CrossMark

WHAT ON EARTH IS LOGIC?

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The world is logical, according to some. Others call it absurd. Apart from who is correct, however, what seems clear is that no one senses the absurd without also sensing the logical. Yet in that case, where does our sense of logic come from, and what is it really a sense of?

Human beings have implicitly distinguished between the logical and the illogical for as long they have been able to talk, and yet the underlying nature of logic is deeply mysterious. If all cats are cool, and if Felix is a cat, then it follows logically that Felix is cool. On the other hand, if all wicked witches are irritable, and if the Witch of the West is a wicked witch, then it certainly doesn't follow that the Witch of the West is a friend to little dogs. Some propositions specifically follow from others; other propositions do not follow. And yet these logical relationships seem to exist even among propositions that don't describe anything real in the physical world.

For example, if all hedgehogs are luxurious, and if one's landlord is a hedgehog, then one's landlord is luxurious. The first two statements entail the third, and yet this relationship seems to hold good even if there are no luxurious hedgehogs, and even if none of the statements are true. More generally, logic isn't necessarily about how things are, but only about how they would be or could be, and being a science of woulds and coulds, logic appears to be independent of physical reality. Quite apart from whether there are any luxurious hedgehogs, logical relationships hold good anyway, come what may. Yet in that case, where do

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these logical relationships come from, how do we grasp them, and what makes something logical in the first place?

Answering such questions turns out to be harder than one might expect.

For example, many people think that logical relationships are the way they are only because our brains happen to work in a particular fashion. If our brains were wired differently, they suppose, then the logical would become illogical, and the illogical would become logical. This theory is particularly common in academia today, and yet the trouble is that it puts the cart before the horse. Our brains work in a particular fashion only because their doing so helps us to survive; our brains' mechanisms allow us to deduce correctly what logically follows from what, and without this ability, we would harvest at the wrong times, drive in the wrong direction, or fail in our efforts to operate a computer. In that case, however, our brains' mechanisms don't define logic. Instead, logic helps to define what counts as a functioning brain. Since we survive only by making logically correct inferences, a correct sense of logical relationships is already part of what constitutes a viable brain. The demands of logic, over the course of human evolution, have shaped the brain, not the other way around.

Another common theory, widely circulated at present, is that logical relationships are the way they are only in virtue of the rules of language – whatever language we happen to speak. According to this further theory, if our language had different rules, then different things would be logical. Here again, however, the theory puts the cart before the horse. To follow the rules of a language, one must first be able to grasp what those rules logically imply, and this assumes that one already has an ability, at least a rudimentary one, to distinguish what is logical from what isn't. Rules are useless unless they already have logical relationships with the consequences that they impose, and as a result, logical relationships aren't made possible by the rules of language; instead, the rules of language are made possible by logical relationships, since without them, no language

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would be intelligible. Our ability to distinguish the logical from the illogical is part of what makes language possible from the start, not vice versa.

Still another common idea is that what we think of as logical is really just a consequence of the particular culture in which we are raised, and thus, in a different culture, different things would be logical. Cultures can indeed differ in a great many respects, and yet if two cultures shared nothing in common, not even in the way they logically inferred one proposition from another, then what would it mean for one culture to understand another? And what would disciplines such as anthropology or sociology be about?

To understand another culture even partially is presumably to understand how a different tradition or experience would lead one to draw different conclusions about the world. But what does it mean to understand someone else's conclusions? The only thing this could mean (it seems) would be an understanding of how different conclusions would follow logically from different assumptions. Yet in that case, one must still assume *some* sort of logic in common. In fact, without something in common, how would one even distinguish another culture's reasonings from a merely random collection of its opinions? One might look for words that correspond to the ones we use to introduce a piece of reasoning, words like 'therefore', 'because', 'hence', and 'for the reason that'. But how would one know how to translate such expressions, except by finding them embedded in something that one already knew to be a logical inference? More broadly, one of the overriding aims of the social sciences is to understand how a common human nature can still result in widely varying ways of life. The mind's ability to distinguish the logical from the illogical is part of that common nature.

Those of a religious bent might fall back on yet another possibility: perhaps logical relationships come from God. If God can create the physical universe (assuming there is a god), then why couldn't God also create all the logical

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relations that seem to hold among various ideas and statements, and why couldn't God also have the power to make the logical illogical, and the illogical logical? If some relationships are logical and others are not, maybe this is only because God says so.

The trouble with this further idea is that it makes nearly all other talk about God – most of the central questions of theology – futile. The reason is that it deprives God (if there is one) of any objective logical qualities. Instead, it makes God thoroughly and irreducibly arbitrary. It excludes from the idea of God any objectively rational qualities that would make a human being revere a god in the first place, and in that case, one might as well worship some other arbitrary force that affects our lives, like the force of gravity or the burning of the sun.

If certain relationships are logical only because God says so, then to say that God is rational and has logical reasons for his ways is only to say that God's reasons are his reasons, however arbitrary. And in that case, God would be equally logical if God worked in opposite ways. Why, then, doesn't God will the opposite? There could never be an answer. This religious theory of logic's nature – what might be called the divine-command theory – seems to force us to abandon the notion of a just and reasonable god and replace it with the idea of a merely powerful, even capricious one. In short, even if one approaches logic from the standpoint of religion or theology, logic's ultimate nature still has a certain inexplicability about it.

All these considerations were actually anticipated centuries ago by medieval philosophers who, working in the tradition of Aristotle, insisted that logic was the common tool of all the sciences. Their meaning? That all attempts at analysis, explanation, method, procedure, science, and rulemaking must take some notion of logic for granted. And this is true even if the explanation is religious; some sense of logic is always presupposed. On the other hand, if we seek a further basis for this presupposition, all our efforts

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end in stalemate. Moreover, no other discipline can help us to escape from this difficulty. Logic as a science can't follow from any other discipline – disciplines such as neurology, linguistics, anthropology, sociology, or theology – because logic defines what it means to 'follow' in the first place. Nor can it be a consequence of anything else, because logic defines what counts as a consequence.

All the same, there is a further point to see here – perhaps the strangest of all. None of these remarks, so far, actually proves logic's principles to be culturally invariant or eternal. None of them proves such things, that is, unless one already assumes logic in the proof, and this is surely 'proof' only in the sense that it preaches to the converted. One still ends up assuming the very thing that one is trying to justify.

If one tries to show that logic is somehow more correct than illogic, one must still make an argument, but what kind of argument will it be, logical or illogical? This is the same problem over again. If one tries to justify logic logically, one ends up arguing in a circle. The best one can say, apparently, is that if sound logical principles don't exist, then nothing else can remain explicable, because all our methods of explanation already assume some sort of logic in advance. To put this point differently, suppose all laws of logic, whatever they are, were to change in the next ninety seconds; suppose all disciplines by which we now try to analyse the world were suddenly to undergo a corresponding change so that the consequences of an alternative logic were to ripple through our universe of ideas like a series of unsettling aftershocks. In that case, the change would be utterly inexplicable, unpredictable, unanalysable and unfathomable. Why? Because all our methods of explanation, prediction, analysis, and comprehension already depend on the things that are presumably changing. The change would be entirely mysterious. In essence, logic is a horizon beyond which none of our earnest and self-reflecting arguments can help us see.

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