Vortrag des Fachgebiets *Philosophie der Kognition*

Prof. Dr. Beate Krickel

Dienstag, den 15.12. 10:15-11:45

JunProf. Dr. Lena Kästner (Saarbrücken):

Modeling in Psychiatry: When Correlation Waggles Its Eyebrows

Correlation does not imply causation. Nowadays, that is almost a platitude. Nevertheless, correlation-based computational models are increasingly used to study, predict, and explain complex systems' behavior. This is not only true for climate science but also for traditionally laboratory-, field- or clinic-based disciplines such as genetics, biology, and psychiatry.

Based on large amounts of data, powerful computers can build dynamical mathematical models of complex systems such as human beings or neural populations in the brain. When presented visually, these models often look like networks: variables are depicted as nodes connected by weighted edges. These networks invite a causal reading: If I change something in variable X over here, that will cause a change in variable Y directly connected to it.

Indeed, this kind of reasoning is familiar from discussions about structural causal models. In philosophy of science, structural causal models are used to describe causal structures or mechanisms within a system. They consist of nodes representing components or causally relevant factors and directed edges representing causal relations between them. And like computational models, structural causal models are utilized to explain and predict systems' behavior. Despite these similarities, however, it is far from clear how exactly computational models and causal modeling relate. After all, correlation is not causation—but somehow, it seems, it points in the right direction…

Der Vortrag wird via Zoom stattfinden. Um den Link zu erhalten, freuen wir uns über Anmeldungen über kontakt@kognitionsphil.tu-berlin.de.