

## Art vs Science: On the soul of psychiatry

Through much of the 20th century, psychiatry has been grappling with what is perhaps an ironically Freudian neurosis of identity. Question any psychiatrist today about the nature of mental illness and you're likely to find a number of interpretations rather than objective –or at least consensual–truth. As a discipline, this leaves psychiatry on shifting ground. This ideological instability has historically been marked by pendular swings between psychoanalytic and biological models of mental illness over the 20th century (Lieberman, 2015). Even today, a number of frameworks exist which attempt to give psychiatry a theoretical foundation (Kecmanović, 2011, Ghaemi, 2006, Jakovljević, 2012). With such uncertainty about the epistemology of mental illness, the question of whether psychiatry is an art or a science has profound implications for its practice.

### I. Brain Disorders

After the “decade of the brain”, innovations in neuroscience and their impact on psychiatry are hard to deny. With the declaration that “mental health disorders are brain disorders” (Insel, 2009), the National Institute of Mental Health set about developing the Research Domain Criteria (RDoC) project (NIMH, 2015a). In contrast to the categorical symptomatology of the DSM, the RDoC's dimensional approach re-frames mental illness as “disorders of brain structure and function”, which in turn impact on various functional domains (Insel and Lieberman, 2013). It seeks to construct mental illness from the ground up, beginning at the level of genes, molecules and moving its way up to clinical symptomatology (NIMH, 2015b).

Underlying this view of psychiatry is the notion that mental illness has a distinctly observable aetiology: we just need the right scientific tools and methods to find it. This kind of ideology appeals to the very foundation of medicine whereby knowledge is constructed by depersonalised observation of bodily systems and their pathology; the so-called “medical gaze” (Foucault, 2010). The environment in which pathology occurs is secondary. This gives medicine as a discipline an undeniable empirical foundation, one which psychiatry is attempting to reproduce.

This approach has had some exciting, promising successes. For example, in her ongoing study, *Neurobiology of a Mutation in Glycine Metabolism in Psychotic Disorders* (2015), Dr Deborah Levy exemplifies the potential of the RDoC's theoretical framework. She begins by examining a rare genetic variant on chromosome 9p24.1 in two psychotic patients, each of whom carry extra copies of the region encoding for the enzyme glycine decarboxylase. The overabundance of this enzyme in turn leads to a deficit in glycine in the brain, resulting in decreased NMDA receptor-mediated function, a mechanism

which has been previously associated in the pathophysiology of schizophrenia (Javitt, 2007). Dr Levy theorised that glycine augmentation could be a potential therapeutic pathway for these patients. Indeed, the first phase of the trial ended prematurely due to the “substantial clinical benefits to the participants” (Levy, 2015) and it has now started recruiting patients for phase II of the trial. If successful, Dr Levy’s approach could pave the way for a highly personalised, targeted mode of treatment and a highly scientific model of disease.

The science of psychiatry attempts to thoroughly deconstruct mental illness into its genetic, biochemical and neurophysiological constituents so we can correlate abnormal brain development with observed clinical symptoms. In a way, psychiatry can use the latest tools to create mental illness piece by piece, molecule by molecule, neuron by neuron. For future psychiatrists, these advances signify a certain optimism about our ability to decode mental illness and thus provide better diagnoses and highly efficient, targeted care.

## **II. A Humanist Mind**

Yet, perhaps the soul of psychiatry lies on that which science cannot capture.

There’s something about psychiatry that is not classically medical. Up until the recent advances in neuroscience, there was nothing for the “medical gaze” to peer into- the mind was an entirely unobservable entity, separate from the physicality of the body. For much of its history, psychiatry was thought to dabble in obscure mental processes and was thereby shunned into the metaphysical, the unscientific. For all its florid and dramatic presentations, we’re struggling to find the tools, ingenuity or frameworks to observe the complete mechanisms of the mind. Rather than a detriment, however, this has been an integral part to the development of the art of psychiatry.

As a medical discipline, psychiatry arose as an attempt to alleviate human suffering due to dysfunctional “first-person, subjective experiences” (Kendler, 2005). While scientific advances have led to a deeper understanding of the underlying neurophysiology of mental illness, there are certain aspects which are best framed by broader psychological approaches. For example, there is established evidence that psychotherapy can and does influence “various levels of brain functioning (eg. molecular, cellular, neural circuits) and brain plasticity” (Beauregard, 2009). Yet, the skills required to effect these changes remain in many ways an art, requiring a certain amount of abstract thought, refined skills and careful attunement to psychodynamic processes. Indeed, a survey of psychiatrists and trainees found that many viewed these aspects of their profession as an art, particularly “learning and developing clinical skills, [...] the process of interviewing” and the “nuances [...] of psychotherapy” (Chur-Hansen and Parker, 2005). These practices suggest that psychiatry demands as much of an artful practice as of a rigorous science.

Taking a broader perspective, mental illness requires a nuanced understanding of the influence of culture and society on the individual, a field usually left to the social sciences and humanities. The idea of the “culture-bound syndrome” (Prince, 1985) contrasts with biological models of psychiatry in that it places the psychosocial environment of the individual as the main aetiological factor in mental illness. This concept is similarly echoed by the social determinants of mental health (Allen et al., 2014), which examine psychosocial risk factors by using epidemiological evidence.

In the case of eating disorders, both anorexia nervosa and bulimia nervosa were once predominantly considered to be culture-bound syndromes. However, a meta-analysis of historical and cross-cultural incidence (Keel and Klump, 2003) revealed that cultural factors are “neither sufficient nor necessary” for the development of anorexia nervosa. On the other hand, the limited evidence available suggests bulimia nervosa is indeed more largely influenced by sociocultural forces. It is interesting to note, however, that the associated concern with weight in both disorders seems to correlate with the rising influence of Western culture and its emphasis on thinness. These processes occur at a level outside of the scope of neurophysiological approaches and - as Kendler argued- neurobiological models might not be “the most efficient level” at which to study these phenomena (2005).

As one consultant pointed out, “to be a psychiatrist, you need a humanist mind” (Chur-Hansen and Parker, 2005). Psychiatrists must be finely attuned to their social milieu. The complexities of mental illness asks for a broader understanding than that provided by biological models. As invaluable as these tools are, to attempt to understand mental illness as purely a disorder of genes, proteins and neural circuits would be to miss the forest for the trees.

### **III. Multilevel Phenomena**

Similar to the attempt to unify quantum mechanics and general relativity, psychiatry faces the task of reconciling the minute, complex systems of genetics, neural circuits and biochemistry with the huge phenomena of human experience, society and its influence. The question of Art vs Science then becomes one of multilayered complexity.

Psychiatry is nearing an exciting era in which we can have the scientific tools to explore the relationship between these various levels and complement those insights with the art of social science, medical humanities and clinical practice. Like gazing into a prism, it is clear that mental illness can be studied, understood and constructed from various functional levels; from the top-down approach of the DSM and its categorisation of clinical symptoms to the bottom-up biological domains of the RDoC.

Ultimately, neither a human being nor mental illness can be understood by any one system of knowledge. In this way, the 21st century model is not one of dichotomies- it is one of pluralities. The intellectual maturity of psychiatry will come from the “rigorous integration of multiple disciplines and perspectives”(Kendler, 2005) and carve from them the best clinical outcomes for our patients.

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