

Excerpts from the *Objections & Replies* to Descartes' *Meditations on First Philosophy*

- A. To the Cogito.
 - 1. From Objection II (Mersenne): Cogito not an inference
 - 2. From Objection III (Hobbes): Thinking substance
 - 3. From Objection V (Gassendi): Not only thought implies existence
 - 4. From Objection VI (Mersenne): Cogito, infinite regress of representations
- B. To the Ontological Argument.
 - 5. From Objection I (Caterus): Conceptual versus actual existence
 - 6. From Objection III (Hobbes): Idea of God
 - 7. From Objection III (Hobbes): Attributes of God
- C. To the Mind-Body Distinction.
 - 8. From Objection IV (Arnauld): Body a Machine, animals
 - 9. From Objection IV (Arnauld): Argument from knowledge; substance
 - 10. From Objection VI (Mersenne): Mind cannot be matter
- D. To the notion of clear and distinct ideas and the nature of knowledge.
 - 11. From Objection II (Mersenne): Deception and certainty
 - 12. From Objection VI (Mersenne): Freedom of belief
 - 13. From Objection VI (Mersenne): God's power and necessary truths
 - 14. From Objection VI (Mersenne): Mind versus senses
- E. To the method
 - 15. From Objection II (Mersenne): Order of Presentation

A. To the Cogito

1. From Objection II (Mersenne): Cogito not an inference

Thirdly, you are not yet certain of the existence of God, and you say that you are not certain of anything, and cannot know anything clearly and distinctly until you have achieved clear and certain knowledge of the existence of God. It follows from this that you do not yet clearly and distinctly know that you are a thinking thing, since, on your own admission, that knowledge depends on the clear knowledge of an existing God; and this you have not yet proved in the passage where you draw the conclusion that you clearly know what you are.

Descartes' Response:

Thirdly, when I said that we can know nothing for certain until we are aware that God exists, I expressly declared that I was speaking only of knowledge of those conclusions which can be recalled when we are no longer attending to the arguments by means of which we deduced them. Now awareness of first principles is not normally called 'knowledge' by dialecticians. And when we become aware that we are thinking things, this is a primary notion which is not derived by means of any syllogism. When someone says "I am thinking, therefore I am, or I exist," he does not deduce existence from thought by means of a syllogism, but recognizes it as something self-evident by a simple intuition of the mind. This is clear from the fact that if he were deducing it by means of a syllogism, he would have to have had previous knowledge of the major premiss "Everything which thinks is, or exists"; yet in fact he learns it from experiencing in his own case that it is impossible that he should think without existing. It is in the nature of our mind to construct general propositions on the basis of our knowledge of particular ones.

2. From Objection III (Hobbes): Thinking substance

On the Second Meditation ('The nature of the human mind') ... "I am a thinking thing."
Correct. For from the fact that I think, or have an image (whether I am awake or dreaming), it can be inferred that I am thinking; for "I think" and "I am thinking" mean the same thing. And from the fact that I am thinking it follows that I exist, since that which thinks is not nothing. But when the author adds "that is, I am a mind, or intelligence, or intellect or reason," a doubt arises. It does not seem to be a valid argument to say "I am thinking, therefore I am thought" or "I am

using my intellect, hence I am an intellect.” I might just as well say “I am walking, therefore I am a walk.” M. Descartes is identifying the thing which understands with intellection, which is an act of that which understands. Or at least he is identifying the thing which understands with the intellect, which is a power of that which understands. Yet all philosophers make a distinction between a subject and its faculties and acts, i.e. between a subject and its properties and its essences: an entity is one thing, its essence is another. Hence it may be that the thing that thinks is the subject to which mind, reason or intellect belong; and this subject may thus be something corporeal. The contrary is assumed, not proved. Yet this inference is the basis of the conclusion which M. Descartes seems to want to establish.

In the same passage we find the following: “I know I exist; the question is, what is this ‘I’ that I know. If the ‘I’ is understood strictly as we have been taking it, then it is quite certain that knowledge of it does not depend on things of whose existence I am as yet unaware.”

It is quite certain that the knowledge of the proposition “I exist” depends on the proposition “I am thinking” as the author himself has explained to us. But how do we know the proposition “I am thinking”? It can only be from our inability to conceive an act without its subject. We cannot conceive of jumping without a jumper, of knowing without a knower, or of thinking without a thinker.

It seems to follow from this that a thinking thing is something corporeal. For it seems that the subject of any act can be understood only in terms of something corporeal or in terms of matter, as the author himself shows later on his example of the wax: the wax, despite the changes in its colour, hardness, shape and other acts, is still understood to be the same thing, that is, the same matter that is the subject of all these changes. Moreover, I do not infer that I am thinking by means of another thought. For although someone may think that he was thinking (for this thought is simply an act of remembering), it is quite impossible for him to think that he is thinking, or to know that he is knowing. For then an infinite chain of questions would arise: “How do you know that you know that you know . . . ?”

The knowledge of the proposition “I exist” thus depends on the knowledge of the proposition “I am thinking”; and knowledge of the latter proposition depends on our inability to separate thought from the matter that is thinking. So it seems that the correct inference is that the thinking thing is material rather than immaterial.

Descartes’ Response:

When I said “that is, I am a mind, or intelligence, or intellect or reason,” what I meant by these terms was not mere faculties, but things endowed with the faculty of thought. This is what the first two terms are commonly taken to mean by everyone; and the second two are often understood in this sense. I stated this point so explicitly, and in so many places, that it seems to me there was no room for doubt.

There is no comparison here between ‘a walk’ and ‘thought’. ‘A walk’ is usually taken to refer simply to the act of walking, whereas ‘thought’ is sometimes taken to refer to the act, sometimes to the faculty, and sometimes to the thing which possesses the faculty.

I do not say that the thing which understands is the same as intellection. Nor, indeed, do I identify the thing which understands with the intellect, if ‘the intellect’ is taken to refer to a faculty; they are identical only if ‘the intellect’ is taken to refer to the thing which understands. Now I freely admit that I used the most abstract terms I could in order to refer to the thing or substance in question, because I wanted to strip away from it everything that did not belong to it. This philosopher, by contrast, uses absolutely concrete words, namely ‘subject’, ‘matter’ and ‘body’, to refer to this thinking thing, because he wants to prevent its being separated from the body.

But I am not afraid that anyone will think my opponent’s method is better suited to the discovery of the truth than my own; for his method lumps together a large number of different items, whereas I aim to distinguish each individual item as far as I can. But let us stop talking about terminology and discuss the issue itself.

“It may be,” he says, “that the thing that thinks is something corporeal. The contrary is assumed, not proved.” But I certainly did not assume the contrary, nor did I use it as the “basis” of my argument. I left it quite undecided until the Sixth Meditation, where it is proved.

He is quite right in saying that “we cannot conceive of an act without its subject.” We cannot conceive of thought without a thinking thing, since that which thinks is not nothing. But he then goes on to say, quite without any reason, and in violation of all usage and all logic: “It seems to follow from this that a thinking thing is something corporeal.” It may be that the subject of any act can be understood only in terms of a substance (or even, if he insists, in terms of ‘matter’, i.e. metaphysical matter); but it does not follow that it must be understood in terms of a body.

