A New Step Forward in “Carving Nature by its Joints” in Psychopathology/Psychosis

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Keywords

Schizophrenia · Psychosis · Psychopathology · Nosology · Diagnosis · Epistemic hubs

Now more than ever, and taking lessons from past research on the psychopathology of psychosis, we should keep a pragmatic approach to improve the care of patients while we are dealing with nosological, ontological, and aetiological problems of psychiatric disorders. And still more, as suggested by Carpenter [1] after 50 years of an outstanding career in research on schizophrenia, we have to be bold not only in translational research but also in the deconstruction of classic clinical syndromes of schizophrenia.

The Systems Neuroscience of Psychosis (SyNoPsis) project seems to accomplish both a pragmatic approach for clinical practice and a naturalistic approach in an attempt to link clinical manifestations and disrupted brain networks in schizophrenia. As a point of departure, Strik et al. [2, 3] started from the long-lasting “bottleneck” of a lack of neurobiological validation of the current DSM/ICD psychiatric entities. They updated Leonhard’s psychopathology and renewed the seminal contributions of Wernicke on the hypothetical neurofunctional basis of psychotic syndromes. Leonhard emphasized three groups

of “core” psychopathological symptoms entailing bipolar properties (language, emotion, and motor) to delineate the subtypes of psychosis. And with these symptoms conformed psychosis subtypes that were claimed to be clinically homogeneous based on their differential psychopathology, course/outcome, and risk factors [4].

SyNoPsis is a project hypothesis pending definitive empirical validation, and it encompasses a new instrument (the Bern Psychopathology Scale [BPS]) which provides an operational catalogue of psychotic symptoms encompassing the three phenomenological domains mentioned above. The psychotic symptoms in the BPS were specifically defined and itemized to account for “objective” behavioural symptoms by means of quantitative and qualitative scorings and including additional scorings for subjective symptoms. They addressed the ontological problem of the nature of psychotic symptoms by separating clinical semiology into “units” of observable behaviour via a naturalistic approach. In addition, the authors proposed renaming schizophrenia as an “interpersonal communication disorder” on the basis of the most characteristic dysfunction of schizophrenia patients perceived by others and on the basis of dysfunctions of brain association loops.

The SyNoPsis project has similarities in its goals to the Research Domain Criteria (RDoC) initiative, the main

aim of which is to link mental disorders to dysfunctional brain circuits; but whereas RDoC uses intermediate constructs in the brain-behaviour interface, the SyNoPsis project proposes direct relationships. Indeed, the SyNoPsis project aims to develop a transdiagnostic, translational, and dimensional approach only to psychopathological “units” instead of units defined at different levels of analysis as in the RDoC matrix.

Although the SyNoPsis project brings relevant improvements in the psychopathological assessment of psychosis and may represent a heuristic model for disentangling the symptom-brain relationship in schizophrenia, there are certain features to take account of in further developments of the project.

Conceptually, the authors hypothesized that sensorimotor and corticostriatal brain symptoms are specialized systems accounting for dysfunctions of complex communication behaviour. However, there still is intense debate about domain specificity in brain processing and large-scale neurocognitive networks, and distributed processing not only is dynamic but also might be context dependent [5].

The search for convergent methodological validity (demonstrating that SyNoPsis dimensions are intrinsically linked to candidate neurofunctional disturbances) should not obscure the value of probing discriminant validity (demonstrating that SyNoPsis dimensions are not associated with non-hypothesized neurofunctional disturbances). Thus, the study of non-schizophrenic psychosis should be sure to look for commonalities with and differences from schizophrenia, which could enhance the transnosologic value (or lack of it) of the SyNoPsis model.

Symptom identification and disease recognition are acknowledged as two independent phases in the diagnostic process; however, individual symptom assessment is

never an independent exercise, but is intimately entangled in the process of disease recognition [6].

Psychopathological symptoms do not compose a static picture of symptoms, but they are dynamic in essence. Cross-sectional and longitudinal assessments are usually required. Moreover, the course of psychosis was one of the fundamental validators of psychosis in Leonhard’s nosology, but it is not addressed in the SyNoPsis project. Besides, whether neurobiological measurements are made during the occurrence of symptoms or not (i.e., functional imaging research, EEGs) will have very different implications [7].

Negative symptoms do not seem to be represented in the SyNoPsis project, and only partial validation between the BPS motor dimension and the PANSS negative dimension was achieved [8]. Besides, the lack of BPS items assessing mood signs might hamper the whole psychopathological assessment of other psychoses and the neurofunctional specificity of schizophrenia claimed by the authors.

Both the SyNoPsis and the RDoC approaches advocate a neurobiological dysfunction without specific consideration of psychosocial and development variables, positing that all disturbances are mediated by disorders of brain circuits. However, both should be referenced to broadly applied psychiatric classifications serving as epistemic hubs [9]. In this regard, the research in progress on the SyNoPsis project and BPS should be adapted to the needs of everyday practice and test for either their superiority to or complementariness to current nosologies (DSM/ICD) and assessment instruments, respectively.

In addition, to account for the current lack of validated nosologies, taxonomic pluralism by means of a polydiagnostic approach is advocated in the process of validating psychiatric classifications and in search of the aetiology of psychosis [10].

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