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# Folk psychology as a causal language

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## Abstract

According to Oude Maatman (2020), our recent suggestion (Borsboom et al., 2019) that symptom networks are irreducible because they rely on folk psychological descriptions, threatens to undermine the main achievements of the network approach. In this article, we take up Oude Maatman's challenge and develop an argument showing in what sense folk psychological concepts describe features of reality, and what it means to say that folk psychology is a causal language.

## Keywords

causation, folk psychology, intentionality, network theory, real patterns

In everyday contexts, we have little trouble understanding statements like “Jane believes in ghosts,” “Bill intends to lose weight,” and “John is afraid of spiders.” But what precisely do we mean in using such folk psychological language? This is basically the question underlying Oude Maatman's (2020) interesting and challenging article. According to the author, our recent suggestion (Borsboom et al., 2019) that symptom networks are irreducible because they “make some sense” on the level of folk psychology “leaves NT [network theory] severely weakened” (Oude Maatman, 2020, p. 710). As Oude Maatman (2020) argues, the problem is that we seem to interpret folk psychology as a language describing reality, an interpretation that—according to Oude Maatman—threatens to make network theory “not only completely immune to falsification, but also

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predictively worthless” (p. 711). In this article, we want to take up the challenge as presented by Oude Maatman: “What NT [network theory] now seems to need in order to ground itself is an argument for the correctness of folk psychological explanations, through a path that is *not* [emphasis added] biological” (p. 712). So, the main question we will address here is: what do we think folk psychological language is about, and in what sense do we think folk psychological descriptions are “real”?

First of all, Oude Maatman (2020) is correct in thinking that we adopt a realist reading of both symptom networks as real patterns and of the intentional states as elements of such patterns, thus rejecting an instrumentalist approach as, for example, defended by Van Loo and Romeijn (2019). Our claim is that folk psychology is not only a rational, interpretational, or predictive language, but that it actually describes features of reality. In our view, statements such as “Henry believes he is Napoleon” aim to describe a fact about Henry.<sup>1</sup> Moreover, we hold that folk psychology is also a *causal* language: among other things, it encapsulates causal relations, for instance between belief states, desires, and actions (Henry’s out on the street convincing people he came back from Elba because he believes this to be true). As Oude Maatman points out, this does not sit well with an instrumentalist reading of Dennett’s work on real patterns. But Dennett’s work on real patterns has been read both as realism and as instrumentalism (for discussion see Bechtel, 1985; Haugeland, 1993; McCulloch, 1990; Ross, 2000). We claim (together with, for example, Don Ross and John Haugeland) that real patterns really exist, and that the intentional stance “expresses a fact about the way in which reality is organized—that is to say, a metaphysical fact” (Ladyman & Ross, 2009, p. 199). As Oude Maatman points out, this goes beyond what Dennett himself would want to accept. But this is not because Dennett is a card-carrying instrumentalist: it is because (as he himself has explicitly stated) he dislikes thinking about the metaphysical implications of his views (Dennett, 1993, p. 212, 2000, p. 359).

So, what kind of realism do we defend? Our main point is that the content many symptoms have (so what a delusion or fear or obsession is about), makes actual difference in the world—and, in symptom–symptom causation, is absolutely crucial. To give an example: if Henry believes he is Napoleon and should collect people’s taxes, this might get him into legal trouble when he tries to take people’s money—whereas if he had believed the outside air is poisoned he would probably have stayed at home, reducing his risk of legal problems, and perhaps leading to social isolation instead. According to Oude Maatman (2020), this raises two questions. First, what kind of causation could be at work here? This question comes up because we have argued that a reductionist account is blocked (Borsboom et al., 2019; Kalis, 2019). And second, how can folk psychological descriptions be shown to be correct or incorrect? This question is important because many have long pointed out that our folk psychology is often just plain wrong (the *locus classicus* of this observation is still Churchland, 1981).