Logicians, and people in general, normally say that some substances are spiritual and some are corporeal. All that I proved with the example of the wax was that colour, hardness and shape do not belong to the formal concept of the wax itself. I was not dealing in that passage with the formal concept of the mind or even with that of the body.

It is irrelevant for the philosopher to say that one thought cannot be the subject of another thought. For who, apart from him, ever supposed that it could be? If I may briefly explain the point at issue: it is certain that a thought

cannot exist without a thing that is thinking; and in general no act or accident can exist without a substance for it to belong to. But we do not come to know a substance immediately, through being aware of the substance itself; we come to know it only through its being the subject of certain acts. Hence it is perfectly reasonable, and indeed sanctioned by usage, for us to use different names for substances which we recognize as being the subjects of quite different acts or accidents. And it is reasonable for us to leave until later the examination of whether these different names signify different things or one and the same thing. Now there are certain acts that we call 'corporeal', such as size, shape, motion and all others that cannot be thought of apart from local extension; and we use the term 'body' to refer to the substance in which they inhere. It cannot be supposed that one substance is the subject of shape, and another substance is the subject of local motion etc., since all these acts fall under the common concept of extension. There are other acts which we call 'acts of thought', such as understanding, willing, imagining, having sensory perceptions, and so on: these all fall under the common concept of thought or perception or consciousness, and we call the substance in which they inhere a 'thinking thing' or a 'mind'. We can use any other term you like, provided we do not confuse this substance with corporeal substance. For acts of thought have nothing in common with corporeal acts, and thought, which is the common concept under which they fall, is different in kind from extension, which is the common concept of corporeal acts. Once we have formed two distinct concepts of these two substances, it is easy, on the basis of what is said in the Sixth Meditation, to establish whether they are one and the same or different.

3. From Objection V (Gassendi): Not only thought implies existence

Turning to the Second Meditation, I see that you still persist with your elaborate pretence of deception, but you go on to recognize at least that you, who are the subject of this deception, exist. And thus you conclude that this proposition, I am, I exist, is true whenever it is put forward by you or conceived in your mind. But I do not see that you needed all this apparatus, when on other grounds you were certain, and it was true, that you existed. You could have made the same inference from any one of your other actions, since it is known by the natural light that whatever acts exists.

Descartes' Response:

Again, what reason have you for saying that I "did not need all this apparatus" to prove I existed? These very words of yours surely show that I have the best reason to think that I have not used enough apparatus, since I have not yet managed to make you understand the matter correctly. When you say that I "could have made the same inference from any one of my other actions" you are far from the truth, since I am not wholly certain of any of my actions, with the sole exception of thought (in using the word 'certain' I am referring to metaphysical certainty, which is the sole issue at this point). I may not, for example, make the inference "I am walking, therefore I exist," except in so far as the awareness of walking is a thought. The inference is certain only if applied to this awareness, and not to the movement of the body which sometimes - in the case of dreams - is not occurring at all, despite the fact that I seem to myself to be walking. Hence from the fact that I think I am walking I can very well infer the existence of a mind which has this thought, but not the existence of a body that walks. And the same applies in other cases.

4. From Objection VI (Mersenne): Cogito, infinite regress of representations

The first point is that from the fact that we are thinking it does not seem to be entirely certain that we exist. For in order to be certain that you are thinking you must know what thought or thinking is, and what your existence is; but since you do not yet know what these things are, how can you know that you are thinking or that you exist? Thus neither when you say "I am thinking" nor when you add "therefore, I exist" do you really know what you are saying. Indeed, you do not even know that you are saying or thinking anything, since this seems to require that you should know that you know what you are saying; and this in turn requires that you be aware of knowing that you know what you are saying, and so on ad infinitum. Hence it is clear that you cannot know whether you exist or even whether you are thinking.

Descartes' Response:

It is true that no one can be certain that he is thinking or that he exists unless he knows what thought is and what existence is. But this does not require reflective knowledge, or the kind of knowledge that is acquired by means of demonstrations; still less does it require knowledge of reflective knowledge, i.e. knowing that we know, and knowing that we know that we know, and so on ad infinitum. This kind of knowledge cannot possibly be obtained about anything. It is quite sufficient that we should know it by that internal awareness which always precedes reflective knowledge. This inner awareness of one's thought and existence is so innate in all men that, although we may pretend that we do not have

if we are overwhelmed by preconceived opinions and pay more attention to words than to their meanings, we cannot in fact fail to have it. Thus when anyone notices that he is thinking and that it follows from this that he exists, even though he may never before have asked what thought is or what existence is, he still cannot fail to have sufficient knowledge of them both to satisfy himself in this regard.

B. To the Ontological Argument

5. From Objection I (Caterus): Conceptual versus actual existence

My own answer to M. Descartes, which is based on this passage, is briefly this. Even if it is granted that a supremely perfect being carries the implication of existence in virtue of its very title, it still does not follow that the existence in question is anything actual in the real world; all that follows is that the concept of existence is inseparably linked to the concept of a supreme being. So you cannot infer that the existence of God is anything actual unless you suppose that the supreme being actually exists; for then it will actually contain all perfections, including the perfection of real existence.

Pardon me, gentlemen: I am now rather tired and propose to have a little fun. The complex 'existing lion' includes both 'lion' and 'existence', and it includes them essentially, for if you take away either element it will not be the same complex. But now, has not God had clear and distinct knowledge of this composite from all eternity? And does not the idea of this composite, as a composite, involve both elements essentially? In other words, does not existence belong to the essence of the composite 'existing lion'? Nevertheless the distinct knowledge of God, the distinct knowledge he has from eternity, does not compel either element in the composite to exist, unless we assume that the composite itself exists (in which case it will contain all its essential perfections including actual existence). Similarly even if I have distinct knowledge of a supreme being, and even if the supremely perfect being includes existence as an essential part of the concept, it still does not follow that the existence in question is anything actual, unless we suppose that the supreme being exists (for in that case it will include actual existence along with all its other perfections). Accordingly we must look elsewhere for a proof that the supremely perfect being exists.

Descartes' Response:

The author of the objections here again compares one of my arguments with one of St Thomas', thus as it were forcing me to explain how one argument can have any greater force than the other. I think I can do this without too much unpleasantness. For, first, St Thomas did not use the argument which he then puts forward as an objection to his own position conclusion as I do; and lastly, on this issue I do not differ from the Angelic Doctor in any respect. St Thomas asks whether the existence of God is self-evident as far as we are concerned, that is, whether it is obvious to everyone; and he answers, correctly, that it is not. The argument which he then puts forward as an objection to his own position can be stated as follows. "Once we have understood the meaning of the word 'God', we understand it to mean 'that than which nothing greater can be conceived'. But to exist in reality as well as in the intellect is greater than to exist in the intellect alone. Therefore, once we have understood the meaning of the word 'God' we understand that God exists in reality as well as in the understanding." In this form the argument is manifestly invalid, for the only conclusion that should have been drawn is: "Therefore, once we have understood the meaning of the word 'God' we understand that what is conveyed is that God exists in reality as well as in the understanding." Yet because a word conveys something, that thing is not therefore shown to be true. My argument however was as follows: "That which we clearly and distinctly understand to belong to the true and immutable nature, or essence, or form of something, can truly be asserted of that thing. But once we have made a sufficiently careful investigation of what God is, we clearly and distinctly understand that existence belongs to his true and immutable nature. Hence we can now truly assert of God that he does exist." Here at least the conclusion does follow from the premisses. But, what is more, the major premiss cannot be denied, because it has already been conceded that whatever we clearly and distinctly understand is true. Hence only the minor premiss remains, and here I confess that there is considerable difficulty. In the first place we are so accustomed to distinguishing existence from essence in the case of all other things that we fail to notice how closely existence belongs to essence in the case of God as compared with that of other things. Next, we do not distinguish what belongs to the true and immutable essence of a thing from what is attributed to it merely by a fiction of the intellect. So, even if we observe clearly enough that existence belongs to the essence of God, we do not draw the conclusion that God exists, because we do not know whether his essence is immutable and true, or merely invented by us.

