We cannot have it both ways, and no sneers at the limitations of logic ... amend the dilemma.

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**If naturalism** is true, every finite thing or event must be (in principle) explicable in terms of the Total System. I say “explicable in principle” because of course we are not going to demand that naturalists, at any given moment, should have found the detailed explanation of every phenomenon. Obviously many things will only be explained when the sciences have made further progress. But if Naturalism is to be accepted we have a right to demand that every single thing should be such that we see, in general, how it could be explained in terms of the Total System. If any one thing exists which is of such a kind that we see in advance the impossibility of ever giving it that kind of explanation, then Naturalism would be in ruins. If necessities of thought force us to allow to any one thing any degree of independence from the Total System—if any one thing makes good a claim to be on its own, to be something more than an expression of the character of Nature as a whole—then we have abandoned Naturalism. For by Naturalism we mean the doctrine that only Nature—the whole interlocked system—exists. And if that were true, every thing and event would, if we knew enough, be explicable without remainder (no *heel-taps*) as a necessary product of the system. The whole system being what it is, it ought to be a contradiction in terms if you were not reading this book at the moment; and, con-
versely, the only cause why you are reading it ought to be that the whole system, at such and such a place and hour, was bound to take that course.

One threat against strict Naturalism has recently been launched on which I myself will base no argument, but which it will be well to notice. The older scientists believed that the smallest particles of matter moved according to strict laws: in other words, that the movements of each particle were “interlocked” with the total system of Nature. Some modern scientists seem to think—if I understand them—that this is not so. They seem to think that the individual unit of matter (it would be rash to call it any longer a “particle”) moves in an indeterminate or random fashion; moves, in fact, “on its own” or “of its own accord.” The regularity which we observe in the movements of the smallest visible bodies is explained by the fact that each of these contains millions of units and that the law of averages therefore levels out the idiosyncrasies of the individual unit’s behaviour. The movement of one unit is incalculable, just as the result of tossing a coin once is incalculable: the majority movement of a billion units can however be predicted, just as, if you tossed a coin a billion times, you could predict a nearly equal number of heads and tails. Now it will be noticed that if this theory is true we have really admitted something other than Nature. If the movements of the individual units are events “on their own,” events which do not interlock with all other events, then these movements are not part of Nature. It would be, indeed, too great a shock to our habits to describe them as super-natural. I think we should have to call them sub-natural. But all our confidence that Nature has no doors, and no reality outside herself for doors to open on, would have disappeared. There is apparently something outside her, the Subnatural; it is indeed from this Subnatural that all events and all “bodies,” are, as it were, fed into her. And clearly if she thus has a back door opening on the Subnatural, it is quite on the cards that she may also have a front door opening on the Supernatural—and events might be fed into her at that door too.

I have mentioned this theory because it puts in a fairly
vivid light certain conceptions which we shall have to use later on. But I am not, for my own part, assuming its truth. Those who (like myself) have had a philosophical rather than a scientific education find it almost impossible to believe that the scientists really mean what they seem to be saying. I cannot help thinking they mean no more than that the movements of individual units are permanently incalculable to us, not that they are in themselves random and lawless. And even if they mean the latter, a layman can hardly feel any certainty that some new scientific development may not to-morrow abolish this whole idea of a lawless Subnature. For it is the glory of science to progress. I therefore turn willingly to other ground.

It is clear that everything we know, beyond our own immediate sensations, is inferred from those sensations. I do not mean that we begin as children, by regarding our sensations as "evidence" and thence arguing consciously to the existence of space, matter, and other people. I mean that if, after we are old enough to understand the question, our confidence in the existence of anything else (say, the solar system or the Spanish Armada) is challenged, our argument in defence of it will have to take the form of inferences from our immediate sensations. Put in its most general form the inference would run, "Since I presented with colours, sounds, shapes, pleasures and pains which I cannot perfectly predict or control, and since the more I investigate them the more regular their behaviour appears, therefore there must exist something other than myself and it must be systematic." Inside this very general inference, all sorts of special trains of inference lead us to more detailed conclusions. We infer Evolution from fossils: we infer the existence of our own brains from what we find inside the skulls of other creatures like ourselves in the dissecting room.

