead me to a much surer knowledge of my own mind. For example, if I think that the earth exists because I touch it or see it, this very fact supports even more strongly my belief that my mind exists; because my basis for thinking that the earth exists is compatible with the earth's not existing, but it isn't compatible with my mind's not existing! And that's just one example out of many.

12. Why not everyone knows this.

Some philosophers don't see this, but that's because they haven't done their philosophizing in an orderly way, and haven't carefully enough distinguished the mind from the body. They may have been more certain of their own

existence than of the existence of anything else, but they haven't seen that this certainty required that 'they' were *minds*. Instead of that, they thought that 'they' were only bodies—the bodies that they saw with their eyes and touched with their hands, the bodies that they wrongly credited with the power of sense-perception. *That's* what prevented them from perceiving the nature of the mind.

13. The sense in which knowledge of everything else depends on knowledge of God.

So the mind, knowing itself but still in doubt about everything else, casts about for ways to extend its knowledge. •First, it finds within itself ideas of many things; and it can't be mistaken about these ideas, as distinct from other things that may resemble them, ·i.e. other things that they may be ideas of·. •Next, it finds ·within itself· certain 'common notions', from which it constructs various proofs; and while it is attending to them the mind is completely convinced of their truth. [The phrase 'common notion' is an unavoidable translation of Descartes's *communis notio*. It's a technical term, referring not to notions or ideas but to whole propositions, specifically ones that are elementarily and self-evidently true. See section 49.] For example, the mind contains ideas of numbers and shapes, and also has such common notions as:

•If you add equals to equals the results will be equal; from which it's easy to demonstrate that *the three angles of a triangle equal two right angles* and the like. So the mind will be convinced of the truth of this conclusion and others like it, for as long as it is *attending to* the premisses from which it deduced them. But it can't attend to them all the time, and ·during times when it is not doing so, doubts can start up again·. At such a time, the mind can think like this:

'I still don't know that I wasn't created with a nature that would make me go wrong even in matters that

seem to me most evident, so it's right for me to doubt such conclusions.'

So it's not possible for the mind to have certain knowledge that will remain certain even when the basis for it isn't being kept consciously and attentively in mind—it's not possible, that is, until the mind comes to know the Author of its being.

14. Necessary existence is included in our concept of God—from which it follows that God exists.

Surveying its various ideas, the mind finds one that stands out from all the others—it's the idea of a supremely intelligent, supremely powerful and supremely perfect being. And unlike other ideas that convey at most that the things they are ideas of *may exist contingently*, this idea of God is clearly seen by the mind to involve God's *necessarily* existing *eternally*. There's nothing weird or deviant about inferring God's existence from the idea of God. When the mind sees that the idea of *triangle* contains having-three-angles-equal-to-two-right-angles, it becomes convinced that any triangle *does* have three angles equalling two right angles. And the mind is arguing in the same way when, seeing that the idea of *supremely perfect being* contains existing-necessarily-and-eternally, it concludes that a supreme being *does* exist necessarily and eternally.

15. None of our other concepts contains necessary existence in this way. All they contain is contingent existence.

The mind will be encouraged to accept this result if it considers that it can't find within itself any other idea that contains necessary existence in this way. And this leads it to grasp that the idea of a supremely perfect being, far from being something fanciful that the mind has invented, is a representation of a true and immutable nature that can't not exist, since necessary existence is contained within it.

16. To some people it's not obvious that God must exist; that's because of preconceived opinions.

As I said, our mind will easily accept this if it first completely frees itself from preconceived opinions. We're accustomed to distinguishing (1) essence from (2) existence—e.g. distinguishing (1) 'What makes a thing a triangle?' from (2) 'Are there any triangles?'—in connection with all things other than God. We are also accustomed to sheerly *making up* various ideas of things that don't and never did exist anywhere. So at a time when we aren't focussing on the idea of the supremely perfect being, we can easily suspect that the idea of God may be one of the ideas that we chose to invent, or anyway one of the ones that don't include existence in their essence.

17. The greater the representative perfection in any of our ideas, the greater its cause must be

When we reflect further on our ideas, we see that two or more ideas that aren't very different considered merely as modes of thinking [= 'psychological episodes'] may differ greatly in what they represent, i.e. what they are ideas of. And we also see that the greater the amount of representative perfection an idea contains, the more perfect its cause must be.

[Descartes means by

'Idea x contains perfection P representatively'
exactly the same as

'Idea x represents something as having perfection P'.

The terminology of adverbly *containing* P is potentially misleading; but we'll see in a moment that Descartes needs it for the claim he is making here to be plausible.] Suppose someone has an idea of a highly intricate machine. What caused him to have it? That's a legitimate question, which might be answered by:

'He once saw such a machine that had been made by someone else', or 'Being skilled in mechanics (or being just plain brilliant), he thought it up for himself.'

All the intricacy that the idea contains merely representatively—as in a picture—must be contained in its cause, whatever kind of cause it turns out to be; and it must be contained not merely •representatively but •actually, either straightforwardly or in a higher form.

[Three points about this paragraph: •Descartes adds ‘... at least in the case of the first and principal cause’. This seems to allow that an idea representing a certain perfection might be caused by something that has that perfection via a causal chain whose intermediate members *don’t* have it; but that would destroy Descartes’s argument; so perhaps it’s not what he meant, though it’s hard to read him any other way. Anyway, this is the only appearance of this thought, and we can safely forget it. •Descartes and others had the notion of something’s having a property ‘in a higher form’ (Latin: *eminenter*) mainly so that, for example, God could cause something to be square or slippery without himself being straightforwardly square or slippery! •A widely misunderstood fact about Descartes’s terminology: He distinguishes

(1) containing P representatively from (2) having P actually, and *within* the ‘actually’ category he distinguishes

(2a) (actually) having P straightforwardly from (2b) (actually) having P in a higher form.

The trouble comes from his using one adverb, *formaliter*, usually translated by ‘formally’, sometimes to express (2) as against (1) and sometimes to express (2a) as against (2b). In the present version, ‘formally’ will not occur.]