## How folk psychological states make a causal difference

As Oude Maatman (2020) correctly points out, we need to show how real patterns “describe actual causation in the world” (p. 708). However, whether this presents difficulties for our view depends on what one takes “actual causation” to mean. We adopt an

anthropocentric notion of causation, according to which causation is “a concept that structures the notional worlds of observers who must book-keep real patterns” (Ladyman & Ross, 2009, p. 258). Making claims about actual causation is providing factual claims about how real patterns behave. In order to establish causal relations between (often intentional) symptoms, network theory employs a form of causal structural modelling (Pearl, 2009; Pearl & Mackenzie, 2019). Pearl and Mackenzie (2019) identify three rungs of the “ladder of causation”: causal claims first provide information about regularities or association; second, they provide information about how patterns respond to interventions; and finally, causal claims provide probabilistic information about counterfactuals. The rungs of the ladder thus correspond to the three criteria a fully fledged causal explanation should meet.

In such an account of causality (usually spelled out in formal terms), causal relations are framed at the level of variables. Variables are, by definition, abstracta; they are functions defined on an outcome space. And although such variables may occasionally have a one-to-one mapping to physical states, a moment’s reflection shows that it is entirely unreasonable to suppose that this should routinely be the case. “Giving you a large sum of money will make you happy” may be true, even though the act of giving you a large sum of money does not have a one-to-one mapping to physical states and is, in point of fact, wildly multiply realizable (Fodor, 1974).

We thus reject the idea that “actual causation” should be understood as the metaphysical oomph of particles bashing (“microbangings”: for a critical analysis of this idea see Ladyman & Ross, 2009), or the firing of neurons. Most modern theories of causality do not involve billiard ball models of the causal universe, and so we don’t think our challenge is to show how the causal difference made by intentional symptoms can be described in such terms. The role of psychology as a “special science” is to provide tools (such as structural causal modelling) that make it possible to determine how psychological constructs such as beliefs, emotions, and intentions causally interact with the world (Ladyman & Ross, 2009). But formal models are not the only tool available. As we noted in the response to the commentaries on our article (Borsboom et al., 2019), psychopathology research examines, for example, the effectiveness of therapeutic interventions on cognitive states such as fears and obsessions. In fact, the position could be defended that cognitive behavioural theory provides far more successful causal explanations (in the sense of providing information about its working mechanisms) than any biological or pharmaceutical intervention currently available, exactly because folk psychology allows us to understand the effect of such interventions.

## **Can folk psychological descriptions be falsified?**

This brings us to the second worry raised by Oude Maatman (2020). Given that we believe that folk psychological descriptions are real, can folk psychology get things wrong—and what does it mean to say that it gets things right? Whereas Oude Maatman claims that realism makes our account immune to falsification, we think the opposite is true. As Haugeland (1993) points out, a realist understanding of folk psychology implies that the intentional stance is not an “attitude” or “perspective” (which would suggest that folk psychology gets things neither right nor wrong). Instead, adopting the intentional

stance is taking a stand regarding what exists and on what grounds we claim it to exist: “it is this alone—commitment to constitutive standards—that allows that to which the stand is taken to stand out as phenomena, to stand over against us as objects” (Haugeland, 1993, p. 65). In other words, being a realist about folk psychology must entail a commitment to standards of correct and incorrect ascription.

How does this work in everyday folk psychological descriptions of psychiatric symptoms? Symptoms with intentional content such as “a feeling of worthlessness” or “fear of spiders” manifest in certain ways, and many of these manifestations can be observed directly or indirectly. When someone tells us Jenny suffers from fear of spiders, we expect her to flee at the sight of a spider, to show certain facial expressions when confronted with spiders, and to say certain things and not others about spiders (Schwitzgebel, 2013). When we ascribe a fear of spiders to someone who pets spiders, expresses her love for them, and doesn’t show any signs of anxiety in their presence, we take the ascription to be wrong. Can we be mistaken? Of course. Is there always a clear and unambiguous truth to be found regarding the question of what someone believes or fears? No, not always. Schwitzgebel (2013) discusses cases of “in-between believing” where there is no unambiguous fact of the matter whether a person believes something or not. This is not a weak point of our approach to folk psychology, but one of its core claims. Pace Churchland (1981), our view is that folk psychology is not a quasiscientific theory. It developed as a language that allows us to make sense of, predict, and regulate each other’s behaviour (McGeer, 2007). Doing so does not require infallibility or a high level of precision, but we wouldn’t be able to make sense, predict, or regulate with folk psychology if the practice didn’t come with standards stating what it means for our ascriptions to be right or wrong.

