From Brain Networks to the patient-environment system in clinical neuroimaging

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Résumé

Like the Hydra of Lerna in Greek mythology, regrowing two heads for each chopped-off one, the advancements in our understanding of the brain produce more questions than answers. Yet, neuroimaging technologies allowing the visualization of brain architecture and activity in vivo have become a central tool in psychiatric research and present promising avenues to improve patients' quality of life. Although an impressive development in data analysis techniques and clinical neuroimaging research programs including hundreds, if not thousands of subjects, we still lack a clear understanding of the role of the brain in psychiatric disorders. The quest to find the causes of psychiatric illnesses in terms of their neural underpinnings turned researchers to assume that it was possible to understand brain alteration in isolation from the patient's body and environment. However, to fully understand the neural characteristics of psychiatric disorders, it is necessary to consider the body carrying the brain and the environment in which this happened. That is the patient-environment system. In this line, previous work in philosophy and clinical psychology has emphasized the importance of paying attention to the patient-environment scale of analysis; however, an explicit link between these ideas and clinical neurosciences is still lacking. The present work builds on the radical embodied cognition framework to envisage how to integrate patient-environment data in clinical neuroscience.

Mots-Clés: Clinical neuroimaging, Psychiatric disorders, Radical embodied cognition

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