18. This yields a second reason for concluding that God exists.

So here we are, having within us an idea of God, or a supreme being, and we’re entitled to ask ‘What caused us to have this idea?’ We find in the idea—*representatively* in the idea—such immeasurable greatness that we’re convinced that it must have been placed in us by something that truly possesses the sum of all perfections, i.e. by a God who really exists. [Regarding the choice between ‘God’ and ‘a God’, or between ‘the supreme being’ and ‘a supreme being’: Latin has no such distinction. The choices made in this version express opinions about which is more suitable in the given case, but if you disagree in some cases, you won’t

be in conflict with the Latin.] That’s because the natural light makes it very obvious not only that

•nothing comes from nothing,

but also that

•a thing can’t have as its sole cause something that is less perfect than *it* is,

and furthermore that •when we have within us an idea or likeness of something, there has to be *somewhere* an original that actually has all the perfections belonging •representatively• to the idea. And •in the case of our idea of God• the ‘somewhere’ can’t be inside us, because we plainly don’t have the supreme perfections that our idea of God represents; so we’re entitled to conclude that what does have them is something distinct from ourselves, namely God. At any rate, we can certainly infer that God *did* have those perfections when he gave us this idea; which clearly implies that he still has them.

19. Even if we don’t grasp God’s •nature, his •perfections have a more open place in our knowledge than anything else does.

Anyone who is used to pondering the idea of God and thinking about his supreme perfections will be sure enough about this, finding it obvious. We don’t completely get our minds around these perfections, because we who are finite couldn’t fully take in the nature of an infinite being; but we can understand them more vividly and clearly than we can any corporeal things. Why? Because they permeate our thought to a greater extent, being simpler and not obscured by any limitations.

20. We didn’t make ourselves; God made us; so he exists.

Some people don’t give any thought to this. Usually when someone has an idea of some intricate machine, he knows—•because he *remembers*•—where he got it from; but we have

always had our idea of God, so we have no memory of getting it from him, and one result is that for many people the question ‘Where did I get this idea from?’ doesn’t even arise. But it *should* arise! So let us now go on to inquire into the source of our being, given that we have within us an idea of the supreme perfections of God. The natural light makes it blindingly obvious that a thing which recognizes something more perfect than itself didn’t bring itself into existence, for if it had done so it would have given itself all the perfections of which it has an idea. So the source of its being—the cause of its existence—must be something that does have within itself all these perfections, namely God.

21. The fact that we last through time is sufficient to demonstrate the existence of God.

To see how compelling this proof is, you have only to think about the nature of time, i.e. the nature of things’ duration—specifically the fact that the parts of time are not mutually dependent From the fact that we exist *now* it doesn’t follow that we shall exist a moment from now, unless some cause—the very one that originally produced us—continually reproduces us, so to speak, i.e. keeps us in existence. We easily understand •that *we* have no power to keep *ourselves* in existence! Something else it is easy for us to see is •that he who has enough power to keep us in existence though we are distinct from him must be well equipped to keep himself in existence. Or rather (to put it more accurately, and get away from this talk about *keeping* himself in existence) he has so much power that he doesn’t need anything else to keep him in existence. He is, in a word, God.

22. My way of coming to know of God’s •existence brings with it a knowledge of all his •attributes (or all that can be known by the natural power of the mind).

This way of proving the existence of God—namely by means of the idea of God—has a great advantage: it gives us all the knowledge of *what he is* that our feeble nature is capable of. When we reflect on our in-born idea of God, we see that he is eternal, omniscient, omnipotent, the source of all goodness and truth, the creator of all things—in short, that he has every attribute that we can clearly recognize as involving some perfection that is infinite, i.e. not limited by any imperfection.

23. God (1) is not corporeal, (2) doesn’t perceive through the senses as we do, and (3) doesn’t will the evil of sin.

In many things we recognize some perfection while also finding them to be imperfect or limited in some way; and none of *these* can belong to God. **(1)** It’s a sort of perfection in bodies that they are extended in space, but along with extension the nature of body includes *divisibility*, and since divisibility is an imperfection we can be sure that God isn’t a body. **(2)** It’s a sort of perfection in us that we have *sense-perception*, but this also involves the imperfection of being *acted on* by something else and thus being in states that depend on things other than ourselves. So there’s no question of supposing that God •perceives by means of senses like ours; our account of his mental activities must be confined to saying that he •understands and •wills. *Our* understanding and willing involve operations that are, in a way, distinct one from another; but in God there is always a single identical and perfectly simple act by means of which he understands, wills and accomplishes everything all at once. **(3)** When I say ‘everything’ I mean all *things*: for God doesn’t will the evil of sin, which is not a thing.

24. In passing from knowledge of God to knowledge of his creation, we should bear in mind that he is infinite and we are finite.

Since God alone is the true cause of everything that does or could exist, it's clear that the best way to go about philosophizing [here = 'doing philosophy or natural science'] is to •start from what we know of God himself and •try to derive from that knowledge an explanation of the things created by him. That's the way to acquire the most perfect scientific knowledge, i.e. knowledge of effects through their causes. To minimize our chances of going wrong in this process, we must carefully bear in mind •that God, the creator of all things, is infinite, and •that we are altogether finite.

25. We must believe everything that God has revealed, even if it's more than we can get our minds around.

•Here's an example of the need for section 24's reminder: Suppose God reveals to us something about himself or others that is beyond the natural reach of our mind—such as the mystery of the Incarnation or of the Trinity—we won't refuse to believe it although we don't clearly understand it. And we won't be *at all* surprised that our mental capacity is outstripped by much in the immeasurable nature of God and in the things created by him.

26. We should steer clear of arguments about the infinite. When we see something as unlimited—e.g. the extension of the world, the division of the parts of matter, the number of the stars, and so on—we should regard it •not as *infinite* but •as *indefinite*.

That will spare us tiresome arguments about the infinite. Given that we are finite, it would be absurd for us to •try to establish any definite results concerning the infinite, because that would be trying to limit it and get our minds around it. When questions such as these are asked:

Would half an infinite line also be infinite?

Is an infinite number odd or even?

we shan't bother to answer. No-one has any business thinking about such matters, it seems to me, unless he thinks his own mind is infinite! What *we'll* do is this: faced with something that so far as we can see is unlimited in some respect, we'll describe it not as 'infinite' but as 'indefinite'. •An example: we can't imagine a size so big that we can't conceive of the possibility of a bigger; so our answer to the question 'How big *could* a thing be?' should be 'Indefinitely big'. •Another: however many parts a given body is divided into, we can still conceive of each of those parts as being further divisible; so our answer to the question 'How many parts can a body be divided into?' is 'Indefinitely many'. •A third: no matter how numerous we imagine the stars to be, we think that God could have created even more; so we'll suppose that there's an indefinite number of stars. And the same will apply in other cases.

