

# Review of: "Teleology, backward causation, and the nature of concepts. A study in non-locality of reason"

Corina Strößner<sup>1</sup>

<sup>1</sup> Birkbeck College, University of London

**Potential competing interests:** No potential competing interests to declare.

(First my apologies for taking so much time for reviewing this article)

The paper discusses the notion of teleology, its relation to final causes, backward causation and the nature of concepts. The introduction gives a short outline. The second section aims to shed some light on teleology. In his exploration, the author distinguishes literal teleology, where the intention of a designer plays an effective role from reflective teleology with an as-if tone. This includes the notion of function as seemingly chosen as a means for an end but there is no literal intention or purpose (e.g. in biology). A third type of teleology stems from the Aristotelian notion of a final cause and is intuitively closely related to backward causation.

The next section provides an excursion into Kant's argument for synthetic judgment a priori. In this section, the author shows the role of teleology in this argument. I am not an expert on Kant and cannot say much about this section. The analysis sounds convincing. However, the role of this section in the paper is somewhat not clear. It might be viewed as a motivation for trying to understand teleology (in order to make sense of Kant). The question, however, seems motivated enough, even without Kant. Moreover, the author does not come back to this issue. It thus seems to me that the exploration of Kant might be an issue for a separate paper, targeted at an audience of scholars who are focused on researching Kantian philosophy.

The fourth section of the paper is devoted to the concept of functions. The author points out similarities between the concept of function as a role for a larger system that is typical in life sciences and the mathematical concept of function as a relation between argument and values. Both are output dependent and thus in the author's understanding implicitly teleological. The next section of the paper discusses backward causation as a potential foundation of teleology. The section is quite long and seems essayist. Though the single paragraphs and arguments are clear, I had difficulties to understand the main line of argumentation in this section. He brings up different options of making sense of backward causation, including quantum mechanic, but seems to subscribe to none. The section thus left me somewhat puzzled in what the main message was. It would be easier if the author would make his own standpoint more transparent.

The sixth section concerns concepts. The author distinguishes between objective and subjective concepts. The distinction seems more or less equivalent to the one between a type of concept and a token of a concepts, which has been suggested in the literature (Laurence & Margolis, 1999; Margolis & Laurence, 2012), where subject concepts are instances of types. The author seems to implicitly assume this idea, when he writes of subjective concepts as instances of

objective ones. It is correct that tokens are necessarily located in space-time. The author also correctly claims that conceptual abilities (as well as other kinds of abilities) are judged on the ground of future behaviour. That is whether a kid understood addition yesterday is also judged on her performance in a test tomorrow. (Of course, the time span is usually short. Her performance tomorrow is more suggestive of her concepts yesterday than a year ago or so.) However, I did not understand how these forms of (probabilistic) reasoning relate to either teleological explanation or backward causation. In this case, isn't the concepts possession the cause of the future performance? What does this case do for the functional statements the author used to illustrate the concept of function in the fourth section?

The final section aims to offer a sketch of the main argumentation lines, namely that making sense of teleology would involve the reconsideration of backward causation as well as the nature of concepts (probably both of them). The first half of the disjunction enjoys some *prima facie* plausibility but the author hesitates to subscribe to it (for good reasons). The second disjoint was less clear to me. I did not understand, what the non-locality of concepts would do for teleological explanation. Maybe an example or application would have been helpful. Finally, the main thesis of the author seem somewhat vague: If we want teleology, we would need to re-consider backward causation and concepts (probably both, maybe just one). This conclusions left me puzzled and my first answer, if I would accept this disjunction (or even conjunction) would be to think that this playinly speaks against teleology. But this is not an option the author considers. Moreover, I find it a little bit unsatisfying that the author does not really make a clear claim concerning his main disjunction (or maybe conjunction). The paper seemed to be extremely vague in its position.

That said, I think the author tackles important questions. His project may be quite fruitful, even though it requires further development. The questions are clear and the single arguments are a good starting point, even though the overall picture is still nebulous.

One problematic aspect in the current darft is that the author ignores the entire debate of contemporary analytic philosophy. The author seems to come from a more historic tradition (Kant, etc) and I understand that it would be unfair to criticise his work from a viewpoint of an entirely different tradition. However, the questions the author addresses are systematic and they have received a lot of attention in the last decades. So it seems entirely appropriate to suggest that the author takes into account the existing research literature. This holds in particular for the notion of function and teleology. Worth mentioning are the accounts of Ruth Millikan (Millikan, 1984) as well as Karen Neander (Neander, 1991a, 1991b), which are both somewhat similar. Both explicate the notion of function and teleology without involving backward causation at all. An overview of recent debates is found in the entries about teleology in the Stanford Encyclopedia Allen and Neal (2020) and Schulte and Neander (2022). The same issue holds for the author's section about causation, which is also not informed by recent work in the field such as probabilistic causal nets (Pearl, 2009; Pearl & Mackenzie, 2018; Woodward, 2004, 2021). Including those in the discussion seems particularly important since the author seems to indicate some probabilistic solution to his teleological problem. These frameworks would allow to spell this out and to make a more neat distinction between causal claims and causal reasoning (that can go from the effect to the cause, to a common cause, etc). To a minor extend a similar issue applies in the discussion of concepts, which is also not referring to any recent discussion, but I am not sure whether there is some work, he would need to consult in oder to advance his work (apart from the above mentioned type-token distinction). Overall, the research project would clearly benefit from a closer

alignment to the above mentioned recent discussions.

## References

- Allen, C., & Neal, J. (2020). Teleological notions in biology. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. <https://plato.stanford.edu/archives/spr2020/entries/teleology-biology/>
- Laurence, S., & Margolis, E. (1999). Concepts and cognitive science. *Concepts: core readings*, 3–81.
- Margolis, E., & Laurence, S. (2012). Concepts. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. <http://plato.stanford.edu/archives/fall2012/entries/concepts/>
- Millikan, R. G. (1984). *Language, thought and other biological categories*, MIT Press.
- Neander, K. (1991a). Functions as selected effects: The conceptual analyst's defense. *Philosophy of Science*, 58 (2), 168–184. <https://doi.org/10.1086/289610>
- Neander, K. (1991b). The teleological notion of 'function'. *Australasian Journal of Philosophy*, 69(4), 454–468. <https://doi.org/10.1080/00048409112344881>
- Pearl, J. (2009). *Causality* (2nd edition). Cambridge University Press. <https://doi.org/10.1017/cbo9780511803161>
- Pearl, J., & Mackenzie, D. (2018). *The book of why: The new science of cause and effect*. Basic Books.
- Schulte, P., & Neander, K. (2022). Teleological theories of mental content. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. <https://plato.stanford.edu/archives/sum2022/entries/content-teleological/>
- Woodward, J. (2004). *Making things happen*. Oxford University Press.
- Woodward, J. (2021). *Causation with a human face*. Oxford University Press.