

436 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';¹ they depend on God alone, who, as the supreme legislator, has ordained them from eternity.

437 9. 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

¹ Cf. above p. 281.

explained in the Sixth Meditation.¹ 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,² 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*.³ 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',⁴ 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

¹ Above pp. 56ff. ² Cf. footnote, p. 174. ³ See Vol 1, pp. 169f.

⁴ Above pp. 281f.

439 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'.¹ 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.

10. My critics' remaining comments² are put forward as doubts rather than as objections, and I am not so confident of my powers as to venture to guarantee that I shall be able to give a satisfactory explanation of matters which I see still give rise to doubt in the minds of many learned and highly intelligent men. But nevertheless, so as not to desert the cause, I will do what I can and give a frank account of how it happened that I managed to free myself entirely from these same doubts. In so doing, I shall be delighted if my comments are perhaps of some help to others; and if they are not, I shall at least not feel myself to have made any rash promises.

440 When, on the basis of the arguments set out in these Meditations, I first drew the conclusion that the human mind is really distinct from the body, better known than the body, and so on, I was compelled to accept these results because everything in the reasoning was coherent and was inferred from quite evident principles in accordance with the rules of logic. But I confess that for all that I was not entirely convinced; I was in the same plight as astronomers who have established by argument that the sun is several times larger than the earth, and yet still cannot prevent themselves judging that it is smaller, when they actually look at it. However, I went on from here, and proceeded to apply the same fundamental principles to the consideration of physical things. First I attended to the ideas or notions of each particular thing which I found

¹ Above p. 282. ² *Ibid.*

within myself, and I carefully distinguished them one from the other so that all my judgements should match them. I observed as a result that nothing whatever belongs to the concept of body except the fact that it is something which has length, breadth and depth and is capable of various shapes and motions; moreover, these shapes and motions are merely modes which no power whatever can cause to exist apart from body. But colours, smells, tastes and so on, are, I observed, merely certain sensations which exist in my thought, and are as different from bodies as pain is different from the shape and motion of the weapon which produces it. And lastly, I observed that heaviness and hardness and the power to heat or to attract, or to purge, and all the other qualities which we experience in bodies, consist solely in the motion of bodies, or its absence, and the configuration and situation of their parts.

441 Since these opinions were completely different from those which I had previously held regarding physical things, I next began to consider what had led me to take a different view before. The principal cause, I discovered, was this. From infancy I had made a variety of judgements about physical things in so far as they contributed to preserving the life which I was embarking on; and subsequently I retained the same opinions I had originally formed of these things. But at that age the mind employed the bodily organs less correctly than it now does, and was more firmly attached to them; hence it had no thoughts apart from them and perceived things only in a confused manner. Although it was aware of its own nature and had within itself an idea of thought as well as an idea of extension, it never exercised its intellect on anything without at the same time picturing something in the imagination. It therefore took thought and extension to be one and the same thing, and referred to the body all the notions which it had concerning things related to the intellect. Now I had never freed myself from these preconceived opinions in later life, and hence there was nothing that I knew with sufficient distinctness, and there was nothing I did not suppose to be corporeal; however, in the case of those very things that I supposed to be corporeal, the ideas or concepts which I formed were frequently such as to refer to minds rather than bodies.

442 For example, I conceived of gravity¹ as if it were some sort of real quality, which inhered in solid bodies; and although I called it a 'quality', thereby referring it to the bodies in which it inhered, by adding that it was 'real' I was in fact thinking that it was a substance. In the same way clothing, regarded in itself, is a substance, even though when referred to the man who wears it, it is a quality. Or again, the mind, even though it is in fact a substance, can nonetheless be said to be a quality of the body to

¹ Lat. *gravitas*, literally 'heaviness'.