27. The difference between the indefinite and the infinite.

The point of using 'indefinite' rather than 'infinite' is to reserve 'infinite' for God, because he's the only thing that our understanding •positively tells us *doesn't* have any limits. The most we know about anything else is the •negative information that *we can't find* any limits in it.

28. It's not the •final but the •efficient causes of created things that we must investigate.

[In contemporary terms, that is equivalent to saying 'What we must investigate are not created things' •purposes but their •causes'.] We'll never explain natural things in terms of the purposes that God or nature may have had when creating them, [added in the French] and we shall entirely banish them from our natural science. Why? Because we shouldn't be so arrogant as to think that we can share in God's plans. We should bring

him in only as the *efficient* cause of everything that happens. He has allowed us to have some knowledge of his attributes, and we'll find that, starting from that knowledge and using our God-given natural light, we can draw conclusions about the causation of events that we perceive by our senses. . . .

29. God is not the cause of our errors.

The first attribute of God that we must attend to is his being supremely truthful and the giver of all light. So 'God might deceive us' is a flat-out contradiction. And the same holds for the supposition that he might positively *cause* the errors that our experience shows us we are prone to. The ability to deceive others may be seen as a sign of intelligence in a man, but the wish to deceive can only come from malice, or from fear and weakness, so it can't be a wish that God has.

30. It follows that everything that we vividly perceive is true; and this removes the doubts mentioned earlier.

[Descartes includes under 'perception' not only perceiving by the senses but any kind of propositional thinking.] So the light of nature—our God-given faculty of knowledge—can't shine on any object that isn't true to the extent that this light reaches it, i.e. to the extent that it is vividly and clearly perceived. If the faculty that God gave us was so distorted that it took falsehoods to be truths even when we were using it properly, God *would* merit the label 'deceiver'! This disposes of the worst of the doubts that I discussed in sections 4–5, namely the one arising from the fear that for all *we* know we might find something to be utterly obvious and yet be wrong about it. Indeed, this argument from section 29 easily demolishes all the other reasons for doubt that I have mentioned earlier. Mathematical truths should no longer be suspect, because they're utterly clear to us. As for our senses: if we notice *anything* here that is vivid and clear—whether we're awake or

asleep—then provided we separate it from what is confused and obscure we'll easily recognize which are the aspects of it that may be regarded as true. I needn't go on about this here, because I have already dealt with it in the *Meditations*; and a more exact treatment of the topic would require knowledge of things that I'll be saying later on.

31. Our errors, considered in relation to God, are merely negations; considered in relation to ourselves they are privations.

Although God isn't a deceiver, we often fall into error. To understand the origin and cause of our errors, and to guard against them, we need to realize that they depend not so much on our intellect as on our will. Also, an error isn't a positive *thing* that couldn't have come into existence unless God concurred in its doing so. Considered in relation to God, an error is a mere negation, something that God did not prevent, whereas in relation to ourselves, errors are privations, i.e. lacks of something that we ought to have. [*'Privation'* was a standard technical term. Example: not-being-able-to-see is a mere negation in a turnip, a privation in a blind man. The root sense of 'concur' is 'go along with' or 'knowingly not prevent', but on this occasion Descartes must mean something stronger than that.]

32. We have only two ways of thinking: perceiving with the intellect, and willing.

The kinds of thinking that we experience within ourselves can be classified under two general headings: perception, or the operation of the intellect, including sensory perception, imagination and pure understanding, and volition, including desire, aversion, assertion, denial and doubt.

33. We don't commit errors except when we make judgments about topics that we haven't looked into sufficiently.

Now, when we perceive something [see note at top of section 30], so long as we don't assert or deny anything about it, we avoid

error—obviously. And we equally avoid error when we confine our assertions or denials to what we vividly and clearly perceive *should* be asserted or denied. Error occurs only when we make a judgment about something without having an accurate perception of it—a common enough event!

34. Making a judgment requires •will as well as •intellect.

In order to make a judgment we must of course have some perception, so the intellect has to be involved; but the judgment itself—the assent—is an act of the will. Now, a sort of judgment can be made even when there is no complete and exhaustive perception of whatever-it-is, because we can assent to many things that we know only in a very obscure and confused manner.

35. The will has a wider scope than the intellect does, and that's why error occurs.

The perception of the intellect extends only to the few things that come before it, and they are *very* few. The will, on the other hand, can be called 'infinite' in a certain sense. That is because we realize that *we* could will anything that *anyone* could will, even God with his immeasurable will. So we have plenty of scope for •willing where we don't vividly •perceive—no wonder we go wrong!

36. Our errors can't be imputed to God.

It must emphatically *not* be supposed that God is the author of our errors because he didn't give us an omniscient intellect. It stands to reason that a created intellect is finite, and that a finite intellect has a limited scope.

37. The highest perfection of man is that he acts freely or voluntarily, and that's what makes him deserve praise or blame.

It is part of the very nature of the will to have a very broad scope; and it's a supreme perfection in man that he acts voluntarily, i.e. freely; this makes him in a special way the

author of his actions and deserving of praise for what he does. We don't *praise* automata for moving in exactly the way they were designed to move, because it's necessary for them to do that. We do praise the designer for doing a good job, because in building the automata he was acting freely, not out of necessity. By the same principle, when we embrace something true, that's much more to our credit if we do it voluntarily than it would be if we couldn't help embracing it.

38. Our falling into error is bad behaviour, not the result of a bad nature. The faults of subordinates can often be attributed to their masters, but not when the master is God.

[Throughout this section, 'a cause' could instead be 'the cause'; Latin doesn't distinguish them.] Our falling into error is a defect in how we act, how we use our freedom; it's not a defect in our nature. Whether we judge correctly or incorrectly, our *nature* remains the same. It's true that God could have given us intellects so sharp that we never believed anything false, but we have no right to *demand* this of him. When one of us men could but doesn't prevent some evil, we call him a 'cause' of the evil; but that way of talking about humans doesn't carry over to God; we mustn't regard him as a cause of our errors just because he could have but didn't bring it about that we never erred. Men were given power over one another to use in discouraging one another from evil; but God's power over all men is both absolute and totally free. [Those last four words gesture towards a view that Descartes expresses openly elsewhere, namely that God's actions are free even from the 'constraint' of there being better reasons for him to act in one way rather than in some other.] So we should thank him warmly for the goods he has so lavishly bestowed on us, instead of unjustly complaining that he didn't give us everything that he could have given us.

