



Psychiatry, Psychology and the Neurosciences at a Crossroad

Psiquiatria, Psicologia e Neurociências numa encruzilhada

Manuel Montes de Oca¹

1. Adult Psychiatrist, Addictionologist and Clinical Psycho-pharmacologist. Assistant Professor of Clinical Psychiatry and Behavioral Sciences, Albert Einstein College of Medicine, Bronx, N.Y.

Manuel Montes, Corresponding author, Manuel Montes de Oca, 9232 Pineville Drive Lake Worth, Florida 33467. Email address: mdo.manuel@gmail.com

Abstract

The impending paradigm shift in the discipline of Psychiatry will impact associated disciplines like psychology and related areas. How can we encompass current trends and facilitate collaboration between these disciplines is a challenge difficult to address and reconcile. This presentation pursue some possible perspectives conducive to redirect and facilitate a collaborative approach to address the complexity of our specialties. By considering transdisciplinary involvement between disciplines, a better understanding of human suffering and mental disorder could be possible and a better outcome achieve.

Keywords: psychiatry, psychology, neurosciences, complexity theory.

Resumo

A iminente mudança de paradigma na disciplina de Psiquiatria terá impacto nas disciplinas associadas como a psicologia ou áreas relacionadas. A forma como podemos englobar atuais tendências e facilitar a colaboração entre estas disciplinas é um desafio difícil de enfrentar e reconciliar. Esta apresentação analisa algumas possíveis perspectivas conducentes ao redirecionamento e facilitação de uma abordagem colaborativa para fazer face à complexidade das nossas especialidades. Ao considerar um envolvimento transdisciplinar entre disciplinas, é possível atingir um melhor entendimento do sofrimento humano e da saúde mental e, conseqüentemente, alcançar um melhor resultado.

Palavras-Chave: psiquiatria, psicologia, neurociências, teoria da complexidade.

A review of the literature identified extensive but isolated attempts at explaining the current trends in Psychiatry, the Neurosciences and Psychology. My interest is to re-direct our isolated efforts into a transdisciplinary approach. Psychology and the Neuroscience is a step in this direction but the evidence reviewed suggest we need more disciplines like evolution, philosophy, sociology, genetics and linguistic.

The way mental disciplines acquire knowledge (epistemology) does not allow for cross-validation of mental disorders among genetic markers, biochemical pathway, mechanisms, or clinical assessments. This impasse is the mayor force demanding a paradigm shift (Kuhn, 1970) or change in disciplinary Matrix (Kuhn, 1974).

Several theoretical objections are raised: poor reliability, limited specificity, poorly designed studies, methodology

bias, and failure of convergent validity of the interdisciplinary attempts. Modern Neurosciences, Psychiatry and Clinical Psychology taken as separate fields have failed to reveal the explanatory mechanisms underlying mental disorders. Neurobiology and Psychopathology are deeply insufficient concerning their validity, reliability and utility. Clear lack of effective transdisciplinary connections between them. This bring up the lack of effective communication between these disciplines (Stoyanov, Machamer, & Schaffner, 2013).

A psychiatric disorder as viewed in medical perspective, assume it to be a brain malfunction which is defined scientifically as a molecular mechanism (etiology) that causes an organ malfunction (pathology and signs), and the narrative from the patient (symptoms). Finally a diagnosis and a specific approach (treatment), also the inference of a preventive strategy (changes in lifestyle).

Unfortunately this is not the case for psychiatry, prompting us to consider linkage to disciplines like psychology and neurosciences to address the gap in nosology. But several caveats are easily identified.

The immense diversity of social, cultural, or geographic values to name a few, influence the complexity of diagnosis of the mental disorders, pointing toward a totally different approach as seen with a medical model of diseases. No wonder we call psychiatric condition disorders and not diseases, and if the cause is identified they are reclassified as diseases, transferred from psychiatry to the specialty more in tune with the etiology or a new discipline is developed like Neuro-psychiatry (Berrios, 1996).

How can we cross-validate diagnoses between neuroscience and mental health disciplines. Another obstacle is the realization that we deal with

symptoms that by definition are subjective, and medicine deal with signs as objective validities that render objective measure amenable to scientific approach. This particular conundrum prompt the reclassification of mental disorders as a combination of different perspectives including neurological/biological diseases, sociological disorders, reactive disorders and pure psychiatric diseases. Or fragmenting the clinical presentations as dynamic (life under circumstances, sorrow, and human suffering, reactive or existential) versus biological conditions with more evidence for organic etiology (Schizophrenia, Bipolar disorder, and Obsessive compulsive disorder). With the caveat that we do not have the diagnostic precision to rule out the other. (McHugh & Slavney, 1998)

Simply put, we cannot develop a comprehensive or value based medical assessment without first having some reliable and relatively stable scientific

validity (Mezzich & Salloum, 2009). And the lack of evidence in our assessment will force us to reclassify it as non-medical (no disease) or disorder. Scientific approach requires objective, measurable, medical disease, but disorders with their limitations to quantify, make objective and measurable not amenable for scientific scrutiny and investigation. They belong to the discipline of Humanities.

