

My way to Non-reductive Neurophilosophy: Georg Northoff

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How did I come to non-reductive neurophilosophy? Let me sketch my biography a little. When I was young, I always wanted to study philosophy, the basic questions of the world, humans and the mind fascinated me – going down to the bottom of things. However, I did not want to study philosophy in isolation from the science. My fascination was and still is on the mind and specifically subjectivity as core feature of the mind. Subjectivity and mind are obviously key topics in philosophy. However, having grown up from the mid/end of the 20th century allowed me to also study the mind empirically and thus to complement philosophy by science. At my time there were no neuroscience programs yet. Hence, the only way to study the brain and its connection to the mind was to go into medicine which I did parallel to my philosophy studies.

What do you do when you finished medicine and have a strong interest into brain-mind connection? One goes into a medical field

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where the mind is centre – that let me to do psychiatry and become a psychiatrist. The mental phenomena experienced by these patients still fascinate me and they can provide deep insights into the mind and how the brain must function as to yield such often bizarre and strange symptoms. Hence, I ventured into psychiatry and did my clinical residence.



In parallel, I ventured into the brain itself. I was lucky that the emergence of imaging techniques like fMRI provides fascinating insights into the neural underpinnings of mind. I still remember that at around 1994, we were standing around the fMRI scanner and were

fascinated how the activity change recorded in fMRI mirrored the changes in finger movements. Now it is trivial and taken for granted, at the time, just 28 years ago, it was revolutionary and mind-boggling. That let me to focus my science on brain imaging techniques.

How to reconcile the three worlds of psychiatry, neuroscience, and philosophy? That is my main attempt since 20-30 years. My deep conviction is that such integration is needed to address, answer and resolve the neural basis of mental features, the brain-mind connection. As in physics, plenty of conceptual-theoretical issues need to be resolved lying as obstacles on the empirical way. In other terms, we need a proper model of brain which must include a model of brain-mind connection. As I see we are currently lacking this in both neuroscience and philosophy.

My proposal of a spatiotemporal model of brain-mind aims to remedy this black hole: space-time constructions provide the link or shared feature of neural and mental activities as their “common currency” (Northoff et al., 2020). This carries major empirical and conceptual implications for both neuroscience (like Spatiotemporal Neuroscience) and philosophy (like Spatiotemporal Ontology and a spatiotemporal view of brain-mind connection) (Northoff, 2018).

But why neurophilosophy and even more so in a non-reductive way? I consider neurophilosophy to be primarily a methodological approach, a particular strategy we need to employ to be able to take into view certain phenomena which otherwise would remain outside our scope. Importantly, I deem the link of conceptual models and ontological theories with empirical data to be key in providing insight into brain-mind connection and its subjectivity. Going back to and paraphrasing Kant, brain data without brain-mind models are blind, brain-mind models without brain data are empty.

Picking up on Kant, non-reductive neurophilosophy provides a methodological strategy to allow for a systematic and bilateral connection of theoretical concepts and empirical data, of philosophy and neuroscience. The emphasis is here on systematic: it provides and defines different steps in how to link concepts and facts in a valid way without reducing the one to the respective other. Taken in such sense, non-reductive neurophilosophy can be considered a methodological strategy of analyzing the relationship of concepts and facts just like there are specific methods of logical analyses in philosophy and empirical data analysis in neuroscience.

In other terms, non-reductive neurophilosophy is a methodological tool at the interface of philosophy and neuroscience. As such it can be applied to problems in both philosophy and neuroscience. Look at my publications and you will see that I not only postulated such non-reductive methodology but also applied it in several ways. I went and am still going all the way from Kant, Heidegger, Whitehead, and other philosophers to hard-core neuroscientific questions including the neural mechanisms of mental features like self and consciousness. Nothing is more rewarding and enjoyable for a scientist and philosophy (at least for me) of having the feeling that one grasps and understands a tiny little piece of how nature including brain-mind connections work, “it could this work”. Non-reductive neurophilosophy provided me and still does with a strong tool and wonderful guide in that!

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