Heroic powers

HELEN BEEBEE

Alexander Bird

NATURE'S METAPHYSICS

Laws and properties

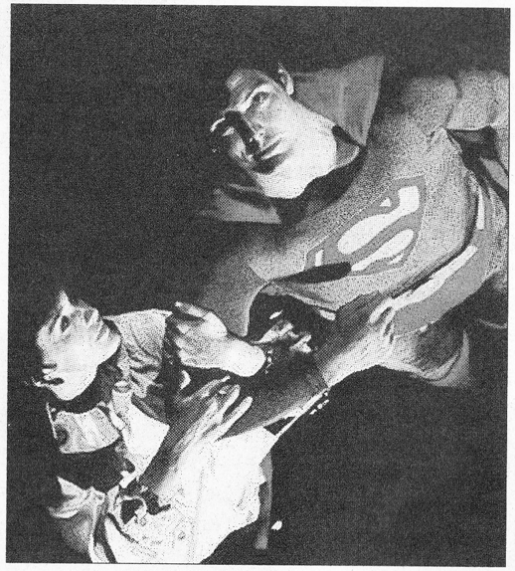
231pp. Oxford University Press. £27.50.
978 0 19 922701 3

Why do things behave the way they do? Why does salt dissolve in water, why do balls roll downhill, and why do birds suddenly appear every time you are near? In each of these three cases, it is clear that there are some underlying features of reality that explain this regular behaviour: chemical bonding, gravitational attraction, and the fact that they long to be close to you, respectively. But, like small children – and philosophers are a lot like small children, at least in this regard – we can continue to ask why. Eventually, we hit rock bottom: the philosopher's equivalent of the parent's exasperated answer, "just because".

At what point do we get to rock bottom? A first pass at an answer is: the point at which our explanation is a fundamental law of nature. But of course we can always ask why the laws of nature are what they are. For the regularity theorist, the universe – luckily for us – happens to work in an incredibly regular way. The laws are simply those regularities that are the most widespread, and the most explanatorily powerful. From a cosmic point of view, the fact that birds suddenly appear every time you are near doesn't explain much. Whereas the fact that, as it happens, every time an object with a particular mass and a particular force acting on it accelerates according to Newton's second law of motion, f=ma (imagining for simplicity that this really is a law), explains an awful lot; that's why it's a law. David Armstrong and others have argued that we should instead think of the laws not as generalizing over particular facts – facts about individual objects' behaviour – but as relating properties, or "universals". It doesn't just happen that every time an object with a particular mass and a particular force acting on it accelerates according to f=ma; those particular qualities stand in a relation of necessitation, so that, given that the relation of necessitation obtains (though it is merely a contingent fact that it does obtain), objects with a given mass and force cannot but accelerate at the appropriate rate.

Alexander Bird, in common with a growing band of philosophers, rejects both of these accounts in favour of "dispositional essentialism". Both the regularity theory and the Armstrongian view presuppose that the nature of a property – what it is to have negative charge, say – is independent of how objects with that property behave. In fact, objects with negative charge attract objects with positive charge (just in fact, for the regularity theorist; because positive and negative charge are related by contingent necessity for the Armstrongian). Dispositional essentialists, by contrast, hold that what it is for an object to be negatively charged is to be such that the object attracts positively charged objects (and vice versa for positive charge). In other words, the essence of a property is that it is disposed to behave in certain ways in certain circumstances.

According to Bird's brand of dispositional essentialism, the laws are simply facts about the essences of (dispositional) properties. Given the dispositional nature of force, mass and acceleration, objects with those properties must behave in certain ways (that is, in accordance with f=ma), for if they didn't behave in those ways, they could not have those very properties. Dispositional essentialism thus makes the laws metaphysically necessary: if f=ma is a law, then it could not possibly have been false that f=ma, since any dispositional properties that failed to accord with f=ma could not be force, mass or acceleration – they would lack the relevant dispositional essences – and so could not render f=ma false. At first sight, this view might not seem terribly appealing. After all, surely we can imagine that the laws might have been different. And surely there are at least some properties whose essence is not dispositional. (Think of being spherical, for example. Surely this property is one that an object can have independently of how it happens to behave.) But Bird defends the view against these and other objections – and criticizes the available alternatives – with great skill and, usually, an admirably dispassionate air. In many cases (the case of being spherical is one), he rejects the standard dispositionalist argument and develops his own, stronger argument to replace it.



Lois Lane (Margot Kidder) and Superman (Christpher Reeve), from *Superman II*, 1980

The rich argumentative content of the book makes for difficult reading: this is not a book for the philosophical novice. But it genuinely advances the debate about dispositions and laws. Bird's argumentative style has much in common with Hugh Mellor and David Armstrong. For the most part, though, he shows a greater degree of engagement with his opponent's views, and so it is often considerably harder for his opponent to dismiss the arguments as question-begging.

One central question that Bird does not answer, however, is why, on his view, the dispositional essences of properties are knowable only a posteriori – that is, only after empirical investigation. While Saul Kripke showed that identity claims about objects ("Clark Kent is Superman") are necessary yet knowable only a posteriori, it is unclear that the strategy generalizes to dispositions. Lois Lane can come to know Superman in two distinct guises: the shy, bespectacled man who works in the office, and the superhero; hence the truth that they are in fact (and so necessarily, for everything is necessarily identical with itself) the same person is something she has to discover. It is unclear that a similar story can be told for dispositions. Take the case of fragility. Arguably, we cannot point to a property and say "let that property, whatever it is, be fragility", and then later discover that fragility is the disposition to break when dropped, as Lois first identifies Superman and later discovers that he is, in fact, Clark Kent. We had already defined fragility as the disposition to break when dropped when we originally identified it.

Nonetheless, Alexander Bird has done an excellent job in injecting argumentative rigour into a debate that has come to seem to some as having reached stalemate: one of those philosophical disputes that, in the end, come down to a fundamental clash of intuitions that renders further argument impossible. The sheer weight and quality of argument in the book show that this is a debate that has a long way to run yet.