

Blog: Causal mechanisms, some second thoughts

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Causal mechanisms seem to be the preferred language for social scientists to talk about causality. The mechanism is what connects cause and outcome, independent and dependent variable. Causal mechanisms talk is attractive for both qualitative and quantitative researchers. For qualitative researchers, mechanisms are something they can 'flesh out' doing in-depth case studies. For quantitative researchers, mechanisms are what substantiates the causal effects they find in their statistical analysis. Causal mechanisms talk also connects qualitative and quantitative researchers; statistically identified causal effects on the level of a population can be investigated as causal mechanisms in individual cases. In contemporary social science research, causal mechanism talk is so self-evident, even casual, that few social scientists really think about what a causal mechanism is. Or about what the nature of social reality must be like for causal mechanisms talk to make sense. However, once you do that, causal mechanisms have some very serious problems.

First, what actually is a causal mechanism? There are at least two very different answers to that question. On the one hand, a causal mechanism may be a process or sequence connecting a cause to an outcome. In this view, one can trace a causal mechanism as the steps that follow when a cause is triggered and that lead to the outcome. On the other hand, a causal mechanism may be a 'system' of 'interacting parts'. The key difference is that these interactions may happen simultaneously and need not follow a particular sequence. While both definitions may be plausible, analytically it makes a world of difference whether one talks about a process or sequence or about a system of interacting parts. What both definitions have in common is the belief that social reality is somehow mechanistic. That social reality is characterized by a sufficiently high degree of regularity to make the mechanisms metaphor plausible. It is a metaphor, of course, because no one has ever seen causality. Causality is what we define it to be and mechanisms, just as effects, is one way of doing that. The question is whether we really believe that social reality is mechanistic. There are good reasons not to. Social reality may be thought of as heterogeneous and, therefore, causality is contingent rather than mechanistic. Causal mechanisms thinking assumes ontological determinism where causes are invariantly connected to outcomes and mechanisms are the metaphor to explain this determinism. The machine-like, law-like nature of social reality is such that, if left undisturbed, the same invariant process/ sequence or system of interactions will always connect the same cause to the same outcome. However, if you believe that social reality is fundamentally heterogeneous and contingent, as I do, this kind causal mechanisms thinking does not make a lot of sense.

Second, the level of abstraction of causal mechanisms is a big open question. Causal mechanisms 'work' on the level of cases because that is where they connect causes to outcomes. However, if they are to be analytically relevant, causal mechanisms must be generalized to the level of a population. This levels of abstraction problem produces a catch-22. We may observe a mechanism in a single case but how do we know this mechanism is anything other than idiosyncratic? We may also observe a regularity on the level of a population but how do we know that it reflects a mechanism that produces the outcome in individual cases? The problem here is one of equifinality; the same cause may produce the same outcome via different mechanisms. This levels of abstractions problem can only be 'solved' if one believes that social reality is mechanistic. That the same cause connects to the same outcome via the same mechanism in every case. This may be a legitimate position in the social sciences, it is also a belief that may be challenged on good grounds.

Third, causal mechanisms thinking has no room for human agency. Instead, it gives a passive account of causality wherein human agents are mere recorders of events and wherein their behaviour follows scripts. Human agents 'trigger' mechanisms when the right cause is present but it is the mechanism rather than human agency that 'produces' the outcome. Once the mechanism is triggered, the process or sequence will automatically (necessarily, deterministically) follow; the parts in the system will automatically (necessarily, deterministically) interact. Nor is there any room for human agents to decide whether or not they want to trigger the mechanism. The intentionality of human agency completely disappears. Bracketing the role of human agency thus makes mechanisms passive accounts of causality and results in an undersocialized explanation; however sophisticated the mechanisms may be.

Another way of thinking about causality (another metaphor) is of social entities having causal powers that human agents may (or may not) exercise. For example, a city has the causal power to collect garbage if it owns bin lorries, employs bin men and has a schedule informing residents when to put their bins on the street. But it still takes the agency of the bin men to exercise this power. The city's causal power to collect garbage is real, even when the bin lorry breaks down on route (causal power is exercised but remains ineffective) or when the bin men go on strike (causal power is not exercised). A causal powers approach accounts for the heterogeneity and contingency of social reality because causes do not necessarily produce the (same) outcome, even when exercised. It shifts the focus of scientific explanation from the actuality of the outcome to the potentiality of the cause. Causal powers explain why it is possible for the outcome to occur, without requiring that it actually occurs. They are unconcerned with how outcomes occur, i.e. the mechanism connecting cause to outcome. Consequently, a causal powers approach is unaffected by idiosyncrasies and equifinalities that may happen in individual cases. Finally, a causal powers approach explicitly includes human agency. Because outcomes can only occur when human agents exercise causal power, a causal powers approach requires researchers to explain the intentionality behind (not) exercising causal power.

Of course, which metaphor one uses to think about causality is one's own choice. However, if one believes that social reality is heterogeneous and, consequently, that causality is contingent, causal mechanisms have serious limitations. If one believes that human agency has something to do with causality, causal mechanisms are fundamentally flawed. For those concerns, a causal powers approach is a superior alternative.

Suggested reading

Groff, R. (2017). Causal mechanisms and the philosophy of causation, *Journal of the Theory of Social Behaviour*, 47(3): 261-379.

Rutten, R. (2021). Uncertainty, possibility and causal power in QCA, *Sociological Methods & Research*, forthcoming.

Sawyer, A. (2000). *Realism and social science*, London: Sage.