All possible knowledge, then, depends on the validity of reasoning. If the feeling of certainty which we express by words like must be and therefore and since is a real perception of how things outside our own minds really "must" be, well and good. But if this certainty is merely a feeling in our own minds and not a genuine insight into realities
beyond them—if it merely represents the way our minds happens to work—then we can have no knowledge. Unless human reasoning is valid no science can be true.

It follows that no account of the universe can be true unless that account leaves it possible for our thinking to be a real insight. A theory which explained everything else in the whole universe but which made it impossible to believe that our thinking was valid, would be utterly out of court. For that theory would itself have been reached by thinking, and if thinking is not valid that theory would, of course, be itself demolished. It would have destroyed its own credentials. It would be an argument which proved that no argument was sound—a proof that there are no such things as proofs—which is nonsense.

We must believe in the validity of rational thought, and we must not believe in anything inconsistent with its validity. But we can believe in the validity of thought only under certain conditions. Consider the following sentences. (1) “He thinks that dog dangerous because he has often seen it muzzled and he has noticed that messengers always try to avoid going to that house.” (2) “He thinks that dog dangerous because it is black and ever since he was bitten by a black dog in childhood he has always been afraid of black dogs.”

Both sentences explain why the man thinks as he does. But the one explanation substantiates the value of his thought, the other wholly discredits it. Why is it that to discover the cause of a thought sometimes damages its credit and sometimes reinforces it? Because the one cause is a good cause and the other a bad cause? But the man’s complex about black dogs is not a bad cause in the sense of being a weak or inefficient one. If the man is in a sufficiently pathological condition, it may be quite irresistible and, in that sense, as good a cause for his belief as the Earth’s revolution is for day and night. The real difference is that in the first instance the man’s belief is caused by something rational (by argument from observed facts) while in the other it is caused by something irrational (association of ideas).

We may in fact state it as a rule that no thought is valid
if it can be fully explained as the result of irrational causes. Every reader of this book applies this rule automatically all day long. When a sober man tells you that the house is full of rats or snakes, you attend to him: if you know that his belief in the rats and snakes is to due to delirium tremens you do not even bother to look for them. If you even suspect an irrational cause, you begin to pay less attention to a man’s beliefs; your friend’s pessimistic view of the European situation alarms you less when you discover that he is suffering from a bad liver attack. Conversely, when we discover a belief to be false we then first look about for irrational causes (“I was tired”—“I was in a hurry”—“I wanted to believe it”). The whole disruptive power of Marxism and Freudianism against traditional beliefs has lain in their claim to expose irrational causes for them. If any Marxist is reading these lines at this moment, he is murmuring to himself, “All this argument really results from the fact that the author is a bourgeois”—in fact he is applying the rule I have just stated. Because he thinks that my thoughts result from an irrational cause he therefore discounts them. All thoughts which are so caused are valueless. We never, in our ordinary thinking, admit any exceptions to this rule.

Now it would clearly be preposterous to apply this rule to each particular thought as we come to it and yet not to apply it to all thoughts taken collectively, that is, to human reason as a whole. Each particular thought is valueless if it is the result of irrational causes. Obviously, then, the whole process of human thought, what we call Reason, is equally valueless if it is the result of irrational causes. Hence every theory of the universe which makes the human mind a result of irrational causes is inadmissible, for it would be a proof that there are no such things as proofs. Which is nonsense.

But Naturalism, as commonly held, is precisely a theory of this sort. The mind, like every other particular thing or event, is supposed to be simply the product of the Total System. It is supposed to be that and nothing more, to have no power whatever of “going on its own accord.” And the Total System is not supposed to be rational. All
thoughts whatever are therefore the results of irrational causes, and nothing more than that. The finest piece of scientific reasoning is caused in just the same irrational way as the thoughts a man has because a bit of bone is pressing on his brain. If we continue to apply our Rule, both are equally valueless. And if we stop applying our Rule we are no better off. For then the Naturalist will have to admit that thoughts produced by lunacy or alcohol or by the mere wish to disbelieve in Naturalism are just as valid as his own thoughts. What is sauce for the goose is sauce for the gander. The Naturalist cannot condemn other people's thoughts because they have irrational causes and continue to believe his own which have (if Naturalism is true) equally irrational causes.