But to remove the first part of the difficulty we must distinguish between possible and necessary existence. It must be noted that possible existence is contained in the concept or idea of everything that we clearly and distinctly understand; but in no case is necessary existence so contained, except in the case of the idea of God. Those who carefully attend to this difference between the idea of God and every other idea will undoubtedly perceive that even though our

understanding of other things always involves understanding them as if they were existing things, it does not follow that they do exist, but merely that they are capable of existing. For our understanding does not show us that it is necessary for actual existence to be conjoined with their other properties. But, from the fact that we understand that actual existence is necessarily and always conjoined with the other attributes of God, it certainly does follow that God exists.

To remove the second part of the difficulty, we must notice a point about ideas which do not contain true and immutable natures but merely ones which are invented and put together by the intellect. Such ideas can always be split up by the same intellect, not simply by an abstraction but by a clear and distinct intellectual operation, so that any ideas which the intellect cannot split up in this way were clearly not put together by the intellect. When, for example, I think of a winged horse or an actually existing lion, or a triangle inscribed in a square, I readily understand that I am also able to think of a horse without wings, or a lion which does not exist, or a triangle apart from a square, and so on; hence these things do not have true and immutable natures. But if I think of a triangle or a square (I will not now include the lion or the horse, since their natures are not transparently clear to us), then whatever I apprehend as being contained in the idea of a triangle - for example that its three angles are equal to two right angles - I can with truth assert of the triangle. And the same applies to the square with respect to whatever I apprehend as being contained in the idea of a square. For even if I can understand what a triangle is if I abstract the fact that its three angles are equal to two right angles, I cannot deny that this property applies to the triangle by a clear and distinct intellectual operation - that is, while at the same time understanding what I mean by my denial. Moreover, if I consider a triangle inscribed in a square, with a view not to attributing to the square properties that belong only to the triangle, or attributing to the triangle properties that belong to the square, but with a view to examining only the properties which arise out of the conjunction of the two, then the nature of this composite will be just as true and immutable as the nature of the triangle alone or the square alone. And hence it will be quite in order to maintain that the square is not less than double the area of the triangle inscribed within it, and to affirm other similar properties that belong to the nature of this composite figure.

But if I were to think that the idea of a supremely perfect body contained existence, on the grounds that it is a greater perfection to exist both in reality and in the intellect than it is to exist in the intellect alone, I could not infer from this that the supremely perfect body exists, but only that it is capable of existing. For I can see quite well that this idea has been put together by my own intellect which has linked together all bodily perfections; and existence does not arise out of the other bodily perfections because it can equally well be affirmed or denied of them. Indeed, when I examine the idea of a body, I perceive that a body has no power to create itself or maintain itself in existence; and I rightly conclude that necessary existence - and it is only necessary existence that is at issue here - no more belongs to the nature of a body, however perfect, than it belongs to the nature of a mountain to be without a valley, or to the nature of a triangle to have angles whose sum is greater than two right angles. But instead of a body, let us now take a thing - whatever this thing turns out to be - which possesses all the perfections which can exist together. If we ask whether existence should be included among these perfections, we will admittedly be in some doubt at first. For our mind, which is finite, normally thinks of these perfections only separately, and hence may not immediately notice the necessity of their being joined together. Yet if we attentively examine whether existence belongs to a supremely powerful being, and what sort of existence it is, we shall be able to perceive clearly and distinctly the following facts. First, possible existence, at the very least, belongs to such a being, just as it belongs to all the other things of which we have a distinct idea, even to those which are put together through a fiction of the intellect. Next, when we attend to the immense power of this being, we shall be unable to think of its existence as possible without also recognizing that it can exist by its own power; and we shall infer from this that this being does really exist and has existed from eternity, since it is quite evident by the natural light that what can exist by its own power always exists. So we shall come to understand that necessary existence is contained in the idea of a supremely powerful being, not by any fiction of the intellect, but because it belongs to the true and immutable nature of such a being that it exists. And we shall also easily perceive that this supremely powerful being cannot but possess within it all the other perfections that are contained in the idea of God; and hence these perfections exist in God and are joined together not by any fiction of the intellect but by their very nature.

All this is manifest if we give the matter our careful attention; and it does not differ from anything I have written before, except for the method of explanation adopted. This I have deliberately altered so as to appeal to a variety of different minds. But as I readily admit, it is the kind of argument which may easily be regarded as a sophism by those who do not keep in mind all the elements which make up the proof. For this reason I did have considerable doubts to begin with about whether I should use it; for I feared it might induce those who did not grasp it to have doubts about the rest of my reasoning. But there are only two ways of proving the existence of God, one by means of his effects, and the other by means of his nature or essence; and since I expounded the first method to the best of my ability in the Third Meditation, I thought that I should include the second method later on.

6. From Objection III (Hobbes): Idea of God

“I still have to consider how I got this idea from God. After all, I did not extract it from the senses; it never simply happened to me without my expecting it, as is normally the case with ideas of sensible things, when the things themselves impinge on, or seem to impinge on, our external senses; nor even did I construct it myself, since I am quite unable to take anything away from it, or add anything to it. So the only remaining alternative is that it is innate to me, just as the idea of my own self is also innate to me.”

The whole of this inquiry collapses if there is no idea of God. It has not been proved that there is any such idea, and it does not seem that there is one. As for the idea of my own self, if we are talking about my body, I get it from looking at my body; and if we are talking about the soul, there is no idea of the soul at all. Rather, we deduce by reasoning that there is something internal to the human body, which gives it the animal motion by which it senses and moves. Whatever it is, we call it the ‘soul’, but without having any idea of it.

Descartes’ Response:

The whole of this objection collapses if there is an idea of God - and it is obvious that there is such an idea. And when he goes on to say that there is no idea of the soul, but that it is deduced by reasoning, it is just as if he were to say that there is no image of it portrayed in the imagination, but that all the same there is what I myself have called an idea of it.

7. From Objection III (Hobbes): Attributes of God

“So the idea of God is the only idea remaining for me to consider whether it contains anything which could not have originated in myself. By the name ‘God’ I mean a certain substance which is infinite, independent, supremely intelligent, supremely powerful, and by which I myself was created, along with everything else (if anything else in fact exists). Clearly, all these components of the idea are such that, the more carefully I consider them, the less they seem to have originated in myself. Consequently, it must be concluded from what was said earlier, that God necessarily exists.”