39. It's self-evident that there is free will.

There's freedom in our will, and we often have the power to give or withhold our assent at will—that's so obvious that it must be regarded as one of the first and most common notions [see note in section 13] that are innate in us. It showed up in sections 5–6 where, trying to doubt everything, we went so far as to entertain the thought of a supremely powerful creator who was trying to deceive us in every possible way. Even in the context of that supposition, we sensed within ourselves a freedom strong enough to enable us to abstain from believing anything that wasn't quite certain or fully examined. And what we saw to be beyond doubt even *then* is as self-evident and as transparently clear as anything can be.

40. It is also certain that everything was preordained by God.

Now that we have come to know God, and to see in him a power so immeasurable that we think it downright sinful to suppose that we could ever do anything that God hadn't preordained, we can easily get ourselves into a tangle if we try to reconcile •this divine preordination with •the freedom of our will, holding both things in our mind at once..

41. How to reconcile the freedom of our will with divine preordination.

But we'll get out of these difficulties if we bear in mind that our mind is finite, and that God has infinite power by which he not only knew from eternity everything that was or could be going to happen, but also willed it and preordained it. We can know enough about this power to perceive vividly and clearly *that* God has it; but we can't get our minds around it well enough see *how* it leaves men's free actions undetermined [here = 'not settled in advance']. As for our own liberty—our ability at a given moment to go *this* way or *that*—we're so intimately *aware* of this •aspect of our

nature• that we see it as clearly and comprehend it as fully as we do anything. When something is as intimately and securely grasped as that, it would be ridiculous to *doubt* it just because we don't grasp something else—namely its relation to God's powers of knowledge.—that we know must by its very nature be beyond our comprehension.

42. Although we don't want to go wrong, nevertheless we go wrong by our own will.

Knowing that all our errors depend on the will, you may find it surprising that we should ever go wrong, because no-one ever *wants* to go wrong. But

(1) wanting to go wrong

is one thing, and

(2) choosing to assent to something that is in fact wrong, though one doesn't realize it

is quite another. No-one does (1), but (2) happens often enough with almost everyone. In fact the reason why people fall into error is that they are eager to find the truth and ignorant of the right way of finding it, which leads to their passing judgment on things that they don't properly understand.

43. We never go wrong when we assent only to things that we vividly and clearly perceive.

But if we assent only to what we vividly and clearly perceive, we'll certainly never take a falsehood to be a truth. Why 'certainly'? Because *God is not a deceiver*, so the faculty of •perception [see note in section 30] he gave us can't have a bias towards to falsehood; and that holds for our faculty of •assent (-i.e. our faculty of *judgment*•) too, provided it doesn't stray from what we have a bright, open perception of. Even if there were no proof of this, nature has shaped our minds in such a way that when we perceive something in that fashion we spontaneously assent to it and *can't* doubt its truth.

44. When we assent to something P without having a brightly open view of P's truth, this is a misuse of our faculty of judgment, even if P happens to be true. Such an assent comes from our imagining that we had a good enough view of P's truth on some previous occasion.

It is also certain that when we assent to something without perceiving the reason for it, then either •we fall into error or •we stumble into something true but merely by accident, so we can't be sure that we aren't in error. The light of nature tells us not to make judgments about things we don't know, which is why we don't often assent to something that we are *aware* of not perceiving. What does very often lead us into error is this: We have a proposition committed to memory along with the belief that we did once perceive it •adequately•; on the strength of that belief we assent to the proposition now, just as we would if we fully perceived it now; though in fact we have never perceived it, •and it is false•.

45. What 'vivid perception' means, and what 'clear perception' means.

Many people, indeed, *never* perceive *anything* accurately enough to be able to make a judgment about it with certainty. For a perception to support a certain and indubitable judgment, it needs to be not merely •vivid but also •clear. I call a perception 'vivid' when it is present and accessible to the attentive mind—just as we say that we see something vividly when it is present to the eye's gaze and stimulates it with a sufficient degree of strength and accessibility. I call a perception 'clear' if, as well as being vivid, it is so sharply separated from all other perceptions that every part of it is vivid.

46. The example of pain shows that a perception can be vivid without being clear, but can't be clear without being vivid.

For example, when someone feels an intense pain, his

perception of it is very vivid; but it isn't always clear, because people often get this perception muddled with an obscure judgment they make about something that they think exists in the painful spot—something they think resembles the sensation of pain. But in fact it is the sensation alone that they perceive vividly. Hence a perception can be vivid without being clear, but it can't be clear without being vivid.

47. In order to correct the prejudices [see note in section 1] of our early childhood we must consider the simple notions and what elements in each of them are vivid.

In our childhood the mind was so immersed in the body that it perceived many things vividly but nothing clearly. Yet the mind made judgments about many things, and that's the origin of the many prejudices that most of us cling to throughout life. To enable us to get rid of them, I shall here briefly list all the simple notions that are the basic components of our thoughts; and in each case I'll distinguish the vivid elements from those that are obscure or liable to lead us into error.

[It is time to confront the fact that Descartes's adjectives

clarus and *distinctus*

(and their French equivalents

clair and *distinct*),

translated here by

'vivid' and 'clear'

respectively, are handled differently in *every* other English translation, and by *all* the Descartes scholars who write in English. It has been assumed by all these that the right translation is

'clear' and 'distinct'

respectively. The physical similarity of the words favours the usual translation, but all the adult considerations go against it. **(1)** In ordinary English, there's no clear difference between 'clear' and 'distinct' (except in the notion, irrelevant here, of x's being *distinct from y*). In many contexts where *distinctus* occurs without *clarus*, it is natural and quite usual to translate it as 'clear'. **(2)** Descartes's separate explanations of the two words make much better sense with the present translation than

with the usual one. •Try for yourself how section 45 reads when you put ‘clear’ for ‘vivid’. •Repeat the experiment with section 46, and ask yourself: What sane man could think there is always something *very clear* about pain? **(3)** In sections 47, 68 and 74 Descartes treats *clarus* and *obscurus* as opposites; remember that *obscurus* means ‘obscure’ in the sense of *dark*. The vivid/dark or bright/dark contrast makes better sense than clear/dark. Quite generally, just as Descartes customarily writes *clarus* and *distinctus* in that order, he customarily writes *obscurus* and *confusus* in that order (section 30 is an exception; see also 4:203). **(4)** The meaning of *clarus* is often—and the meaning of its French cousin *clair* is always—something like ‘vivid’. You probably know this already: *au clair de la lune* means ‘in the bright moonlight’; *lumière claire* is bright light.—It doesn’t matter greatly, because except for these three sections of the *Principles* Descartes always treats *clarus et distinctus* as a single lump, not distinguishing its separate parts. In sections 22 and 25, and also in 2:1, *clare* is translated by ‘clearly’ because there is no stylistically acceptable alternative. Other uses of ‘clear(ly)’ in this version translate *disinctus* or some other word, but never *clarus*.]