One critical source for correcting folk psychological claims is, obviously, the science of psychology. Oude Maatman (2020) suggests that because we do not believe brain mappings are of much help in determining whether folk psychological ascriptions are correct, the only alternative we have left is introspection. However, this seems to miss out on a century of psychological science showing that we can study mental states (affect states, expectations, cognitions, etc.) in many different ways. Psychology studies them not only by asking people themselves, but also by triangulating these reports with assessments by other people, by observing behaviour, and by intervening on mental states and studying the ensuing responses. This shows that even though scientific psychology is markedly different from folk psychology, precisely because of its critical role in testing folk psychological ascriptions it cannot do without folk psychological language.

### **Folk psychology as a structuring cause?**

Oude Maatman (2020) himself offers another solution: he argues that folk psychology should be understood as a structuring cause (Dretske, 1988). In Oude Maatman’s view, folk psychology is causally relevant in the sense that it structures the causal processes that bring about behaviour. According to Oude Maatman, “the actual causes remain the neural states underlying intentional states. However, in cases such as the WWII-era Japanese honor–suicide relationship, these neural states have only acquired their causality in virtue of reasons, that therefore function as *causes* [emphasis added]” (p. 714). Whereas we are in agreement on the important role of cultural factors in shaping folk

psychology (we ourselves emphasized the importance of cultural context in the original article), we think Oude Maatman's analysis is problematic in three respects. First, the term "structuring causes" is misleading if, as Oude Maatman claims, these factors are not actually causes. In fact, it is unclear to us how something could "function as a cause" without actually being a cause.<sup>2</sup> Second, we of course precisely argue against the antirealist, interpretational understanding of folk psychology defended by Oude Maatman, because we think such an understanding cannot do justice to the crucial role of folk psychology in the explanation, prediction, and regulation of human behaviour. And third, Oude Maatman (with Dretske) argues that states such as beliefs and emotions are only causally relevant to lower level causation: the causal quest always leads further down and never up. Given that we think of causation in terms of causal explanation, our view doesn't give any more weight to lower level causal explanations (explaining compulsions as side effects of medication) than to higher level explanations (explaining compulsions as caused by obsessive thoughts). In fact, in explaining intentional symptoms, our point is precisely that because of their intentionality, higher level explanations will often<sup>3</sup> be the only type of causal explanation available.

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### Notes

1. Folk psychology not only describes such facts: we believe it also has an important regulative function (see McGeer, 2007). Moreover, folk psychology can clearly misfire, more on fallibility below.
2. Also we are not certain that Dretske (1988) would agree here: he seems to think that a structuring cause is a genuine cause, although of a peculiar kind (see Garcia-Carpintero, 1994).
3. Although not always, hence the example of compulsions caused by medication.

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## Author biographies

Annemarie Kalis is associate professor in the Department of Philosophy and Religious Studies at Utrecht University. She works in the philosophy of psychology and psychiatry; her main research themes are self-control, reasoning, and agency. She is the author of the monograph *Failures of Agency* (Lexington Books, 2011) and of various articles such as “Self-Control as a Normative Capacity” in *Ratio*, 31(1); “An Anscombean Perspective on Habitual Action” (with D. Ometto) in *Topoi*; and “Brain disorders? Not Really . . . Why Network Structures Block Reductionism in Psychopathology Research” (with D. Borsboom and A. Cramer) in *Behavioral and Brain Sciences*.

Denny Borsboom is professor of psychological methods at the University of Amsterdam. His work has focused on conceptual analyses of psychometric models, the measurement problem in psychology, and on substantive psychological research in a number of domains, including intelligence, personality, and psychopathology. He is the founder of the Psychosystems project ([www.psychosystems.org](http://www.psychosystems.org)), which is specifically dedicated to the development of network approaches to psychometric problems, including the construction of statistical models and formalized psychological theories. Some of his recent publications are “A network theory of mental disorders” in *World Psychiatry*, 16, “Brain disorders? Not Really . . . Why Network Structures Block Reductionism in Psychopathology Research” (with A. Cramer and A. Kalis) in *Behavioral and Brain Sciences*, and “Personality, Resilience, and Psychopathology: A Model for the Interaction Between Slow and Fast Network Processes in the Context of Mental Health” (with G. Lunansky and C. van Borkulo) in the *European Journal of Personality*, 2020