Origins of “Top-down causation in psychiatric disorders: a clinical-philosophical inquiry”

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Top-down causation in psychiatric disorders: a clinical-philosophical inquiry

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Review Article

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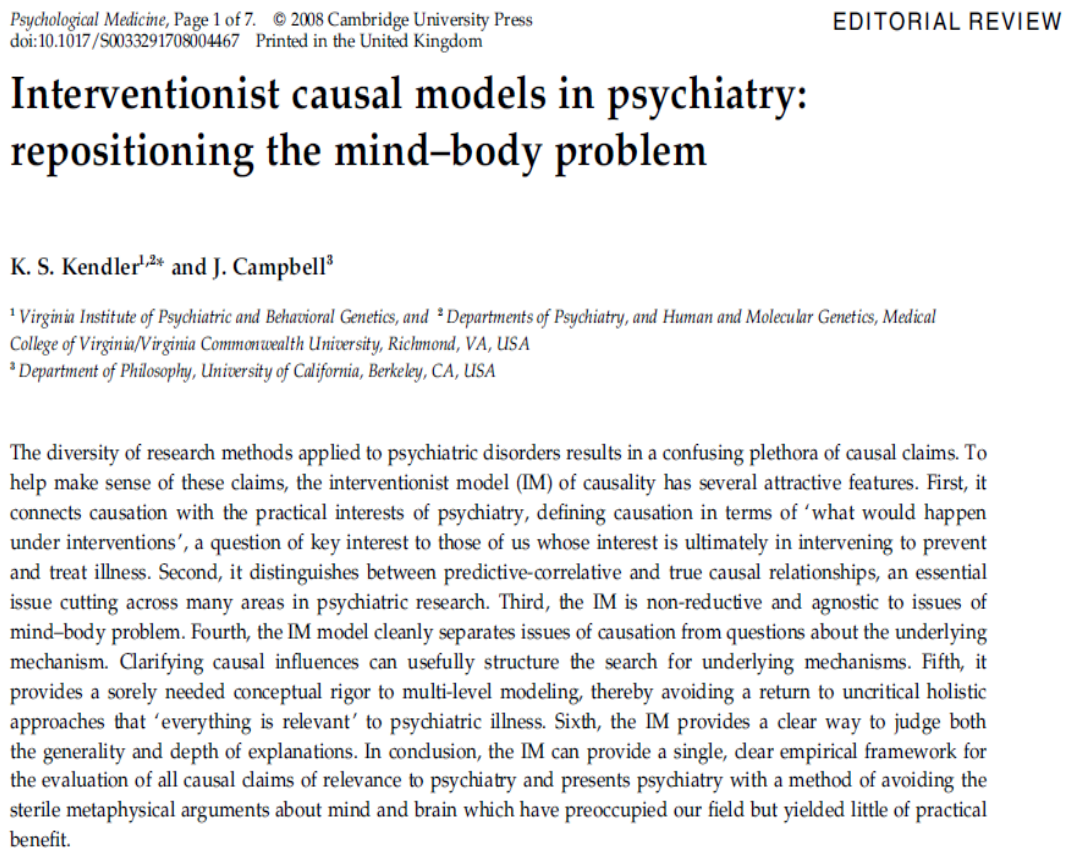
Abstract

Psychiatry has long debated whether the causes of mental illness can be better explained by reductionist or pluralistic accounts. Although the former relies on commonsense scientific bottom-up causal models, the latter (which typically include environmental, psychological, and/or socio-cultural risk factors) requires top-down causal processes often viewed with skepticism, especially by neuroscientists. We begin with four clinical vignettes which illustrate self-interventions wherein high-order psychological processes (e.g. religious beliefs or deep interpersonal commitments) appear to causally impact the risk for or the course of psychiatric/behavioral disorders. We then propose a model for how to understand this sort of top-down self-causation. Our model relies centrally on the concept of a control variable which, like a radio tuning dial, can implement a series of typically unknown physical processes to obtain the desired ends. We set this control variable in the context of an interventionist account of causation that assumes that a cause (C) produces an effect (E) when intervening on C (by manipulating it) is associated with a change in E. We extend this framework by arguing that certain psychological changes can result from individuals intervening on their own mental states and/or selection of environments. This in turn requires a conception of the self that contains mental capacities that are at least partially independent of one another. Although human beings cannot directly intervene on the neurobiological systems which instantiate risk for psychiatric illness, they can, via control variables at the psychological level, and/or by self-selection into protective environments, substantially alter their own risk.

