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Cow-sharks, Magnets, and Swampman

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It cannot have escaped philosophers' attention that our fellow academics in other fields-especially in the sciences-often have difficulty suppressing their incredulous amusement when such topics as Blockheads, Twin Earth, and Swampman are posed for apparently serious consideration. Are the scientists just being philistines, betraying their tin ears for the subtleties of philosophical investigation, or have the philosophers who indulge in these exercises lost their grip on reality?

These bizarre examples all attempt to prove one 'conceptual' point or another by deliberately reducing something underappreciated to zero, so that What Really Counts can shine through. Blockheads hold peripheral behaviour constant and reduce internal structural details (and-what comes to the same thing-intervening internal processes) close to zero, and provoke the intuition that then there would be no mind there; internal structure Really Counts. Twin Earth sets internal similarity to maximum, so that external context can be demonstrated to be responsible for whatever our intuitions tell us. Swampman keeps both future dispositions and internal states constant and reduces 'history' to zero. Thus these thought experiments mimic empirical experiments in their design, attempting to isolate a crucial interaction between variables by holding other variables constant. In the past I have often noted that a problem with such experiments is that the dependent variable is 'intuition'-they are intuition pumps-and the contribution of imagination in the generation of intuitions is harder to control than philosophers have supposed.

But there is also a deeper problem with them. It is child's play to dream up further such examples to 'prove' further conceptual points. Suppose a cow gave birth to something that was atom-for-atom indiscernible from a shark. Would it be a shark? If you posed that question to a biologist, the charitable reaction would be that you were making a laboured attempt at a joke. Or suppose an evil demon could make water turn solid at room temperature by smiling at it; would demon-water be ice? Too silly a hypothesis

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to deserve a response. Smiling demons, cow-sharks, Blockheads, and Swampmen are all, some philosophers think, logically possible, even if they are not nomologically possible, and these philosophers think this is important. I do not. Presumably the reason for casting the net of counter-factuality so wide is so that the answer we retrieve will tell us about the 'essence' of the topic in question. But who believes in real essences of this sort nowadays? Not I.

Consider a parallel question we might ask about magnets, once we'd noticed that there were competing candidates for the 'truth-maker' for magnets: (a) all magnets are things that attract iron, and (b) all magnets are things that have a certain internal structure (call it M-alignment). Was the old, behavioural criterion (a) eventually superseded by the new, internal structure criterion (b), or did the latter merely reductively explain the former? To find out, we must imagine posing scientists the following Swampman-style questions. Suppose you discovered a thing that attracted iron but was not M-aligned (like standard magnets). Would you call it a magnet? Or: Suppose you discovered a thing that was M-aligned but did not attract iron. Would you call it a magnet? The physicists would reply that if they were confronted with either of these imaginary objects, they would have much more important things to worry about than what to call them (Dennett, 1968, p. 234). Their whole scientific picture depends on there being a deep regularity between the alignment of atomic dipoles in magnetic domains and iron-attraction, and the 'fact' that it is logically possible to break this regularity is of vanishing interest to them. What is of interest, however, is the real covariance of 'structural' and 'behavioural' factors-and if they find violations of the regularities, they adjust their science accordingly, letting the terms fall where they may. Nominal essences are all the essences that science needs, and some are better than others, because they capture more regularity in nature.

Does Swampman have thoughts and use language, or not? Is a cow-shark a shark? It swims like a shark, and mates successfully with other sharks. Oh, but didn't I tell you? It is atom-for-atom indiscernible from a shark, except that it has cow DNA in all its cells. Impossible? Not logically impossible (say the philosophers). Just so obviously impossible as to render further discussion unnecessary. It is just as clearly physically impossible for the 'traces' of, say, Davidson's memories to appear in the structure of Swampman's brain as it is for a shark to form itself of cells containing cow DNA. Swampman is not logically impossible, just not worth discussing.

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