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Things that happen backwards

Explanation and Understanding
by Georg Henrik von Wright
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This book is most immediately the product of Professor von Wright's Tarner Lectures, given in Cambridge in 1969. It also collates some earlier work of his on the topics it covers. It has four chapters, of which the first traces two historical traditions in science, the Aristotelian and Galilean. Von Wright associates the former with teleological, the latter with causal explanation.

The elements of each tradition in more recent philosophies of science are clearly, concisely, and accurately brought out. The relating of Hegelian, Marxist, and hermeneutic philosophies to various branches of the analytic tradition is especially valuable.

In his second chapter, von Wright discusses causality and causal explanation. He uses a discrete *Tractatus*-model of temporally located states-of-affairs. Simultaneous states of affairs in combination comprise states of the world (or of some part of it). Actual states are temporally linked not only to their actual successors but also to other possible successors. Relations of cause and effect, and concepts of causal, teleological, quasi-causal, and quasi-teleological explanation are introduced in terms of states being necessary and/or sufficient conditions for earlier or later ones.

These concepts are applied relative to temporal systems (of states) taken to be isolated from extraneous causal influences. The notion of intentional action is now introduced in terms of bringing about the initial state of such a system. The asymmetry of the cause-effect relation (between states p and q, say) is here grounded in the possibility of bringing q about indirectly by an action of which p is the direct result, but not vice versa.

Since this ground is independent of time it leaves open the possibility of "backwards causation", which von Wright thinks actually happens when (eg) I raise my arm. The state directly produced by this action (the raised arm) causes the earlier (eg neural) events which are causally necessary for it and for which in consequence it is sufficient. Such causation fortunately never goes very far back, specifically never farther than the intention to perform the act. More straightforwardly, von Wright applies his treatment of action and its more orthodox causal effects to an illuminating discussion of the role of experimenting in science, where casual connexions within systems are established by techniques of intentional interference and subsequent observation of its effects.

This chapter, as I hope my summary shows, is of the greatest interest, and it is argued with much subtlety and force. I have a number of serious reservations none the less, at which I have space only to point. One concerns the argument for backwards causation to which I've referred; many would regard it as a *reductio ad absurdum* of the idea that cause can be characterized in terms of an independently understood notion of intentional action. Nor am I happy with the way many highly controversial assumptions are simply built into the model appealed to in the discussion; for example the admissibility, as a primitive and unanalysed concept, of possible but non-actual states of affairs.

Logicians have recently shown a disturbing tendency to use such (literal!) nonentities to explicate modal notions (eg, of necessity, here causal necessity), when the process should manifestly be the other way round. Another qualm I have concerns the brisk Procrustean trimming of "covering law" explanation to fit the causal bed. That "the covering law model has explicative force only when the laws involved in it express (non-logical) nomic connexions" is plainly *not* "tantamount to saying that explanation conforming to the covering law model and causal explanation are, substantially, the same thing". Not, that is, unless a bird being black at some time t can be supposed to be an effect of it being a raven a moment before.

The third chapter is about intentionality and teleological explanation. This deals with the latter's independence of nomic connexions, the relation of action to behaviour, the validity of practical inference, the inability of intentions to be causes and the (qualified) compatibility of intentional and causal explanations of behaviour. I have referred to these topics by von Wright's conclusions about them, which I don't entirely share. But the chapter is again well and powerfully written on the whole and would require a riposte for which there is no room here. I can indicate one bad argument, however, to the effect that when I raise my arm I cannot "*observe* the operation of the cause" because "when I observe, I *let* things happen" (which here *ex hypothesi* I am not doing). But if that were the reason, then I could not even observe my raising my arm, which I evidently can; in fact observing plainly does not preclude doing (or indirectly bringing about) what is observed, as opposed to just letting it happen.

Finally, two ideas of determinism are distinguished, related respectively to predictability and to intelligibility. This chapter covers too much ground too quickly to be (or to be claimed to be) more than suggestive. But it is certainly that, and, like the book as a whole, should provide much profitable discussion between the rather sundered traditions in the methodology of natural and social sciences. To have said, shown, and suggested so much of interest to professional philosophers in so short a book is itself an achievement.

And the book is moreover a fine introduction for any interested and reasonably diligent layman. There is no shirking of difficulties or technicalities, but equally no needless obscurity.

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