The shortest and simplest form of this argument is that given by Professor J. B. S. Haldane in *Possible Worlds* (p. 209). He writes, "If my mental processes are determined wholly by the motions of atoms in my brain, I have no reason to suppose that my beliefs are true . . . and hence I have no reason for supposing my brain to be composed of atoms." If I have avoided this form of the argument, this is because I do not wish to have on our hands at this stage so difficult a concept as Matter. The trouble about atoms is not that they are material (whatever that may mean) but that they are, presumably, irrational. Or even if they were rational they do not produce my beliefs by honestly arguing with me and proving their point but by compelling me to think in a certain way. I am still subject to brute force: my beliefs have irrational causes.

An attempt to get out of the difficulty might be made along the following lines. Even if thoughts are produced by irrational causes, still it might happen by mere accident that some of them were true—just as the black dog might, after all, have been really dangerous though the man's reason for thinking it so was worthless. Now individuals whose thoughts happened, in this accidental way, to be truer than other people's would have an advantage in the struggle for existence. And if habits of thought can be inherited, natural selection would gradually eliminate or weed out the people who have the less useful types of
thought. It might therefore have come about by now that the present type of human mind—the sort of thought that has survived—was tolerably reliable.

But it won’t do. In the first place, this argument works only if there are such things as heredity, the struggle for existence, and elimination. But we know about these things—certainly about their existence in the past—only by inference. Unless, therefore, you start by assuming inference to be valid, you cannot know about them. You have to assume that inference is valid before you can even begin your argument for its validity. And a proof which sets out by assuming the thing you have to prove, is rubbish. But waive that point. Let heredity and the rest be granted. Even then you cannot show that our processes of thought yield truth unless you are allowed to argue “Because a thought is useful, therefore it must be (at least partly) true.” But this is itself an inference. If you trust it, you are once more assuming that very validity which you set out to prove.

In order to avoid endless waste of time we must recognise once and for all that this will happen to any argument whatever which attempts to prove or disprove the validity of thought. By trusting to argument at all you have assumed the point at issue. All arguments about the validity of thought make a tacit, and illegitimate, exception in favour of the bit of thought you are doing at that moment. It has to be left outside the discussion and simply believed in, in the simple old-fashioned way. Thus the Freudian proves that all thoughts are merely due to complexes except the thoughts which constitute this proof itself. The Marxist proves that all thoughts result from class conditioning—except the thought he is thinking while he says this. It is therefore always impossible to begin with any other data whatever and from them to find out whether thought is valid. You must do exactly the opposite—must begin by admitting the self-evidence of logical thought and then believe all other things only in so far as they agree with that. The validity of thought is central: all other things have to be fitted in round it as best they can.

Some Naturalists whom I have met attempt to escape by saying that there is no ground for believing our thoughts
be valid and that this does not worry them in the least. "We find that they work," it is said, "and we admit that we cannot argue from this that they give us a true account of any external reality. But we don't mind. We are not interested in truth. Our habits of thought seem to enable humanity to keep alive and that is all we care about." One is tempted to reply that every free man wants truth as well as life: that a mere life-addict is no more respectable than a cocaine addict. But opinions may differ on that point. The real answer is that unless the Naturalists put forward Naturalism as a true theory, we have of course no dispute with them. You can argue with a man who says, "Rice is unwholesome": but you neither can nor need argue with a man who says, "Rice is unwholesome, but I'm not saying this is true." I feel also that this surrender of the claim to truth has all the air of an expedient adopted at the last moment. If the Naturalists do not claim to know any truths, ought they not to have warned us rather earlier of the fact? For really from all the books they have written, in which the behaviour of the remotest nebula, the shyest photon and the most prehistoric man are described, one would have got the idea that they were claiming to give a true account of real things. The fact surely is that they nearly always are claiming to do so. The claim is surrendered only when the question discussed in this chapter is pressed; and when the crisis is over the claim is tacitly resumed.