

Editorial

Neuro in Psychiatry: Past, Present, Future

Joseph Zihl*

Department of Psychology - Neuropsychology, University of Munich, Germany

***Corresponding author:** Joseph Zihl, University of Munich, Department of Psychology – Neuropsychology, Leopoldstrasse 13, D-80802 München, Germany

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“We are back where Griesinger started ... it is time again to challenge our neuroscientific understanding with the task of explaining mental disorders as a product of brain structure and function interacting with personal and social experience”. With this statement, Caine & Joint [1] opened their plea for the greater/broader inclusion of neuroscience in psychiatry. About 100 years before, Griesinger [2] came to the then surprising, although justified, conclusion that the integrity of mental processes is bound to the integrity of the brain, which is the “seat” of normal as well as pathological mental processes. In line with this tradition, Kraepelin [3] argued for the importance of psychology in psychiatry, which he defined as a unique and valid experimental methodology for assessing mental disorders. He suggested that such research should not only contribute to a better understanding of mental functions and their impairments, but also to the progress in “psycho-pathological” diagnostics. “Psychopathology” in Kraepelin’s view did not only comprise psychopathological symptoms in their contemporary definition, but also cognitive dysfunction.

Neuropsychology is a branch of clinical and behavioral neuroscience; its main activity is the investigation of consequences of brain dysfunction on mental processes and their behavioral manifestations. It specializes in the quantitative and qualitative assessment of disorders in perception, attention, memory, executive function, action, language, emotion and motivation that result from congenital or acquired alterations in the brain, and in pathological states of the brain, including depression, schizophrenia, anxiety and personality disorders [4]. Furthermore, neuropsychology continues to broaden in scope, in parallel with developments in the many areas embraced by the term “the neurosciences” (e.g., brain imaging, genomics) and translational sciences (e.g., health care); at the same time, research and practice has become more evidence-based [5,6].

Mental disorders, such as depression, schizophrenia and dementia, are major topics in neuropsychological research and practice [7,8]. Moreover, despite significant advances in neuroimaging, neuropsychology will keep its unique role in assessing mental capacities and disorders [9]. Keefe [10] has pointed out that, in addition to proving brain-behavior relationships in psychiatric disorders as well as improving our understanding of the relationship between mental dysfunction and psychopathological symptoms,

neuropsychological tools may also “serve to identify cognitive predictors of course of illness and discriminate among heterogeneous forms of some psychiatric disorders” (p. 6). For example, we now know that reduced cognitive performance may persist in a subgroup of patients even after depressive symptom amelioration by antidepressants [11,12] and, that cognitive dysfunction may represent a marker for response to pharmacological treatment and the risk of recurring depressive episodes [11,13]. Thus, novel antidepressant treatments may also target cognitive improvement [14].

Another point worth considering is that, while good discrimination between subtypes of psychiatric disorders on the basis of dissimilar cognitive patterns may be possible, searches for similarities may provide insights into what lies the other side of the coin. Given the extensive and prominent networking in the brain, it is not surprising to also find overlapping patterns of cognitive dysfunction [10], as shown. For example in depression and schizophrenia, which may be seen as disorders with a final common pathway [15,16]. Thus, consideration of both specific and common cognitive disorders may help to elucidate the nature of the functional organization of systems for cognition, emotion/mood and motivation by associating and dissociating these functions in pathological states of the brain [17]. Neuropsychiatry remains “an amalgam of psychiatry, neurology, and neuropsychology” [1]; its “foundation rests upon the relationship between the brain and behavior” [18]. Thus, Psychiatry and Behavioral Science are intimately interconnected, and should not be pursued separately, neither in research nor in practice. In this sense, neuropsychiatry “is essentially a collaborative and integrative enterprise” and is focused on the assessment and treatment of patients with brain dysfunction [19]. I look forward to helping the *Austin Journal of Psychiatry and Behavioural Science* to steer this enterprise.

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