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Review of the literature

# Making psychiatric semiology great again: A semiologic, not nosologic challenge

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#### ABSTRACT

This article analyzes whether psychiatric disorders can be considered different from non-psychiatric disorders on a nosologic or semiologic point of view. The supposed difference between psychiatric and non-psychiatric disorders relates to the fact that the individuation of psychiatric disorders seems more complex than for non-psychiatric disorders. This individuation process can be related to nosologic and semiologic considerations. The first part of the article analyzes whether the ways of constructing classifications of psychiatric disorders are different than for non-psychiatric disorders. The ways of establishing the boundaries between the normal and the pathologic, and of classifying the signs and symptoms in different categories of disorder, are analyzed. Rather than highlighting the specificity of psychiatric disorders, nosologic investigation reveals conceptual notions that apply to the entire field of medicine when we seek to establish the boundaries between the normal and the pathologic and between different disorders. Psychiatry is thus very important in medicine because it exemplifies the inherent problem of the construction of cognitive schemes imposed on clinical and scientific medical information to delineate a classification of disorders and increase its comprehensibility and utility. The second part of this article assesses whether the clinical manifestations of psychiatric disorders (semiology) are specific to the point that they are entities that are different from non-psychiatric disorders. The attribution of clinical manifestations in the different classifications (Research Diagnostic Criteria, Diagnostic Statistic Manual, Research Domain Criteria) is analyzed. Then the two principal models on signs and symptoms, i.e. the latent variable model and the causal network model, are assessed. Unlike nosologic investigation, semiologic analysis is able to reveal specific psychiatric features in a patient. The challenge, therefore, is to better define and classify signs and symptoms in psychiatry based on a dual and mutually interactive biological and psychological perspective, and to incorporate semiologic psychiatry into an integrative, multilevel and multisystem brain and cognitive approach.

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#### Introduction

A passionate long-lasting debate in medicine is knowing "what kinds of things are psychiatric disorders?" [1]. This question has engendered complex historical, sociological, epistemological and philosophical concepts with large differences between models and schools of psychiatric thought [1–7]. Such thinking is essential for the development of psychiatric medicine but commonly gives the implicit impression that psychiatric disorders are something different or quite different from non-psychiatric disorders. This purported distinction is particularly evident in the traditional dichotomy between mental and physical disorders. However, psychiatry, like the entire field of medicine, should go beyond this dichotomy [8,9].

The supposed difference between psychiatric and non-psychiatric disorders also stems from the fact that the individuation of psychiatric disorders seems more complex than for non-psychiatric disorders. This individuation process can be related to nosologic and semiologic considerations. Nosologic considerations concern the scheme of classification imposed on clinical and scientific medical information to delineate disorders, thereby increasing its comprehensibility and utility. Semiologic considerations relate to the clinical evaluation and organization of signs and symptoms in order to undertake clinical reasoning leading to the identification of a psychiatric disorder [10,11]. This article analyzes whether psychiatric disorders can truly be considered as something different when considered from a clinical nosologic or semiologic point of view.

### Are psychiatric disorders different when considered from a nosologic point of view?

The long-standing discussion accompanying the construction of contemporary classifications of psychiatric disorders, in particular the Diagnostic and Statistical Manual of Mental Disorders (DSM) [12], demonstrates that unlike in other medical disciplines, it is not easy to classify disorders in psychiatry, thereby reinforcing the impression that psychiatric disorders are something different. Psychiatric disorders might be entities different from non-psychiatric disorders because the ways of establishing the boundaries between the normal and the pathologic, and of classifying the signs and symptoms in different categories of disorder, are not the same. The first part of the article thus analyzes whether the ways of constructing classifications of psychiatric disorders are different than for non-psychiatric disorders.

Evolution of nosologic issues from the RDC to the RDoC

The ways of establishing the boundaries between the normal and the pathologic and the classification of the different disorders have to be evaluated for their reliability and their validity [12]:

<sup>1</sup> The term semiology is used in this article as a synonym of the term symptomatology, presentation, manifestation or phenomenology of the disorder. In this article, we use the term semiology, in line with the French medical tradition from the early 19th century. In the English tradition, the term semiology has referred since the middle of the 17th century to the science of language. Thus, the English medical tradition is to use "symptomatology", "clinical presentation, manifestation or phenomenology". However, it should also be noted that the term phenomenology used in this sense can be considered as a misuse in clinical psychiatry. Indeed, current usage as a set of signs and symptoms of a patient with a psychiatric disorder is different from the original meaning, which concerned comprehending a patient's subjective self-experience (in line with the continental understanding of phenomenological philosophy).

- reliability (also called "precision") refers to reducing disagreement among clinicians about whether some phenomena are to be considered as pathologic or not and about the psychiatric diagnosis;
- validity (also called "accuracy") is "the degree to which diagnostic criteria reflect the comprehensive manifestation of an underlying psychopathological disorder" [13].

The early contemporary classification, and in particular the Research Diagnostic Criteria (RDC), sought to establish diagnostic criteria in order to enhance reliability in psychiatry [14]. The RDC project was developed at the Washington University School of Medicine in St Louis. The criteria of the St Louis group are also known as the "Feighner criteria", because Feighner was the author of the seminal article summarizing criteria for 15 psychiatric conditions [15]. The development of the RDC project led to the major revisions in DSM-III [16]. It stated: "Since in DSM-I, DSM-II, and ICD-9 explicit criteria are not provided, the clinician is largely on his or her own in defining the content and boundaries of the diagnostic categories. In contrast, DSM-III provides specific diagnostic criteria as guides for making each diagnosis since such criteria enhance interjudge diagnostic reliability" [17]. The expectation was that each psychiatric disorder would be validated by its separation from other disorders. However, the validity of the RDC and the subsequent DSM has been largely criticized [18,19]. Thus, the Research Domain Criteria (RDoC) was the most important contemporary classification to focus on validity. The aim was to create "new ways of classifying mental disorders based on dimensions of observable behavioral and neurobiological measures" [20]. The RDoC, which interestingly used an acronym very close to the RDC project, was developed at the National Institute of Mental Health (NIMH), an agency of the United States Department of Health and Human Services and the largest research organization in the world specializing in mental illness. Thomas Insel, who led the NIMH from 2002 until 2015, largely supported the RDoC project. By proposing a dimensional approach based on brain function, it was thought that the future nosology of psychiatric disorders would be more valid, i.e. closer to underlying physiopathological mechanisms [18].

Boundaries between the normal and the pathologic

In this section we analyze ways of establishing the boundaries between the normal and the pathologic. The construction of contemporary classifications of psychiatric disorders requires operational criteria to reduce disagreement among clinicians regarding whether a phenomenon are pathologic or not (reliability) and to ensure that it is determined by an underlying impaired physiological mechanism (validity). In this paper, we term "inclusion criteria" the defining criteria used to address reliability and to identify signs and symptoms that may be considered as "clinically significant"; and "exclusion criteria" the defining criteria used to address validity and to identify signs and symptoms that are not to be considered as pathologic. How specific criteria are designed to position the boundaries between two disorders will be analyzed in the following section.

In the RDC, these additional criteria were not explicitly defined. However, Feighner et al. stated that "the first step is to describe the clinical picture of the disorder. This may be a single striking clinical feature or a combination of clinical features thought to be associated with one another. Race, sex, age at onset, precipitating factors, and other items may be used to define the clinical picture more precisely. The clinical picture thus does not include only symptoms" [15]. Thus, they clearly indicated that the boundary between the normal and the pathologic should to be determined by features other than only the signs and symptoms. In 1978, Spitzer and Endicott proposed a detailed list of operational

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