48. The items that we can have perceptions of may be regarded either as (1) things or (2) states or properties of things or as (3) eternal truths. This section lists the things and some of the properties.

We classify the items we have perceptions of into **(1)** things, **(2)** states or properties of things and **(3)** eternal truths that don’t exist outside our thought. . . . I recognize only two basic classes of things:

(1a) intellectual or thinking things, i.e. ones having to do with mind or thinking substance;

(1b) material things, i.e. ones having to do with extended substance or body.

We attribute to thinking substance: **(1a)** perception, volition and every specific kind of perceiving and of willing. We attribute to extended substance: **(1b)** size (i.e. extension in length, breadth and depth), shape, motion, position,

divisibility of component parts and the like. But we also experience within ourselves certain other items that relate not to the mind alone or to the body alone, but to the close and intimate union of our mind with the body (I’ll explain this later). This list includes: **(2)** •appetites like hunger and thirst; •emotions or passions of the mind that don’t consist of thought alone, such as the emotions of anger, joy, sadness and love; and •all the sensations, such as those of pain, pleasure, light, colours, sounds, smells, tastes, heat, hardness and the other tactile qualities.

49. It isn’t possible to give a similar list of eternal truths, but we don’t need one.

Everything that I listed in section 48 is classified by us either as **(1)** a thing or as **(2)** a quality or mode of a thing. But other items that we perceive fall into neither of those categories. When we recognize that

•It is impossible for something to come from nothing, we don’t classify the proposition *Nothing comes from nothing* as **(1)** a really existing thing, or even as **(2)** a mode or quality of a thing, but as **(3)** an eternal truth that exists only in our mind. Such truths are called ‘common notions’ [see note in section 13] or ‘axioms’. Here are some examples:

•It is impossible for a thing to be and not be at the same time,

•What is done can’t be undone,

•While someone is thinking he can’t *not* exist,

and there are ever so many more. It would be hard to list them all; but without the help of any such list we can’t fail to know them when they come up in our thought, provided we aren’t blinded by preconceived opinions.

50. Eternal truths are vividly perceived, but not by everyone (because of preconceived opinions).

In the case of these common notions, there is no doubt that

they *can* be vividly and clearly perceived; otherwise they wouldn't merit the title 'common notions'. Some of them, actually, don't merit it as well as the rest do, because not everyone perceives them as well as they do the rest. It's not that one man's faculty of knowledge extends more widely than another's, I think, but just that •the common notions in question conflict with the preconceived opinions of some people, making it harder for them to grasp •them. But those same notions are seen as utterly obvious by people who are free from such preconceived opinions.

51. What is meant by 'substance'—a term that doesn't apply in the same sense to God and his creatures.

Regarding the items that we classify as 'things' or 'qualities of things', it is worthwhile to examine them one by one. All we can mean by 'substance' is 'thing that exists in such a way that it doesn't depend on anything else for its existence'. Actually, there's only one substance that can be understood to depend on *nothing* else, namely God. We can see that all the other substances can exist only with God's help. So the term 'substance' doesn't apply in the same sense to God and to other things—meaning that no clearly intelligible sense of the term is common to God and to things he has created.

52. (1) The term 'substance' applies in the same sense to mind and to body. (2) How a substance itself is known.

(1) As for •corporeal substance and mind (i.e. created •thinking substance), they *can* be understood in terms of a single common concept, namely this one: *things that don't depend for their existence on anything except God*. (2) However, we can't initially become aware of a substance merely from its being something that exists, because the mere fact of its existence doesn't have any effect on us. But we can easily come to know •that we are in the presence of• a substance by one of its attributes. This involves the common

notion that *nothingness doesn't have any attributes, i.e. any properties or qualities*. If we see that we are in the presence of some attribute, this common notion entitles us to infer that we are also in the presence of some existing thing or substance that has the attribute.

53. Each substance has one principal attribute; (1) for •mind it is the attribute of •thought, (2) for body it is •extension.

A substance can be known through any attribute at all; but each substance has •one principal property that constitutes its nature and essence, all its other properties being special cases of that. (1) The nature of corporeal substance is *extension in length, breadth and depth*; and any other property a body has presupposes •extension as merely a special case of •it. For example, we can't make sense of *shape* except in an extended thing, or of *motion* except in an extended space. (2) The nature of thinking substance is *thought*; and anything else that is true of a mind is merely a special case of that, a way of thinking. For example, we can make sense of *imagination, sensation and will* only in a thinking thing. But we *can* make sense of *extension* without bringing in shape or movement, and to make sense of *thought* without bringing in imagination, sensation, or the like. Anyone who thinks hard about these matters will see that this is so.

54. How we can have vivid and clear notions of •thinking substance and of •corporeal substance, and also of •God.

Thus we can easily have two vivid and clear notions or ideas, one of •created thinking substance and the other of •corporeal substance, provided we are careful to distinguish all the attributes of thought from the attributes of extension. We can also have a vivid and clear idea of •untreated and independent thinking substance, i.e. of God. •There are two mistakes we must be careful not to make regarding this•. •We must avoid supposing that our idea adequately

represents the whole of God's nature; and •we must confine our idea to what we clearly perceive to belong to the nature of a supremely perfect being, not cramming into it any invented features beyond the ones that really belong there. Do we really have any idea of God? If you deny that we do, you'll have to maintain that there's absolutely no knowledge of God in the minds of men.

55. How we can also have a clear understanding of duration, order and number.

[This version of section 55 is rather free, but it expresses Descartes's line of thought faithfully enough.] We'll have a very clear understanding of **(1)** duration, **(2)** order and **(3)** number, provided we don't attach any concept of substance to them, i.e. as long as we don't think of duration, order and number as *things*. When we think about the durations that things have, or their orders, or their numbers, our thoughts are or should be of the types:

- (1)** that iceberg lasted for three months,
- (2)** the house is between the meadow and the road,
- (3)** there are three ships this side of the horizon.

This is to treat duration etc. as *modes* of substances—as adjectival on the substances, rather than being substances themselves.

