

Psychotherapy and neuroscience: Towards closer integration

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Abstract

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The original aim of psychology was to study and understand the spirit—from the Latin *spiritus*, literally “breath.” The limitations of scientific methods in the past favoured psychology's aloofness in terms of studying the “intangible,” while medicine developed methods of examining the body (Latin *corpus*: essential part). Until 20 years ago, knowledge of the localization of brain functions was limited to inferences from clinical observation of brain-lesioned patients or parallel studies of primate brains. Current neuroscience, with its integrative approach, is bringing together research from molecular through cognitive levels, and psychotherapy has benefited from these findings. Functional neuroimaging studies may make specific and more far-reaching contributions in this respect, since cerebral dynamics may be observed in vivo and in controlled situations. Methods such as single photon emission tomography, positron emission tomography, and functional magnetic resonance imaging have been able to evaluate the neural correlates involved in psychotherapy for individuals with obsessive-compulsive disorder, major depression, social phobia, specific phobia, and post-traumatic disorder. Researchers have found that psychotherapy has the potential to modify dysfunctional neural circuits associated with these disorders. However, precautions are required in constructing feasible designs for neurofunctional investigations. This article reviews the 21 studies that have been published on the subject, and sets out the main advantages and limitations of the technologies used most frequently in protocols involving psychotherapies, and prerequisites for experimental designs. We also pose ways in which the findings from neuroimaging may produce knowledge to guide

psychotherapeutic interventions by specifying what should be stimulated in these individuals in order to normalize deficient neural activities.

Citing Literature



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