Introduction

- First read Jim's work in 2003 – "Making Things Happen." Influential
- Met in 2006 at Philosophy Psychiatry Conference I co-organized. A few interesting chats.
- Wrote a paper with John Campbell and the implications for Jim's causal theories for psychiatry and esp the "mind-body problem."



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EDITORIAL REVIEW

Interventionist causal models in psychiatry: repositioning the mind–body problem

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The diversity of research methods applied to psychiatric disorders results in a confusing plethora of causal claims. To help make sense of these claims, the interventionist model (IM) of causality has several attractive features. First, it connects causation with the practical interests of psychiatry, defining causation in terms of 'what would happen under interventions', a question of key interest to those of us whose interest is ultimately in intervening to prevent and treat illness. Second, it distinguishes between predictive-correlative and true causal relationships, an essential issue cutting across many areas in psychiatric research. Third, the IM is non-reductive and agnostic to issues of mind–body problem. Fourth, the IM model cleanly separates issues of causation from questions about the underlying mechanism. Clarifying causal influences can usefully structure the search for underlying mechanisms. Fifth, it provides a sorely needed conceptual rigor to multi-level modeling, thereby avoiding a return to uncritical holistic approaches that 'everything is relevant' to psychiatric illness. Sixth, the IM provides a clear way to judge both the generality and depth of explanations. In conclusion, the IM can provide a single, clear empirical framework for the evaluation of all causal claims of relevance to psychiatry and presents psychiatry with a method of avoiding the sterile metaphysical arguments about mind and brain which have preoccupied our field but yielded little of practical benefit.

Next Steps

- Invitation by JW to PSA Conference in 2018 in Seattle.
- We had dinner together after the symposium.
- We talked about shared interests and one of us, maybe me, suggested we explore some possible collaborative projects. I mentioned the problem of “top-down causation.”
- I had vignettes from my clinical experience and readings that rather dramatically suggested that such events could happen.
- I told him one or two of them.
- We were not ready to investigate these in a rigorous scientific way, but as a clinician these were very convincing.
- How could such things work?
- Would it mean assuming “Mind→brain” causality? How would that work?
- I wasn’t up for a deep dive into the metaphysics of the mind-body problem. Jim wasn’t either. I was hoping for something which other interested mental health professionals could understand.
- To avoid a very heavy dose of “philosophy-speak.”

Jill was 26 years old and had had a cocaine ‘habit’ for nearly 6 years. She had been in multiple therapies and short periods of abstinence, but always relapsed. ‘It was so much fun’ she would say. She had kept the habit – although increasingly expensive – under fairly good control. She was a talented and hard worker who rose up the ranks of a young start-up company so soon money was not a major problem. She met a co-worker there and they married. Her husband knew about her habit but not the extent of it. She got pregnant and managed to stay off the cocaine most of the pregnancy but relapsed again. Over the next 2 years, her habit accelerated and for the first time she got scared she would lose control. Therapy again produced only short remissions. More and more time was being taken up buying and using in secret, managing her funds so her husband wouldn’t find out how much she was spending. Then, one morning before work, when her daughter was two years old, she had forgotten to lock the bathroom door when she went in for her morning cocaine snort. Just as she was inhaling, her daughter toddled into the bathroom, looked very surprised and asked, ‘What are you doing, Mommy?’ Jill looked down. She saw the distress in her daughter’s face. She said later ‘It was like a switch. When I saw her looking up at me nearly in tears, clearly worried about her mother, I realized that was it. I could never do that again. I just couldn’t. I loved her too much’. She stayed off cocaine over the next several years till we lost touch.