56. What modes, qualities and attributes are.

The term 'mode' as used here means exactly the same as 'attribute' or 'quality', but their usage differs, as follows. We use 'mode' when speaking of a substance as being affected or altered (if you boil some water its heat is a mode of it). We use 'quality' when speaking of facts about a substance that make it belong to such and such a kind (water's fluidity is a quality of it). And we use 'attribute' when talking in a more general way about what there is to a substance (water's being extended in space is an attribute of it). When we

are speaking correctly we say that God has 'attributes' but not that he has any 'modes' or 'qualities', because it doesn't make sense to suggest that God might alter. . . .

57. Some attributes are in things and others in thought. What duration and time are.

Some attributes or modes are in the things they are said to be attributes or modes of, while others are only in our thought. [Descartes goes on to differentiate *duration* (which is in the thing that endures) from *time* (which is in our thought). His explanation and illustration of this is perfectly unmanageable, because it runs together three different ideas about 'time'. **(1)** 'Time' stands for

- measures of stretches of duration.

It seems correct to say that although the duration of a running race (for example) is a mode of or fact about the race itself, the race's *occupying less than four minutes* is a fact about how the race relates to *our* measuring system, which is in a straightforward sense 'in our mind'. **(2)** 'Time' stands for

- measured stretches of duration.

This is a more plausible account of the meaning of 'time', but it doesn't imply that *time* is 'in our minds'. **(3)** What Descartes actually says is that time is 'the measure of movement'; this seems to make 'time' synonymous with 'speed'. Somehow, it seems, a curdled mixture of **(1)** and **(3)** lies behind Descartes's inscrutable illustration: 'If two bodies are moving for an hour, one slowly and the other quickly, we don't reckon the amount of time to be different in the two, though the amount of movement may be much greater.' And a mixture of **(1)** and **(2)** probably explains his saying 'When we measure the duration of all things . . . we call this duration "time". Yet this doesn't add anything to duration, taken in its general sense, except for a mode of thought.' The clearly true thing in this section is the statement that:]

we assign temporal measures to things and processes by comparing their duration with the duration of the greatest and most regular motions that give rise to years and days.

58. Number and all universals are simply modes of thinking.

In the same way, number, when it is considered simply in the abstract or in general, and not in any created things, is merely a mode of thinking; and the same applies to all the other 'universals', as we call them.

59. How universals arise. The five common kinds of universals: genus, species, differentia, property, accident.

The whole source of these universals is this: we use a single idea for thinking of all individual items that resemble each other in some one respect, that we can apply a single word to all the things that are represented by that idea, this word being a universal term. When we see two stones, for example, and direct our attention not to their nature but merely to the fact that there are two of them, we form the idea of the number that we call 'two'; and when we later see two birds or two trees, and attend not to what they are but only to there being two of them, we return to that same idea. . . . Similarly, when we see a figure composed of three lines, we form an idea of it that we call the idea of *triangle*, and we go on to use that as a universal idea with which we represent all figures composed of three lines, treating triangles as a genus. Then we notice that some triangles have one right angle while others don't, and form the universal idea of *right-angled triangle*; since this idea is a special case of the preceding one, it is called a species. What distinguishes this species from the rest of the genus is *right-angledness*, which is the differentia. Having one side whose square equals the sum of the squares on the other two sides is a property of right-angled triangles. Finally, if some right-angled or any other triangle is *moving*, that is an accident of it. Hence five

universals are commonly listed: genus, species, differentia, property and accident. [In this section, Descartes is using 'property' (Latin *proprium*) in a technical sense: a 'property' of the Fs, in this sense, is something that follows rigorously from the definition of F without itself being included in the definition. And an 'accident' of an F is a feature of it that it doesn't share with all Fs.]

60. What real distinctness is.

My next topic connects with what I have just been talking about, namely *number*. For there to be a number of things, the things must be *distinct from* one another; and *distinctness* is of three kinds: x may be really distinct from y, x may be modally distinct from y, or there may be a distinctness of reason between x and y. [In this context, remember that 'real' comes from Latin *res* = 'thing'.] Strictly speaking, it's only substances that can be *really* distinct from one another. If we can vividly and clearly understand substance x apart from substance y, that tells us that x is really distinct from y. How does it tell us that? Well, when we come to know God we become certain that *he can bring about anything that we clearly understand*; so that even if (for example) we don't yet know for sure that there exists any extended or corporeal substance, our having a clear idea of such a substance enables us to be certain that God could create it, and thus that it could exist. And now for some examples involving real distinctness. We can be certain that if matter exists then every single part of a body that our thought singles out is really distinct from the other parts of the same substance. In case it's not obvious, here is the reasoning behind that claim. Given any part x of any material thing y, we can clearly understand a state of affairs in which x exists while the rest of y doesn't; so God could bring it about that x existed while the rest of y didn't; so x is really distinct from all the other parts of y. Similarly, just from the fact that I clearly understand myself to be a thinking thing and can have a clear thought of myself

as not involving any other substance, whether thinking or extended, it is certain that I as a thinking thing am really distinct from every other thinking substance and from every corporeal substance. And of course this applies equally to *you* and to everyone. We might suppose this:

God has joined some corporeal substance to a thinking substance like you or me, joining them as closely and tightly as any two things could possibly be joined, compounding them into a *unity*.

That could happen, but the soul and the body would still be really distinct from one another. However closely God had united them, he couldn't lay aside his previous power to separate them, keeping one in existence without the other; and things that God has the power to separate, or to keep in existence separately, are really distinct.

61. What modal distinctness is.

There are two kinds of distinctness that could be called 'modal'. **(1)** When a given substance has a certain mode or quality or property, the mode is distinct from the substance—for example, you are clever but your cleverness is not the same thing as you. It's a characteristic mark of this kind of distinctness between *x* and *y* that *x* can exist without *y* but *y* can't exist without *x*. We can, for example, have a clear understanding of a state of affairs in which you exist and are not clever, but we can't make sense of the supposition that your cleverness might exist while you don't. Thus the shape and movement of a body are modally distinct from the body itself; and affirmation and recollection are modally distinct from the mind. **(2)** One mode of a given substance is distinct from the other modes of the same substance. For example, you are clever and good-tempered, and these are two modally distinct qualities that you have. It's a characteristic mark of this kind of modal distinctness between *x* and *y* that we can arrive at knowledge of *x* apart from *y*, and of *y* apart

from *x*, whereas we can't know either of them apart from the substance that has them; if a cubic stone is moving, I can understand the cubic shape without the movement, and the movement without the shape; but I can't understand either that movement or that shape without the substance of the stone. . . .