Descartes says that we can get the idea of God from considering his attributes, and that we should see whether the idea includes anything which could not have originated from within ourselves. Unless I am mistaken, I find that the thoughts we attach to the name of God do not indeed originate in ourselves, but that they do not necessarily come from anything other than external objects. By the name ‘God’, I understand a substance, that is, I understand that God exists (not through the having of an idea, but as the result of reasoning). Infinite - this means that I cannot conceive or imagine limits to him, or outermost parts, such that I cannot also imagine yet more remote ones. From this it follows that the name ‘infinite’ does not conjure up any idea of divine infinity, but only of my own finitude, or limits. Independent - this means that I cannot conceive of any cause which could give rise to God. From this it is obvious that the only idea I attach to the name ‘independent’ is the memory of my ideas coming into being at different times, and therefore being dependent.

This is why describing God as “independent” is simply to say that God is one of those things I cannot imagine coming into being. In the same way, describing God as “infinite” is equivalent to saying that he is one of those things we cannot conceive any limits to. This rules out any idea of God - after all, what sort of idea could lack any coming into being or limits?

Supremely intelligent. At this point, I ask: by means of what idea does Descartes have an understanding of God’s understanding?

Supremely powerful. Again, by means of what idea does he have an understanding of a power over things in the future, i.e. over things which do not exist? I myself certainly have an understanding of power, and it comes from imagery. I derive it from my memory of past actions, in the following way: someone did such-and-such, therefore they could do such-and-such; therefore as long as the same person exists, they could do the same again - i.e. they have the power to do it. But all these are ideas which could have come from external objects.

The creator of everything that exists. I myself can conjure up some sort of image of creation on the basis of things I have seen - e.g. the formation of a human baby in the womb, growing from virtually a point to the shape and size it has at birth. This is the only sort of idea anyone attaches to the name ‘creator’. But in order to prove that the world was created, it is not enough that we can have an image of the world after its creation. So, even if it had been proved that there exists something “infinite, independent, supremely powerful,” etc., it does not follow that there exists a creator. One would have to think that it followed validly from the fact that there exists a being which we ourselves believe to have created everything else, that this being did in fact create the world at some particular time.

One final point: when Descartes says that the ideas of God and of our souls are innate in us, I should like to know whether the souls of people in a deep and dreamless sleep are thinking. If not, they have no ideas at all during that period; and it follows that no idea is innate, since anything which is innate must always be there.

Descartes' Response:

No element of our idea of God can have been derived from an original among external objects, since nothing in God bears any resemblance to any aspects of external, i.e. corporeal things. So it is obvious that anything in our thinking which bears no resemblance to corporeal things cannot come from them, but must come from the cause of this dissimilarity in our thought.

And at this point, I ask: How does the Philosopher derive his intellectual understanding of God from external things? I can easily explain the idea I have of him, by saying that by 'idea' I mean everything which is the form of some perception. And surely, whenever anyone understands something, they perceive that they understand it? So they must have a form, or idea, of intellectual understanding. By extending this idea indefinitely, they can form an idea of the divine understanding. The same goes for the other attributes of God.

I used the idea of God which is within us for proving his existence. This idea includes power so great, that we understand that, if God exists, it would be a contradiction for anything apart from God to exist without having been created by him. So it obviously follows from the fact that his existence has been demonstrated, that it has also been demonstrated that the whole universe, or absolutely all things in existence which are distinct from God, were created by him.

Finally, when I say that a given idea is innate in us, I do not mean that we are always aware of it - if that was what I meant, then of course no idea would be innate. All I mean is that we have within ourselves the capacity of summoning it up.

C. To the Mind-Body Distinction

8. From Objection IV (Arnauld): Body a Machine, animals

I had got as far as this in my comments, and was intending to show how the author's principles, which I thought I had managed to gather from his method of philosophizing, would enable the immortality of the soul to be inferred very easily from the real distinction between the mind and the body. But at this point, a little study composed by our illustrious author was sent to me, which apart from shedding much light on the work as a whole, puts forward the same solution to the point at issue which I was on the point of proposing.

As far as the souls of the brutes are concerned, M. Descartes elsewhere suggests clearly enough that they have none. All they have is a body which is constructed in a particular manner, made up of various organs in such a way that all the operations which we observe can be produced in it and by means of it.

But I fear that this view will not succeed in finding acceptance in people's minds unless it is supported by very solid arguments. For at first sight it seems incredible that it can come about, without the assistance of any soul, that the light reflected from the body of a wolf onto the eyes of a sheep should move the minute fibres of the optic nerves, and that on reaching the brain this motion should spread the animal spirits throughout the nerves in the manner necessary to precipitate the sheep's flight.

Descartes' Response:

I will not answer my critic's further observations regarding the immortality of the soul, because they do not conflict with my views. As far as the souls of the brutes are concerned, this is not the place to examine the subject, and, short of giving an account of the whole of physics, I cannot add to the explanatory remarks I made in Part 5 of the Discourse on the Method. But to avoid passing over the topic in silence, I will say that I think the most important point is that, both in our bodies and those of the brutes, no movements can occur without the presence of all the organs or instruments which would enable the same movements to be produced in a machine. So even in our own case the mind does not directly move the external limbs, but simply controls the animal spirits which flow from the heart via the brain into the muscles, and sets up certain motions in them; for the spirits are by their nature adapted with equal facility to a great variety of actions. Now a very large number of the motions occurring inside us do not depend in any way on the mind. These include heartbeat, digestion, nutrition, respiration when we are asleep, and also such waking actions as walking, singing and the like, when these occur without the mind attending to them. When people take a fall, and stick out their hands so as to protect their head, it is not reason that instructs them to do this; it is simply that the sight of the impending fall reaches the brain and sends the animal spirits into the nerves in the manner necessary to produce this movement even without any mental volition, just as it would be produced in a machine. And since our own experience reliably informs us that this is so, why should we be so amazed that the "light reflected from the body of a wolf onto the eyes of a sheep" should equally be capable of arousing the movements of flight in the sheep?

But if we wish to determine by the use of reason whether any of the movements of the brutes are similar to those which are performed in us with the help of the mind, or whether they resemble those which depend merely on the flow of

the animal spirits and the disposition of the organs, then we should consider the differences that can be found between men and beasts. I mean the differences which I set out in Part 5 of the Discourse on the Method, for I think these are the only differences to be found. If we do this, it will readily be apparent that all the actions of the brutes resemble only those which occur in us without any assistance from the mind. And we shall be forced to conclude from this that we know of absolutely no principle of movement in animals apart from the disposition of their organs and the continual flow of the spirits which are produced by the heat of the heart as it rarefies the blood. We shall also see that there was no excuse for our imagining that any other principle of motion was to be found in the brutes. We made this mistake because we failed to distinguish the two principles of motion just described; and on seeing that the principle depending solely on the animal spirits and organs exists in the brutes just as it does in us, we jumped to the conclusion that the other principle, which consists in mind or thought, also exists in them. Things which we have become convinced of since our earliest years, even though they have subsequently been shown by rational arguments to be false, cannot easily be eradicated from our beliefs unless we give the relevant arguments our long and frequent attention.

9. From Objection IV (Arnauld): Argument from knowledge; substance

This is certainly very acute. But someone is going to bring up the objection which the author raises against himself: the fact that I have doubts about the body, or deny that it exists, does not bring it about that no body exists. "Yet may it not perhaps be the case that these very things which I am supposing to be nothing, because they are unknown to me, are in reality identical with the 'I' of which I am aware? I do not know," he says "and for the moment I shall not argue the point. I know that I exist; the question is, what is this 'I' that I know? If the 'I' is understood strictly as we have been taking it, then it is quite certain that knowledge of it does not depend on things of whose existence I am as yet unaware."