A crucial challenge before the neuroscience-psychology-psychiatry dialogue could be established is to create a model for the evidence among the various data from psychology, clinical practice, and the neurosciences. Correlation between psychology and neuroscience testing could be work on and redefine if it reaches validity based on science and not mere pushing the agenda to acquire correlation (a problem plaguing psychiatric research by pharmaceutical) (Healy, 2012).

Cross disciplinary validation carries the biggest hope based on the theory of Chaos and Complexity and the need to approach complex problems with a transdisciplinary and non-linear approach. "The Psychological Meaning of Chaos: Translating Theory into Practice" introduces practicing psychologists to the concepts, implications, and applications of the chaos theories that have revolutionized scientists' concept of the physical world over the past 30 yrs. This new way of seeing—variously called chaos, nonlinear dynamical systems theory, deterministic chaos, and the broader sciences of complexity—stands in sharp contrast to the linear, reductionistic models that have dominated most psychological thinking. In this new model, unpredictability and instability are accepted as intrinsic to complex systems and essential in any transformative process. Chaos is seen as a healthy and essential part of the creation process, without which new order is

impossible. The implications of this new model of systems dynamics for understanding the human change process are enormous. (Masterpasqua & Perna, 1997).

Modern neuroscience and clinical psychology, individually, have failed to reveal the explanatory mechanisms underlying mental disorders, indicating a lack of effective communication between them. Similarly psychology and psychiatry have followed their own approach, with their own language and perspective. The missing link seems to be the Mind-Brain gap. The mind is synonymous to dynamics, troubled, sadness and Psychiatry is the sick brain, neurotransmitters and chemical imbalance. But our current view of these approaches suggest a tendency to pathologize the mind and call it a disease. Also to medicalize the human suffering causing eventually a medication induced or iatrogenic disease

that now become a real neurological adaptation and chronic need of medications, the treatment now justify the diagnosis.

Possible approaches has been proposed. Behavioral approach with rule out of medical etiologies to an even better solution in phenomenology (Jasper) as recently being proposed by multiple investigators. The Mind-Brain discontinuity justifies psychiatrists and their practices focused on mind-facts no brain facts as neurologists. But in this process, psychology work focused on mind-facts, is neglected and assigned to psychiatry for the simplistic approach of biological reductionism and to create chemical imbalances to thwart symptoms. Mind is experience, brain is a physical structure, and we cannot treat the mind as a physical structure (McHugh & Slavney, 1998). Other approaches include transdisciplinary view of a phenomena, application of theory of complexity,

philosophy and a novel meta-empirical analysis of the contemporary status of the cross-disciplinary issues existing between psychopathology and neurobiology to bridge the current explanatory gap in mental disorders.

A group composed of psychologist, philosopher and psychiatrist recently proposed a unique approach toward bridging the explanatory gap in the quest for a scientific psychiatry using a transdisciplinary approach. Basically they propose a model for the unification of neurosciences and psychological medicine. It is defined as a move within the empirical domain and a paradigm shift or different approach driven from and reflecting on conceptual and empirical issues. The cross-validation of neural and mental phenomena made provide evidence that will relate biological and psychological models. Goal is to find out re-validated clinical measures strong enough to be used as surrogate neurobiological markers.

REVIEW

Identify convergence between specific scales and brain neuroimaging (Stoyanov, Machamer, & Schaffner, 2013). Criticism should be look as challenges to help us look in a direction that maybe we neglect to look at.

Cloninger (2014) proposed that all categorical approaches to understanding common diseases in medicine to be outmoded and degenerate due to their limited utility as rough approximations for the purpose of facilitate brief communication among colleagues, for billing, or epidemiological counts as required by international classification of diseases, but they are not helpful for understanding and treating the complex adaptive systems that cause common diseases. A paradigm is scientifically degenerate if it does not provide a way to test and modify its basic assumptions or if it cannot make predictions that go beyond observed data, clearly suggesting the lack of scientific nature of psychiatry and the



lack of correlation with neurosciences. The evidence suggest that further splitting of DSM diagnostic manual from the 14 categories to the current more than 300 has not reduced the proportion of individual assigned “undiagnosed but ill or not otherwise specified” residual categories. Categorical approaches to diagnosis can never achieve homogeneity or stability no matter how much they split categories more and more finely. The result is the absurdity of systems with pervasive comorbidity and little or no prescriptive specificity for treatment as in the DSM. A possible link could be psychology correlate to neuroscience.