Next Steps

- We decided over that dinner to give this a try. I agreed to write up the cases.
- Over the ensuring months we had a good number of email communications and a few zoom calls discussing the MS. I drafted the introduction and background, including a description of the similarities and differences among the 4 stories.
- Jim worked on the “guts” of the interventionist causal model. We worked over what we saw as our aim which we summarize in the article as follows

Next Steps

- “Our aim is not primarily to make the point that top-down mental causation is possible – a conclusion that many would agree with. Rather, our goal is to propose a more specific account of how top-down causation might be understood, one that shows this notion to be a coherent one and that connects it to influential current theorizing about causation. We also attempt to elucidate one particular variety of top-down causation, illustrated by our vignettes, in which subjects intervene on their own thoughts and emotions to change their behavior. This is what we understand to be involved in self-changing top-down causation.”

Working on the Article

- One challenge for us was to write a basic description of the causal model for a largely uninformed audience. Campbell's "Control Variable" played an important role in our line of argument. It was very interesting for me to work through the idea of "intervening" on mental states such as beliefs and desires. I had done psychotherapy with patients for 30 years but never quite conceived of my work in this way.
- As he would develop the model, I commented on the "clinical plausibility" how it might be greeted by a psychiatric audience. We decided early to write for a psychiatric audience. The text was a mixture of psychological description and philosophical analysis. The role of higher order self-concepts seemed sensible although that is rarely discussed in psychiatric circles.

Working on the Article

- Very interesting/stimulating to me to think of us intervening on our "brains" as the last sentence of the abstract shows. Had not thought of this question in this manner.
- "While human beings cannot directly intervene on the neurobiological systems which instantiate risk for psychiatric illness, they can, via control variables at the psychological level, and/or by self-selection into protective environments, substantially alter their own risk."
- It was easer to explain interventions on an environmental exposure (avoid alcohol – as in one of our cases) that intervene on the self – suppress desire for cocaine. – how to "disconnect" an influence.
- "It should be clear from our discussion that this notion of intervening on one's own mental state will make sense if there are independent psychological mechanisms and associated control variables that can potentially be brought under voluntary control and that can act on one's previously existing ('endogenous') beliefs or desires or other mental states, altering them or removing or modulating their influence and in this way influencing behavior. This requires what might be described as a non-unitary view of the self."

Working on the Article

- We had a lot of back and forth on the drafts – I tried to put myself in the position of the journal readership, making the philosophy accessible, the clinical descriptions plausible.
- We decided to submit to Psychol Medicine – medium high impact factor in field of psychiatry. Has published prior conceptual and philosophical pieces, not often but sometimes.
- Ten drafts dated between 9/9 and 10/26/20. Submitted 10/27, reviews back late Feb 2021. Resubmitted 3/16/21. Accepted quickly.
- Got 2 broadly favorable reviews, second was esp knowledgeable in this area. We revised and was accepted. So positive experience.

Doing the Philosophy of X: From the Perspective of A Working Scientist of X

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Outline

- How do scientists of X do good philosophy of X?
- How/why do some philosophers of X do work irrelevant to scientists working in X?

How do scientists of X do good philosophy of X?

- Often asked by young psychiatrists: how do I get started in the philosophy of psychiatry?
- Easy response –
  - Pick a topic of interest to you.
  - Read a lot in the relevant philosophy literature.
  - Find an interested expert philosopher (or two) who can mentor you or, even better, collaborate
- My own experience – Ken Schaffner, John Campbell, Carl Craver, Miriam Solomon, Katie Tabb, Jim Woodward, Lauren Ross.

How/why do some philosophers of X do work irrelevant to scientists working in X?

- From my perspective, I can divide philosophers of psychiatry into two groups:
- Those who want to interact with the field and contribute to its progress and those who don't.
- The former group want to learn about the relevant issues in the field and talk/collaborate with those who are actively working in it. The latter group does not.

How/why do some philosophers of X do work irrelevant to scientists working in X?

- I have a hard time understanding the latter group. Impressions:
  - They seem to only want to talk to each other.
  - I have heard a lot of talks on the "philosophy of psychiatry" where the psychiatric assumptions on which they are based are painfully inadequate and/or the topics irrelevant.
  - Role of professional pressures – story of ** "better to be intellectually isolated"??.

How/why do some philosophers of X do work irrelevant to scientists working in X?

- One painful example – attending a symposium at a prior Philosophy of Science Mtg where one presentation a number of incorrect or outdated assumptions about empirical facts in the field . I went up afterward to discuss the talk with one speaker with the hope of giving advice and appropriate references. The speaker was clearly not interested. “Don’t bother me with the facts…”

Support

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