Psychological Medicine

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Invited Commentary

Cite this article: Carpenter Jr WT (2021). Commentary in response to Andrew Scull's 'American psychiatry in the new millennium: a critical appraisal'. *Psychological Medicine* **51**, 2773–2775. https://doi.org/10.1017/S0033291721002890

Received: 29 June 2021
Revised: 1 July 2021
Accepted: 1 July 2021
First published online: 27 July 2021

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CAMBRIDGE UNIVERSITY PRESS

Commentary in response to Andrew Scull's 'American psychiatry in the new millennium: a critical appraisal'

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Professor Andrew Scull has a distinguished record informing the history of mental disorders. In this issue of *Psychological Medicine*, he addresses modern American psychiatry. He begins by noting the past 50 years as described by Jeffrey Lieberman (Scull, 2021). Here, American psychiatry leaves the unfortunate psychoanalytic era and now arrives as a scientific medical field with very substantial advances in knowledge and therapeutics. Scull, considering Lieberman's view, follows Monty Python with 'and now for something altogether different'. He views American psychiatry from about 1955 with a focus on DSM-III in 1980 and moves on to the DSM-5 era. This is an informed, well documented, and distressing assessment relevant to science, clinical care, and policy. American psychiatry and the DSM process have global influence. The reader of Scull's critique will not find the psychiatry Lieberman admires.

The story of mental illness in the USA has many participants often including psychiatrists and sometimes with organized psychiatry as the responsible participant. The Diagnostic and Statistical Manuel is, perhaps, the most important story related to American psychiatry's international influence and is a focus point for Scull as it is for this commentary. As an American and Chair of the DSM-5 Psychosis Work Group there is potential for bias. So, a comment on my personal view:

1. There is no human right to treatment in the USA. Comprehensive services for the mentally ill are not available for most patients. Expense of treatment and failure to build community therapeutic networks to replace mass reduction in state sponsored hospitals has resulted in large prison and homeless populations with severe mental illness. Personal financial situation is a primary determinant for who receives high-quality clinical care. Science remains challenged to produce fundamental understanding of etiology or the knowledge on which therapeutic advance and prevention are based.
2. I have been involved with DSM-III, IV and 5. I was involved in presenting to Spitzer and the DSM workgroup compelling evidence that Schneider's First Rank Symptoms were not unique to schizophrenia and that schizophrenia was a syndrome rather than a disease entity. This was not accepted but the science supporting this view was published (Carpenter & Strauss 1974; Carpenter, Strauss, & Bartko, 1974; Carpenter, Strauss, & Muleh, 1973; Strauss, Carpenter, & Bartko, 1974). With DSM-IV, I advised on adding negative symptoms to the A criteria for schizophrenia. With DSM-5, I was chair of the Psychosis Work Group and presently am a review group member to consider applications for change in DSM-5.
3. While much is lacking in the care of persons with severe mental illnesses in the USA, the fault is not always with American Psychiatry (e.g. failure of government to fund community-based care as hospitals closed and homelessness and prisons expanded).

Readers of this commentary need not anticipate sharp disagreement with Scull's views. It is replete with important and timely information. It invites the question: what is the current and near future for American psychiatry? My comments, with psychosis as illustrative, provide a view of current and near future advances intended to address flawed concepts of mental illness, advance in clinical care and therapeutics, and create opportunity for a substantial advance in science. Changes in policy that would address homelessness, mental illness incarceration, availability of services are essential but with little hope for major governmental investment [see a wonderful exception created by a judge (https://stepuptogether.org/people/steve-leifman)]. How mental illness is conceptualized matters for science and clinical care. Here, American psychiatry has played an important role producing DSM. A substantial benefit in unifying concepts and increasing a common language/concept has been important. But fundamental flaws in concepts of nosology have impaired science. The field is now moving quickly in several directions to address the effect of treating heterogeneous syndromes as specific disease entities. We walk an uncertain path.

DSM-III brought order to the concept of schizophrenia. On the good side is success at enabling the clinical use of terms such as schizophrenia to be more uniformly understood and used. But to do this involved accepting the view that schizophrenia was a specific disease entity, that the presence of a Schneiderian first rank symptom (FRS) meant the presence of schizophrenia. While the concept was borrowed from Europe, its place in American psychiatry had a profound influence. For the next three decades, with this view reinforced in DSM-IV, science was dominated by schizophrenia *v.* non-ill controls designs with extensive application of the new world of brain imaging and the search for schizophrenia genes. No biomarker resulted! Kraepelin considered Bleuler's disorganization within thought and between thought and emotion and action and 'weakening of the wellsprings of volition' as the key clinical symptoms. Bleuler's view that hallucinations and delusions were secondary phenomena not central to understanding schizophrenia was lost as the field blindly turned to reality distortion to define schizophrenia. John Strauss and I presented the empirical evidence to Spitzer and the DSM-III work group that the scientific evidence supported schizophrenia as a clinical syndrome rather than a disease entity, that Schneiderian FRS were not unique to schizophrenia and that within a heterogeneous schizophrenia cohort the presence or absence of FRSs had neither developmental, current status, or course prediction power (Carpenter et al., 1973; Carpenter et al., 1974; Carpenter & Strauss 1974; Strauss et al., 1974).