But the author admits that in the argument set out in the Discourse on the Method the proof excluding anything corporeal from the nature of the mind was not put forward "in an order corresponding to the actual truth of the matter" but merely in an order corresponding to his "own perception." So the sense of the passage was that he was aware of nothing at all which he knew belonged to his essence except that he was a thinking thing. From this answer it is clear that the objection still stands in precisely the same form as it did before, and that the question he promised to answer still remains outstanding: How does it follow, from the fact that he is aware of nothing else belonging to his essence, that nothing else does in fact belong to it? I must confess that I am somewhat slow, but I have been unable to find anywhere in the Second Meditation an answer to this question. As far as I can gather, however, the author does attempt a proof of this claim in the Sixth Meditation, since he takes it to depend on his having clear knowledge of God, which he had not yet arrived at in the Second Meditation. . . .

Suppose someone knows for certain that the angle in a semi-circle is a right angle, and hence that the triangle formed by this angle and the diameter of the circle is right-angled. In spite of this, he may doubt, or not yet have grasped for certain, that the square on the hypotenuse is equal to the squares on the other two sides; indeed he may even deny this if he is misled by some fallacy. But now, if he uses the same argument as that proposed by our illustrious author, he may appear to have confirmation of his false belief, as follows: "I clearly and distinctly perceive," he may say, "that the triangle is right-angled; but I doubt that the square on the hypotenuse is equal to the squares on the other two sides; therefore it does not belong to the essence of the triangle that the square on its hypotenuse is equal to the squares on the other sides."

Descartes' Response:

But I will begin by pointing out where it was that I embarked on proving "how, from the fact that I am aware of nothing else belonging to my essence (that is, the essence of the mind alone) apart from the fact that I am a thinking thing, it follows that nothing else does in fact belong to it." The relevant passage is the one where I proved that God exists - a God who can bring about everything that I clearly and distinctly recognize as possible.

Now it may be that there is much within me of which I am not yet aware (for example, in this passage I was in fact supposing that I was not yet aware that the mind possessed the power of moving the body, or that it was substantially united to it). Yet since that of which I am aware is sufficient to enable me to subsist with it and it alone, I am certain that I could have been created by God without having these other attributes of which I am unaware, and hence that these other attributes do not belong to the essence of the mind.

For if something can exist without some attribute, then it seems to me that that attribute is not included in its essence. And although mind is part of the essence of man, being united to a human body is not strictly speaking part of the essence of mind.

I must also explain what I meant by saying that "a real distinction cannot be inferred from the fact that one thing

is conceived apart from another by an abstraction of the intellect which conceives the thing inadequately. It can be inferred only if we understand one thing apart from another completely, or as a complete thing.”

I do not, as M. Arnauld assumes, think that adequate knowledge of a thing is required here. Indeed, the difference between complete and adequate knowledge is that if a piece of knowledge is to be adequate it must contain absolutely all the properties which are in the thing which is the object of knowledge. Hence only God can know that he has adequate knowledge of all things.

A created intellect, by contrast, though perhaps it may in fact possess adequate knowledge of many things, can never know it has such knowledge unless God grants it a special revelation of the fact. In order to have adequate knowledge of a thing all that is required is that the power of knowing possessed by the intellect is adequate for the thing in question, and this can easily occur. But in order for the intellect to know it has such knowledge, or that God put nothing in the thing beyond what it is aware of, its power of knowing would have to equal the infinite power of God, and this plainly could not happen on pain of contradiction.

Now in order for us to recognize a real distinction between two things it cannot be required that our knowledge of them be adequate if it is impossible for us to know that it is adequate. And since, as has just been explained, we can never know this, it follows that it is not necessary for our knowledge to be adequate.

Hence when I said that “it does not suffice for a real distinction that one thing is understood apart from another by an abstraction of the intellect which conceives the thing inadequately,” I did not think this would be taken to imply that adequate knowledge was required to establish a real distinction. All I meant was that we need the sort of knowledge that we have not ourselves made inadequate by an abstraction of the intellect.

There is a great difference between, on the one hand, some item of knowledge being wholly adequate, which we can never know with certainty to be the case unless it is revealed by God, and, on the other hand, its being adequate enough to enable us to perceive that we have not rendered it inadequate by an abstraction of the intellect.

In the same way, when I said that a thing must be understood completely, I did not mean that my understanding must be adequate, but merely that I must understand the thing well enough to know that my understanding is complete.

I thought I had made this clear from what I had said just before and just after the passage in question. For a little earlier I had distinguished between ‘incomplete’ and ‘complete’ entities, and I had said that for there to be a real distinction between a number of things, each of them must be understood as “an entity in its own right which is different from everything else.”

And later on, after saying that I had “a complete understanding of what a body is,” I immediately added that I also “understood the mind to be a complete thing.” The meaning of these two phrases was identical; that is, I took ‘a complete understanding of something’ and ‘understanding something to be a complete thing’ as having one and the same meaning.

But here you may justly ask what I mean by a ‘complete thing’, and how I prove that for establishing a real distinction it is sufficient that two things can be understood as ‘complete’ and that each one can be understood apart from the other.

My answer to the first question is that by a ‘complete thing’ I simply mean a substance endowed with the forms or attributes which enable me to recognize that it is a substance.

We do not have immediate knowledge of substances, as I have noted elsewhere. We know them only by perceiving certain forms or attributes which must inhere in something if they are to exist; and we call the thing in which they inhere a ‘substance’.

But if we subsequently wanted to strip the substance of the attributes through which we know it, we would be destroying our entire knowledge of it. We might be able to apply various words to it, but we could not have a clear and distinct perception of what we meant by these words.

I am aware that certain substances are commonly called ‘incomplete’. But if the reason for calling them incomplete is that they are unable to exist on their own, then I confess I find it self-contradictory that they should be substances, that is, things which subsist on their own, and at the same time incomplete, that is, not possessing the power to subsist on their own. It is also possible to call a substance incomplete in the sense that, although it has nothing incomplete about it qua substance, it is incomplete in so far as it is referred to some other substance in conjunction with which it forms something which is a unity in its own right.

Thus a hand is an incomplete substance when it is referred to the whole body of which it is a part; but it is a complete substance when it is considered on its own. And in just the same way the mind and the body are incomplete substances when they are referred to a human being which together they make up. But if they are considered on their own, they are complete.

For just as being extended and divisible and having shape etc. are forms or attributes by which I recognize the substance called body, so understanding, willing, doubting etc. are forms by which I recognize the substance which is

called mind. And I understand a thinking substance to be just as much a complete thing as an extended substance.

10. From Objection VI (Mersenne): Mind cannot be matter

To come to the second difficulty, when you say you are thinking and that you exist, someone might maintain that you are mistaken, and are not thinking but are merely in motion, and that you are nothing else but corporeal motion. For no one has yet been able to grasp that demonstration of yours by which you think you have proved that what you call thought cannot be a kind of corporeal motion. Have you used your method of analysis to separate off all the motions of that rarefied matter of yours? Is this what makes you so certain? And can you therefore show us (for we will give our closest attention and our powers of perception are, we think, reasonably keen) that it is self-contradictory that our thoughts should be reducible to these corporeal motions?