62. What distinctness of reason is.

Finally, distinctness of reason can be either of two things. **(1)** There is distinctness of reason between a substance and some attribute of it without which the substance is unintelligible. Consider, for example, you and your attribute of lasting through time. You can't exist without that attribute (for you to stop lasting through time is for you to go out of existence), so there is distinctness of reason between you and that attribute of yours. Quite generally, we recognize cases of this kind of distinctness through finding that we can't form a vivid and clear idea of the substance if we exclude from it the attribute in question. **(2)** There is distinctness of reason between any two *such* attributes of a single substance. What shows us that we are dealing with a distinctness of reason of this kind is our inability to perceive vividly the idea of one of the two attributes separated from the other. . . .

63. How thought and extension can be clearly recognized as constituting the nature of mind and of body.

Thought and extension can be regarded as constituting

- the nature of thinking substance and •the nature of bodily substance;

and then they have to be considered as

- thinking substance itself and •extended substance itself,

that is, as

- mind and •body.

This will give us a very vivid and clear understanding of

them. Actually, *extended substance* and *thinking substance* are easier for us to understand than is plain *substance* with 'thinking' or 'extended' left out. It's hard for us to grasp the abstract notion of *substance* with *thought* or *extension* sifted out from it, precisely because these notions are only distinct-in-reason from the notion of substance. A concept isn't made any clearer by our leaving things out of it; what makes it clearer ·to us· is our carefully distinguishing what we include from what we leave out.

64. How thought and extension may also be clearly recognized as modes of a substance.

Thought and extension can also be taken as modes of a substance, because gone mind can have many different thoughts, and one body can be extended in many different ways (e.g. through changes in shape). [Descartes goes on to insist that thought be seen as something that is 'in' the substantial mind, rather than being thought of as itself a substance; and similarly for extension and the substance that *has* it. Then:] If we tried to consider thought and extension apart from the substances in which they inhere—the substances that *have* them—we would be regarding them as things that subsisted in their own right, and would thus be confusing the ideas of a mode and a substance.

65. How the modes of thought and extension are to be known.

There are various modes of thought such as understanding, imagination, memory, volition, and so on; and there are various modes of extension such as different shapes, lay-out of parts and movements of parts. And, just as with thought and extension themselves, we'll have our best understanding of these more detailed modes if we regard them simply as modes of the things that have them. As far as motion is concerned, we'll do best ·at this stage· to think

of it as mere change of place, without inquiring into the force that produces the change (though I'll try to explain this later in the appropriate place).

66. How sensations, emotions and appetites can be vividly known, though we're often wrong in our judgments about them.

There remain sensations, emotions and appetites, which can be vividly perceived provided we're careful to include no more in our judgments about them than •what is strictly contained in our perception—i.e. •what we have inner awareness of. But it's hard to conform to this rule, at least with sensations, because ever since our early childhood we have all judged that our sense-perceptions are *of* things that •exist outside our minds and •closely resemble our perceptions. For example: whenever we saw a colour we supposed we were seeing a thing located outside us and closely resembling the idea of colour that we were experiencing within us. And because we had a *habit* of making such judgments we thought we saw vividly and clearly—so much so that we took it for something certain, something that couldn't be doubted.

67. We often make mistakes, even in our judgments about pain.

Everything of which we have sensory awareness is subject to this same kind of mistake—even pleasure and pain! We don't suppose that pleasures and pains exist outside us, but we do think of them as existing not purely in our mind but also in the hand or foot or in some other part of our body. [In this section 'pleasure' translates *titillatione*, which refers to such pleasures as that of slaking thirst with cold water, relieving an itch with scratching, and the like—i.e. to pleasures associated with specific parts of the body. In section 71, where the topic is pleasure in relation to the body, but not to specific parts of the body, Descartes uses a different word, *voluptas*.] But our feeling a pain as though it were in our foot doesn't

make it certain that the pain exists outside our mind and in the foot, any more than our seeing light as though it were in the sun makes it certain that the light exists outside us and in the sun. Both these beliefs are mere carry-overs from early childhood, as will become obvious below.

68. How to distinguish, in these matters, •what we brightly and openly know from •what can lead us astray.

In order to distinguish what is vivid ·or brightly lit· in this context from what is obscure ·= dark·, we must pay special attention to this: when pain and colour and their like are regarded merely as sensations or thoughts, they are vividly and clearly perceived; but when they are considered as real things existing outside our mind, we haven't the faintest idea of what sort of things they are. If someone says 'I see red in that cherry' or 'I feel pain in my wrist', all he is saying, really, is that he sees or feels something there of which he is wholly ignorant—which amounts to saying that he doesn't know what he is seeing or feeling! If he isn't thinking hard enough, he may well convince himself that he knows *something* about what he sees or feels, because he may think it is something *like* the sensation of colour or pain that he experiences within himself. But if he examines the nature of whatever it is that the sensation of colour or pain represents as existing in the cherry or his wrist, he'll realize that he is wholly ignorant of it.

69. How we know •size, shape etc. is quite different from how we know •colours, pains etc.

He'll realize this with special force if he considers the wide gap between our knowledge of

•the features of bodies that we're vividly aware of (as I said earlier)—the size of the bodies we see, their shape, motion, position, duration, number and so on

and our knowledge of

•the features that must be referred to the senses (as I have just pointed out)—colours, pain, tastes, smells and so on.

It's true that when we see a body, its visible colour does as much to convince us make us certain of its existence as its visible shape; but we have a much better grasp of what it is for a body to have a shape than we have of what it is for it to be coloured. Incidentally, when I write about 'motion' I mean movement from place to place. Philosophers who have fancied that there are other kinds of motion have merely made the nature of motion less intelligible to themselves.

70. There are two ways of making judgments about sense-perceptible things: one enables us to avoid error, the other doesn't.

It is evident that when we say that we perceive colours in objects, this amounts to saying that we perceive something in the objects whose nature we don't know but which produces in us a certain very obvious and easily recognizable sensation that we call the sensation of colour. But when we make our judgment, either of two *very* different things can be going on. **(1)** If we merely judge that there is in the objects (i.e. in the things, whatever they turn out to be, that our sensations come from) something whose nature we don't know, there's no error in that. Indeed it's a shield against error, because our recognition that we are ignorant of something reduces the chances of our making any rash judgment about it. **(2)** But the scene changes when we suppose that we perceive colours *in the objects*. Of course, we don't really know what it is that we're calling a colour; and we can't make any sense of the idea of something in the objects *resembling* our sensation. But we ride rough-shod over this fact; ·and there's another fact that encourages us in our error·: There are plenty of features—size, shape and number etc.—that actually *are* or at least *could be* present in objects in the same way that we

sense or understand them; and we vividly perceive this to be the case. That makes it easy for us to fall into the error of judging that so-called 'colour' in objects is exactly like the colour that we're aware of through our senses, wrongly thinking we have a brightly open perception of something that we don't perceive at all.