Here I share Professor Scull's view of American Psychiatry's influence failing in concepts of psychopathology and providing a flawed concept for science. Beginning with DSM-5 potential corrections are noted below.

Where is American psychiatry now headed?

1. DSM-5 made explicit that schizophrenia was a syndrome rather than a disease entity. Each specific psychopathology within the syndrome should be addressed in clinical care and be the basis for scientific study. Transdiagnostic approaches will be common. The FDA will move from evaluating drugs and devices for syndromes and focus on specific psychopathology. It will be interesting to see if, for example, anhedonia in schizophrenia is the same as anhedonia in depression.
2. DSM-5 Psychosis Work Group put in place eight psychopathology dimensions rated on a continuum relevant to various psychoses. This addition passed all review but was blocked by the APA General Assembly and placed in the to be studied section of DSM-5. This action concerns the research and academic community and may reduce confidence in the APA management of the future DSM. This probably relates to issues of reporting and reimbursement outside the issue of validity.
3. NIMH introduced a paradigm for research, the Research Domain Criteria, to encourage investigation of potential mechanisms and pathways of brain activity associated with specific psychological domains. The paradigm brings focus to specify elements of psychopathology along a dimension (e.g. motor, cognition, negative valence) that likely crosses diagnostic boundaries (https://www.nimh.nih.gov/research/research-funded-by-nimh/rdoc/about-rdoc).
4. HiTOP is a statistical ascertainment of psychopathology leading to new views of the organization of human functions on a continuum that include psychopathology (Kotov et al., 2017). The hypothesis is that statistical assessment of data across the population and including those with mental disorders will better identify how psychopathology is organized and which mental disorders belong to each strata.
5. Computational approaches that redefine the relationship among variables (e.g. symptoms, imaging, genes, electrophysiology, treatment) and the formation of separable groups that may guide future nosology and identify individuals responsive to specific treatments.
6. Large data sets with board-based assessment information (e.g. use of mobile devices) that may yield new insights with computational statistics without restraints of prior formulations. Likely to include individual-level behavioral data beyond that presently associated with mental illness.
7. Strengthen genetic studies by using specific psychopathology rather than heterogeneous clinical syndromes as the phenotype. A schizophrenia PRS may not help much with the genetics of anhedonia or sensory-motor pathology. If the minority of persons with a diagnosis of schizophrenia have primary negative symptoms, then relevant genetic information is not likely to be captured when the phenotype is schizophrenia. This problem will be even worse if the phenotype is primary psychosis and includes multiple diagnostic classes unless the psychotic features *per se* are the target.
8. Regarding gene/environmental interactions, it seems probable that most environmental risk factors relate to multiple disorders as presently defined. Studies of prevention are difficult if the target is a single diagnostic class. Consider a prevention study in schizophrenia based on a pregnancy risk. One would need a very large cohort followed for maybe 30 years to determine efficacy for a primary prevention. Compare this with an outcome measure that is important across several disorders, some with an earlier age of onset. A much larger cohort with outcome measures at 5 years would close the current gap on primary prevention based on a single diagnostic class.

A final point. Scull sees the advantage of the field moving from biological to social constructs in attempts to understand mental illness. I would advocate the biopsychosocial medical model (Engel, 1977). Our human systems constantly integrate across these three levels. Psychiatry can identify the level of initiation of a treatment, for example, but cannot understand the effect of treatment without integrating. A general systems model requires integration of these three components. We cannot understand a drug effect on illness unless measured at psychological and social level. Nor would we expect CBT to be effective without brain effect. I am not sure if Scull and I disagree on this or just use different words and concepts.

In closing I suggest that American psychiatry is a broad field with many disciplines participating. This is clear in the range of disciplines involved in the eight approaches noted above aimed at overcoming the conceptual shortcomings in the DSM-III–DSM-5. Scull's view of many negative aspects of psychiatry in America is shared by psychiatrists and organized psychiatry. The USA has failed to meet the needs associated with the scope and the effect of severe mental illness. This is a moral and political problem in my country.

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https://doi.org/10.1017/S0033291721002890 Published online by Cambridge University Press

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