Descartes' Response:

When someone notices that he is thinking, then, given that he understands what motion is, it is quite impossible that he should believe that he is mistaken and is "not thinking but merely in motion." Since the idea or notion which he has of thought is quite different from his idea of corporeal motion, he must necessarily understand the one as different from the other. Because, however, he is accustomed to attribute many different properties to one and the same subject without being aware of any connection between them, he may possibly be inclined to doubt, or may even affirm, that he is one and the same being who thinks and who moves from place to place. Notice that if we have different ideas of two things, there are two ways in which they can be taken to be one and the same thing: either in virtue of the unity or identity of their nature, or else merely in respect of unity of composition. For example, the ideas which we have of shape and of motion are not the same, nor are our ideas of understanding and volition, nor are those of bones and flesh, nor are those of thought and of an extended thing. But nevertheless we clearly perceive that the same substance which is such that it is capable of taking on a shape is also such that it is capable of being moved, and hence that that which has shape and that which is mobile are one and the same in virtue of a unity of nature. Similarly, the thing that understands and the thing that wills are one and the same in virtue of a unity of nature. But our perception is different in the case of the thing that we consider under the form of bone and that which we consider under the form of flesh; and hence we cannot take them as one and the same thing in virtue of a unity of nature but can regard them as the same only in respect of unity of composition - i.e. in so far as it is one and the same animal which has bones and flesh. But now the question is whether we perceive that a thinking thing and an extended thing are one and the same by a unity of nature. That is to say, do we find between thought and extension the same kind of affinity or connection that we find between shape and motion, or understanding and volition? Alternatively, when they are said to be 'one and the same' is this not rather in respect of unity of composition, in so far as they are found in the same man, just as bones and flesh are found in the same animal? The latter view is the one I maintain, since I observe a distinction or difference in every respect between the nature of an extended thing and that of a thinking thing, which is no less than that to be found between bones and flesh.

However, you go on to say that no one has been able to grasp this demonstration of mine. In case this appeal to authority may prejudice the truth, I am compelled to reply that even though not many people have yet examined the demonstration, there are nevertheless several who affirm that they understand it. One witness who has sailed to America and says that he has seen the antipodes deserves more credence than a thousand others who deny their existence merely because they have no knowledge of them. And similarly, those who give due consideration to the true force of an argument will have more respect for the authority of one person who says that he has understood a proof correctly, than they will accord to a thousand others who claim, without providing any argument to back up their case, that it cannot be understood by anyone. For the fact that such people fail to understand the argument themselves does not prevent anyone else's understanding it; indeed, the very fact that they infer its general unintelligibility from their own failure to understand it shows that their reasoning is careless, and that they do not deserve to have their views accepted.

Lastly, my critics ask whether I have used my method of analysis to separate off all the motions of that rarefied matter of mine. Is this (they ask) what makes me certain? And can I therefore show my critics, who are most attentive and (they think) reasonably perceptive men, that it is self-contradictory that our thought should be reduced to corporeal motions? By 'reduced' I take it that they mean that our thought and corporeal motions are one and the same. My reply is that I am very certain of this point, but I cannot guarantee that others can be convinced of it, however attentive they may be, and however keen, in their own judgement, their powers of perception may be. I cannot guarantee that they will be persuaded, at least so long as they focus their attention not on things which are objects of pure understanding but only on things which can be imagined. This mistake has obviously been made by those who have imagined that the distinction between thought and motion is to be understood by making divisions within some kind of rarefied matter. The only way of understanding the distinction is to realize that the notions of a thinking thing and an extended or mobile thing are

completely different, and independent of each other; and it is self-contradictory to suppose that things that we clearly understand as different and independent could not be separated, at least by God. Thus, however often we find them in one and the same subject - e.g. when we find thought and corporeal motion in the same man - we should not therefore think that they are one and the same in virtue of a unity of nature, but should regard them as the same only in respect of unity of composition.

D. To the notion of clear and distinct ideas and the nature of knowledge

11. From Objection II (Mersenne): Deception and certainty

It is not, however, necessary to suppose that God is a deceiver in order to explain your being deceived about matters which you think you clearly and distinctly know. The cause of this deception could lie in you, though you are wholly unaware of it. Why should it not be in your nature to be subject to constant - or at least very frequent - deception? How can you establish with certainty that you are not deceived, or capable of being deceived, in matters which you think you know clearly and distinctly? Have we not often seen people turn out to have been deceived in matters where they thought their knowledge was as clear as the sunlight? Your principle of clear and distinct knowledge thus requires a clear and distinct explanation, in such a way as to rule out the possibility that anyone of sound mind may be deceived on matters which he thinks he knows clearly and distinctly. Failing this, we do not see that any degree of certainty can possibly be within your reach or that of mankind in general.

Descartes' Response:

But since I see that you are still stuck fast in the doubts which I put forward in the First Meditation, and which I thought I had very carefully removed in the succeeding Meditations, I shall now expound for a second time the basis on which it seems to me that all human certainty can be founded.

First of all, as soon as we think that we correctly perceive something, we are spontaneously convinced that it is true. Now if this conviction is so firm that it is impossible for us ever to have any reason for doubting what we are convinced of, then there are no further questions for us to ask: we have everything that we could reasonably want. What is it to us that someone may make out that the perception whose truth we are so firmly convinced of may appear false to God or an angel, so that it is, absolutely speaking, false? Why should this alleged "absolute falsity" bother us, since we neither believe in it nor have even the smallest suspicion of it? For the supposition which we are making here is of a conviction so firm that it is quite incapable of being destroyed; and such a conviction is clearly the same as the most perfect certainty.

But it may be doubted whether any such certainty, or firm and immutable conviction, is in fact to be had.

It is clear that we do not have this kind of certainty in cases where our perception is even the slightest bit obscure or confused; for such obscurity, whatever its degree, is quite sufficient to make us have doubts in such cases. Again, we do not have the required kind of certainty with regard to matters which we perceive solely by means of the senses, however clear such perception may be. For we have often noted that error can be detected in the senses, as when someone with dropsy feels thirsty or when someone with jaundice sees snow as yellow; for when he sees it as yellow he sees it just as clearly and distinctly as we do when we see it as white. Accordingly, if there is any certainty to be had, the only remaining alternative is that it occurs in the clear perceptions of the intellect and nowhere else.

Now some of these perceptions are so transparently clear and at the same time so simple that we cannot ever think of them without believing them to be true. The fact that I exist so long as I am thinking, or that what is done cannot be undone, are examples of truths in respect of which we manifestly possess this kind of certainty. For we cannot doubt them unless we think of them; but we cannot think of them without at the same time believing they are true, as was supposed. Hence we cannot doubt them without at the same time believing they are true; that is, we can never doubt them.

It is no objection to this to say that we have often seen people "turn out to have been deceived in matters where they thought their knowledge was as clear as the sunlight." For we have never seen, indeed no one could possibly see, this happening to those who have relied solely on the intellect in their quest for clarity in their perceptions; we have seen it happen only to those who tried to derive such clarity from the senses or from some false preconceived opinion.

It is also no objection for someone to make out that such truths might appear false to God or to an angel. For the evident clarity of our perceptions does not allow us to listen to anyone who makes up this kind of story.