71. The prejudices of childhood are the chief causes of error.

This is the first and main cause of all our errors. In our infancy, the mind was so closely tied to the body that it couldn't make room for any thoughts other than ones involving sensory awareness of what was happening in the body. It didn't connect these thoughts to anything outside itself, but merely felt pain when something was harming the body and felt pleasure when the body received some benefit. And when nothing very beneficial or harmful was happening to the body, the mind had various sensations corresponding to where and how the body was being stimulated—i.e. it had the sensations of tastes, smells, sounds, heat, cold, light, colours and so on, sensations that don't represent anything located outside our thought. Also in infancy, the mind perceived sizes, shapes, motions etc. that were presented to it not as sensations but as things, or qualities of things, that did or at least could exist outside thought, though the mind wasn't yet aware of the difference between things and sensations. Background to the next step: The mechanism of the body is so constructed by nature that it can move in various ways by its own power, whirling around in its attempts to pursue the beneficial and avoid the harmful. Now, the mind that was fixated on the body began to notice that the things it was trying to get or avoid had an existence outside itself; and **(1)** it credited them with having not only •sizes, shapes, motions etc., which it perceived as things or qualities of things, but also •tastes, smells etc., the sensations of which were, the mind realized, produced by the objects in question. Moreover,

because it judged everything in terms of its usefulness to the body in which it was immersed, **(2)** the mind assessed the amount of reality in each object by how greatly it was affected by it. That led it to suppose that there is more substance—more *body*—in rocks and metals than in water or air. . . . Indeed, in a moderate temperature with no wind, the mind regarded the air as a mere nothing. And because the light coming from the stars appeared no brighter than that produced by the meager glow of an oil lamp, **(3)** the mind didn't imagine any star as being any bigger than this. And because it did not observe that the earth turns on its axis or that its surface is curved to form a globe, **(4)** the mind was apt to suppose that the earth is immobile and its surface flat. Right from infancy our mind was swamped with a thousand such prejudices; and in later childhood, forgetting how little basis there had been for adopting them, it regarded them as known by the senses or implanted by nature, and accepted them as utterly true and utterly obvious.

72. The second cause of error is that we can't forget our prejudices.

When we are grown up, the mind is no longer a total slave to the body and doesn't relate everything to it. Indeed, it inquires into the truth of things considered in themselves, and learns that very many of its previous judgments are false. Yet the mind finds it hard to erase these false judgments from its memory; and as long as they stay there they can cause various errors. For example, in our early childhood we imagined the stars as being very small; astronomical arguments now clearly show us that they are enormous; but our prejudice is still so strong that we can't easily imagine them differently from how we did as children.

73. The third cause of error: we find it exhausting to think about things that aren't present to our senses; so our judgments about them are usually based not on present thinking but on preconceived opinions.

Our mind finds it difficult and tiring to stay focussed on anything, and especially to stay focussed on things that aren't present to the senses or even to the imagination. (Why this bias in favour of image-bound thinking? Perhaps it's built into the mind as a result of its being joined to the body. Or perhaps it's because the mind has had much more practice in image-bound thinking, because that's the only thinking it did in our earliest years.) One upshot of this is that many people's understanding of *substance* is still limited to what they can imagine or even to what they can perceive by their senses. They don't realize that the only things imagination gets a grip on are ones that have extension, motion and shape, and that many *other* things can be tackled through the understanding. And they suppose further that the only independently existing things are bodies, and that all bodies can be perceived by the senses. This means that they turn their backs on the truth about the world, because, as I shall make obvious later on, we don't perceive the true nature of *anything* by the senses alone! That's why most people have only confused perceptions throughout their entire lives.

74. The fourth cause of error is that we attach our concepts to words that don't precisely correspond to real things.

Language-use has us tying all our concepts to the words used to express them, and when we store the concepts in our memory storing corresponding words along with them. Then we find the words easier to recall than the things; and because of this our concept of a thing is seldom sharp enough for us to separate it totally from our concept of the words involved. Most people's thoughts are concerned with

words more than with things; with the result that people often assent to *words*—words they don't understand—thinking that they used to understand them, or that they got them from someone who did understand them. I can't go into this in careful detail *here*, because I haven't yet dealt with the nature of the human body—indeed I haven't proved that there are any bodies! Still, what I have said up to here may be understandable enough to help you to sort out your concepts into those that are vivid and clear from those that are obscure and confused.

75. Summary of the rules to be observed in order to philosophize correctly.

If we are to philosophize seriously and search out the truth about everything that *can* be known, we must first dislodge all our prejudices, or at least take care not to trust any of our old opinions without first re-examining them to check on their truth. Next, we must focus in an orderly way on the notions that we have within us, identifying the ones whose truth we vividly and clearly recognize when we focus intently on them, and accepting as true *those and only those*. By doing this we'll come to be in possession of some secure truths with which we can start to theorize soundly. Specifically, we'll come to realize **(1)** that we exist as thinking beings, **(2)** that there is a God, and **(3)** that we depend on him, and also **(4)** that by attending to God's attributes we can investigate the truth about other things, because God is their cause. Finally, we'll see that we have within us, along with notions of God and of our mind, knowledge of many eternally true propositions, e.g. **(5)** that nothing comes from nothing. We'll also learn **(6)** that we have knowledge both of a corporeal or extended nature that is divisible, movable, etc. and also of certain sensations such as those of pain, colours, tastes and so on (though we don't yet know what causes them or why). When we contrast all this knowledge

with the confused thoughts we had before, we'll get the habit of forming vivid and clear concepts of all the things that can be known. These few instructions seem to me to contain the most important principles of human knowledge.

76. Divine authority must be put before our own perception; but apart from that the philosopher should give his assent only to what he has perceived.

Above all else we must impress on our memory the overriding rule that whatever God has revealed to us must be accepted

as more certain than anything else. And although the light of reason may, with the most shining obviousness, appear to suggest something different, we must still put our entire faith in divine authority rather than in our own judgment. But on matters where divine faith has nothing to say, it is unworthy of a philosopher to accept anything as true if he hasn't ever established its truth by thorough scrutiny; and he should never rely on the senses—i.e. on the ill-considered judgments of his childhood—in preference to his mature powers of reason.