There are other truths which are perceived very clearly by our intellect so long as we attend to the arguments on which our knowledge of them depends; and we are therefore incapable of doubting them during this time. But we may forget the arguments in question and later remember simply the conclusions which were deduced from them. The question will now arise as to whether we possess the same firm and immutable conviction concerning these conclusions,

when we simply recollect that they were previously deduced from quite evident principles (our ability to call them 'conclusions' presupposes such a recollection). My reply is that the required certainty is indeed possessed by those whose knowledge of God enables them to understand that the intellectual faculty which he gave them cannot but tend towards the truth; but the required certainty is not possessed by others. This point was explained so clearly at the end of the Fifth Meditation that it does not seem necessary to add anything further here.

12. From Objection VI (Mersenne): Freedom of belief

The sixth difficulty arises in connection with the indifference that belongs to our judgement, or liberty. This indifference, you claim, does not belong to the perfection of the will but has to do merely with its imperfection; thus, according to you, indifference is removed whenever the mind clearly perceives what it should believe or do or refrain from doing. But do you not see that by adopting this position you are destroying God's freedom, since you are removing from his will the indifference as to whether he shall create this world rather than another world or no world at all? Yet it is an article of faith that God was from eternity indifferent as to whether he should create one world, or innumerable worlds, or none at all. But who doubts that God has always perceived with the clearest vision what he should do or refrain from doing? Thus, a very clear vision and perception of things does not remove indifference of choice; and if indifference cannot be a proper part of human freedom, neither will it find a place in divine freedom, since the essences of things are, like numbers, indivisible and immutable. Therefore indifference is involved in God's freedom of choice no less than it is in the case of human freedom of choice.

Descartes' Response:

As for the freedom of the will, the way in which it exists in God is quite different from the way in which it exists in us. It is self-contradictory to suppose that the will of God was not indifferent from eternity with respect to everything which has happened or will ever happen; for it is impossible to imagine that anything is thought of in the divine intellect as good or true, or worthy of belief or action or omission, prior to the decision of the divine will to make it so. I am not speaking here of temporal priority: I mean that there is not even any priority of order, or nature, or of "rationally determined reason" as they call it, such that God's idea of the good impelled him to choose one thing rather than another. For example, God did not will the creation of the world in time because he saw that it would be better this way than if he had created it from eternity; nor did he will that the three angles of a triangle should be equal to two right angles because he recognized that it could not be otherwise, and so on. On the contrary, it is because he willed to create the world in time that it is better this way than if he had created it from eternity; and it is because he willed that the three angles of a triangle should necessarily equal two right angles that this is true and cannot be otherwise; and so on in other cases. There is no problem in the fact that the merit of the saints may be said to be the cause of their obtaining eternal life; for it is not the cause of this reward in the sense that it determines God to will anything, but is merely the cause of an effect of which God willed from eternity that it should be the cause. Thus the supreme indifference to be found in God is the supreme indication of his omnipotence. But as for man, since he finds that the nature of all goodness and truth is already determined by God, and his will cannot tend towards anything else, it is evident that he will embrace what is good and true all the more willingly, and hence more freely, in proportion as he sees it more clearly. He is never indifferent except when he does not know which of the two alternatives is the better or truer, or at least when he does not see this clearly enough to rule out any possibility of doubt. Hence the indifference which belongs to human freedom is very different from that which belongs to divine freedom. The fact that the essences of things are said to be indivisible is not relevant here. For, firstly, no essence can belong univocally to both God and his creatures; and, secondly, indifference does not belong to the essence of human freedom, since not only are we free when ignorance of what is right makes us indifferent, but we are also free - indeed at our freest - when a clear perception impels us to pursue some object.

13. From Objection VI (Mersenne): God's power and necessary truths

The eighth difficulty arises out of your reply to the Fifth Set of Objections. How can the truths of geometry or metaphysics, such as those you refer to, be immutable and eternal and yet not be independent of God? What sort of causal dependence on God do they have? Could he have brought it about that there has never been any such thing as the nature of a triangle? And how, may we ask, could he have made it untrue from eternity that twice four makes eight, or that a triangle has three angles? Either these truths depend solely on the intellect that is thinking of them, or on existing things, or else they are independent, since it seems that God could not have brought it about that any of these essences or truths were not as they were from all eternity

Descartes' Response:

If anyone attends to the immeasurable greatness of God he will find it manifestly clear that there can be nothing whatsoever which does not depend on him. This applies not just to everything that subsists, but to all order, every law, and every reason for anything's being true or good. If this were not so, then, as noted a little earlier, God would not have been completely indifferent with respect to the creation of what he did in fact create. If some reason for something's being good had existed prior to his preordination, this would have determined God to prefer those things which it was best to do. But on the contrary, just because he resolved to prefer those things which are now to be done, for this very reason, in the words of Genesis, "they are very good"; in other words, the reason for their goodness depends on the fact that he exercised his will to make them so. There is no need to ask what category of causality is applicable to the dependence of this goodness upon God, or to the dependence on him of other truths, both mathematical and metaphysical. For since the various kinds of cause were enumerated by thinkers who did not, perhaps, attend to this type of causality, it is hardly surprising that they gave no name to it. But in fact they did give it a name, for it can be called efficient causality, in the sense that a king may be called the efficient cause of a law, although the law itself is not a thing which has physical existence, but is merely what they call a 'moral entity'. Again, there is no need to ask how God could have brought it about from eternity that it was not true that twice four make eight, and so on; for I admit this is unintelligible to us. Yet on the other hand I do understand, quite correctly, that there cannot be any class of entity that does not depend on God; I also understand that it would have been easy for God to ordain certain things such that we men cannot understand the possibility of their being otherwise than they are. And therefore it would be irrational for us to doubt what we do understand correctly just because there is something which we do not understand and which, so far as we can see, there is no reason why we should understand. Hence we should not suppose that eternal truths "depend on the human intellect or on other existing things"; they depend on God alone, who, as the supreme legislator, has ordained them from eternity.

14. From Objection VI (Mersenne): Mind versus senses

Our ninth and most worrying difficulty is your assertion that we ought to mistrust the operations of the senses and that the reliability of the intellect is much greater than that of the senses. But how can the intellect enjoy any certainty unless it has previously derived it from the senses when they are working as they should? How can it correct a mistake made by one of the senses unless some other sense first corrects the mistake? Owing to refraction, a stick which is in fact straight appears bent in water. What corrects the error? The intellect? Not at all; it is the sense of touch. And the same sort of thing must be taken to occur in other cases. Hence if you have recourse to all your senses when they are in good working order, and they all give the same report, you will achieve the greatest certainty of which man is naturally capable. But you will often fail to achieve it if you trust the operations of the mind; for the mind often goes astray in just those areas where it had previously supposed doubt to be impossible.

Descartes' Response:

If we are to get a clear view of what sort of certainty attaches to the senses, we must distinguish three grades of sensory response. The first is limited to the immediate stimulation of the bodily organs by external objects; this can consist in nothing but the motion of the particles of the organs, and any change of shape and position resulting from this motion. The second grade comprises all the immediate effects produced in the mind as a result of its being united with a bodily organ which is affected in this way. Such effects include the perceptions of pain, pleasure, thirst, hunger, colours, sound, taste, smell, heat, cold and the like, which arise from the union and as it were the intermingling of mind and body, as explained in the Sixth Meditation. The third grade includes all the judgements about things outside us which we have been accustomed to make from our earliest years - judgements which are occasioned by the movements of these bodily organs.

For example, when I see a stick, it should not be supposed that certain 'intentional forms' fly off the stick towards the eye, but simply that rays of light are reflected off the stick and set up certain movements in the optic nerve and, via the optic nerve, in the brain, as I have explained at some length in the Optics. This movement in the brain, which is common to us and the brutes, is the first grade of sensory response. This leads to the second grade, which extends to the mere perception of the colour and light reflected from the stick; it arises from the fact that the mind is so intimately conjoined with the body that it is affected by the movements which occur in it. Nothing more than this should be referred to the sensory faculty, if we wish to distinguish it carefully from the intellect. But suppose that, as a result of being affected by this sensation of colour, I judge that a stick, located outside me, is coloured; and suppose that on the basis of the extension of the colour and its boundaries together with its position in relation to the parts of the brain, I make a rational calculation about the size, shape and distance of the stick: although such reasoning is commonly assigned to the

senses (which is why I have here referred it to the third grade of sensory response), it is clear that it depends solely on the intellect. I demonstrated in the Optics how size, distance and shape can be perceived by reasoning alone, which works out any one feature from the other features. The only difference is that when we now make a judgement for the first time because of some new observation, then we attribute it to the intellect; but when from our earliest years we have made judgements, or even rational inferences, about the things which affect our senses, then, even though these judgements were made in exactly the same way as those we make now, we refer them to the senses. The reason for this is that we make the calculation and judgement at great speed because of habit, or rather we remember the judgements we have long made about similar objects; and so we do not distinguish these operations from simple sense-perception.

It is clear from this that when we say "The reliability of the intellect is much greater than that of the senses," this means merely that when we are grown up the judgements which we make as a result of various new observations are more reliable than those which we formed without any reflection in our early childhood; and this is undoubtedly true. It is clear that we are not here dealing with the first and second grades of sensory response, because no falsity can occur in them. Hence when people say that a stick in water "appears bent because of refraction," this is the same as saying that it appears to us in a way which would lead a child to judge that it was bent - and which may even lead us to make the same judgement, following the preconceived opinions which we have become accustomed to accept from our earliest years. But I cannot grant my critics' further comment that this error is corrected "not by the intellect but by the sense of touch." As a result of touching it, we may judge that the stick is straight, and the kind of judgement involved may be the kind we have been accustomed to make since childhood, and which is therefore referred to as the 'sense' of touch. But the sense alone does not suffice to correct the visual error: in addition we need to have some degree of reason which tells us that in this case we should believe the judgement based on touch rather than that elicited by vision. And since we did not have this power of reasoning in our infancy, it must be attributed not to the senses but to the intellect. Thus even in the very example my critics produce, it is the intellect alone which corrects the error of the senses; and it is not possible to produce any case in which error results from our trusting the operation of the mind more than the senses.

E. To the method

15. From Objection II (Mersenne): Order of Presentation

These, Sir, are the points which we wanted you to clarify, so as to enable everyone to derive the utmost benefit from reading your Meditations, which are argued with great subtlety and are also, in our opinion, true. And after giving your solutions to these difficulties it would be worthwhile if you set out the entire argument in geometrical fashion, starting from a number of definitions, postulates and axioms. You are highly experienced in employing this method, and it would enable you to fill the mind of each reader so that he could see everything as it were at a single glance, and be permeated with awareness of the divine power.

Descartes's Response:

I now turn to your proposal that I should set out my arguments in geometrical fashion to enable the reader to perceive them "as it were at a single glance." It is worth explaining here how far I have already followed this method, and how far I think it should be followed in future. I make a distinction between two things which are involved in the geometrical manner of writing, namely, the order, and the method of demonstration.

The order consists simply in this. The items which are put forward first must be known entirely without the aid of what comes later; and the remaining items must be arranged in such a way that their demonstration depends solely on what has gone before. I did try to follow this order very carefully in my Meditations, and my adherence to it was the reason for my dealing with the distinction between the mind and the body only at the end, in the Sixth Meditation, rather than in the Second. It also explains why I deliberately and knowingly omitted many matters which would have required an explanation of an even larger number of things.

As for the method of demonstration, this divides into two varieties: the first proceeds by analysis and the second by synthesis.

Analysis shows the true way by means of which the thing in question was discovered methodically and as it were a priori, so that if the reader is willing to follow it and give sufficient attention to all points, he will make the thing his own and understand it just as perfectly as if he had discovered it for himself. But this method contains nothing to compel belief in an argumentative or inattentive reader; for if he fails to attend even to the smallest point, he will not see the necessity of the conclusion. Moreover there are many truths which - although it is vital to be aware of them - this method often scarcely mentions, since they are transparently clear to anyone who gives them his attention.

Synthesis, by contrast, employs a directly opposite method where the search is, as it were, a posteriori (though the proof itself is often more a priori than it is in the analytic method). It demonstrates the conclusion clearly and

employs a long series of definitions, postulates, axioms, theorems and problems, so that if anyone denies one of the conclusions it can be shown at once that it is contained in what has gone before, and hence the reader, however argumentative or stubborn he may be, is compelled to give his assent. However, this method is not as satisfying as the method of analysis, nor does it engage the minds of those who are eager to learn, since it does not show how the thing in question was discovered.

It was synthesis alone that the ancient geometers usually employed in their writings. But in my view this was not because they were utterly ignorant of analysis, but because they had such a high regard for it that they kept it to themselves like a sacred mystery.

Now it is analysis which is the best and truest method of instruction, and it was this method alone which I employed in my Meditations. As for synthesis, which is undoubtedly what you are asking me to use here, it is a method which it may be very suitable to deploy in geometry as a follow-up to analysis, but it cannot so conveniently be applied to these metaphysical subjects.

The difference is that the primary notions which are presupposed for the demonstration of geometrical truths are readily accepted by anyone, since they accord with the use of our senses. Hence there is no difficulty there, except in the proper deduction of the consequences, which can be done even by the less attentive, provided they remember what has gone before. Moreover, the breaking down of propositions to their smallest elements is specifically designed to enable them to be recited with ease so that the student recalls them whether he wants to or not.

In metaphysics by contrast there is nothing which causes so much effort as making our perception of the primary notions clear and distinct. Admittedly, they are by their nature as evident as, or even more evident than, the primary notions which the geometers study; but they conflict with many preconceived opinions derived from the senses which we have got into the habit of holding from our earliest years, and so only those who really concentrate and meditate and withdraw their minds from corporeal things, so far as is possible, will achieve perfect knowledge of them. Indeed, if they were put forward in isolation, they could easily be denied by those who like to contradict just for the sake of it.

This is why I wrote 'Meditations' rather than 'Disputations', as the philosophers have done, or 'Theorems and Problems', as the geometers would have done. In so doing I wanted to make it clear that I would have nothing to do with anyone who was not willing to join me in meditating and giving the subject attentive consideration. For the very fact that someone braces himself to attack the truth makes him less suited to perceive it, since he will be withdrawing his consideration from the convincing arguments which support the truth in order to find counter-arguments against it.

Adapted from:

<http://www.anselm.edu/homepage/dbanach/dc-obj-cogito.htm>

<http://www.philosophy.leeds.ac.uk/GMR/hmp/texts/modern/hobbes/objections/objects.html#o1>