Severity of dysfunction is strongly related to the simultaneous diagnosis of increasing number of comorbid categories by psychiatrists with the corresponding psychotropic, each of which remains heterogeneous and complex further complicated by the effect of the polypharmacy justified by the new

diagnosis added to the patient. His explanation of the current status of mental disorders is viewed as a metastable syndrome produce by complex adaptive systems of multiple genetic and environmental variables that interact through multiple reciprocal feedback mechanisms. These reciprocal feedback systems evolved through phylogeny (evolutionary anthropology) to maintain relative homeostasis while preserving plasticity to changes in response to variation in the context of a person’s environment, goals and values (learned and established as the norm). We human have evolved to be a ternary of body, thoughts and psyche regulated by learning and memory. He assigned to values, a self-transcendental lead to flourishing to the good life, and concluded that without virtues and values the paradigm of health versus disease model is inadequate. Giving a humanistic equation to the problem no amenable to be resolved scientifically.

He question the validity of current scientific approaches to medical because the priority should be prevention and healthy life styles rather than proximal variables as waiting for an acute complication and prolong life and sometimes suffering that will not increase the level of well-being but will be very costly. His point also address how personality profiles predict the risk of atherosclerosis four times more strongly than traditional risk factors like smoking. Meaningless findings, invalid conclusions and recommendations about complex adaptive systems can be made about any specific individual on the basis of evidence when comparing two groups like depressives and control. The heterogeneous and complex characteristics of a group based on a categorical reference cannot provide a rigorous basis for person-centered care. And so our current difficulties medicalizing, predicting and

treating human reactions as mental disorders (Cloninger, 2014).

How to proceed? He put the psychological profile before the psychiatric disorder and proposes the identification, for example, of the personality dimensions that consistently underlie susceptibility to Major depressive disorder versus other disorder like Bipolar disorder. Now he reiterate how the challenges of understanding relations between personality and brain function measurable by neurosciences and largely related to complexity, could be correlated (Cloninger, 2014). Precisely the interest of the group referred above (Stoyanov, Machamer, & Schaffner, 2013).

The origins of health and disease are the dynamic expression of feedback interactions among the three components of well-being: Functioning, plasticity and virtue. Cloninger (2014) concludes that we can characterize the complex system

underlying well-being in terms of person centered profiles of variables including dimensions of neurobiology, personality, emotionality, sociality, cognition, values and virtues (after medical cause have been rule out). This process is non-linear and multi-finality and equi-finality as proposed by the theory of complexity. A reductive paradigm that neglect any of the three aspects of a person or their dynamic interactions are inadequate (Cloninger, 2014).

The role of humanistic sciences (Linguistic, philosophy, literature, evolutionary anthropology, history, jurisprudence, ethics, sociology...) in Psychiatry are being questions recently mostly because of the Mind. These disciplines provide answers to question that science cannot, and are based on analytic assessment of human conditions, non-empirical and sometimes speculative. (Knoll, 2013).

A new approach to psychiatry by Drs. McHugh and Slavney in their book, the perspective of Psychiatry, is a conciliatory view after a historical factionalism of psychiatry with a modern, post-modern and anti-modern époque plagued by radical approaches from operationalism/empiricism followed by radical phenomenology/psychoanalysis and antipsychiatry/freedom respectively just to propose a rationalism/ revitalized phenomenology from Jasper who propose a multidisciplinary approach taking elements from all the previous proponents. A clear transdisciplinary move with the incorporation of all disciplines related to the human condition (McHugh & Slavney, 1998).

The explosion in mental diagnoses to more than 300 disorders (DSM-5), and the epidemic co-morbidity of the diagnoses raises questions that the humanities could be better prepare to answer. The role of pharmaceutical with

poorly designed studies, fake results, biased statistical analysis, and law suits (Stefan, n.d) to almost all the companies suggest a deviation from science into pseudoscience and manipulation of data to make believe to psychiatry that these disorders are really diseases due to chemical imbalances that medication as only approach could restore to normality. The reductionistic approach has been linked to an epidemic explosion of mental dysfunction, disability, chronic course, and increase in suicide, hospitalization and tremendous suffering (Whitaker, 2005).

Robert Berezin in his book “Psychotherapy of Character” try to call our attention to a much needed alternative to the prevailing approach to mental illness. His emphasis is the understanding of human nature, redefining human suffering as a human problem, no a brain problem or a disorder, but bringing back the human center and individualization of care, avoiding the collective classification

of most prominent symptoms as a category (DSM approach) and then study a way to treat it with a medication. He proposes a new paradigm based on consciousness. He is able, at least in theory, to connect the origin of neurotransmitter dysregulation as the consequence of conflicts or plays of the mind memorized in the brain defined as, the theater where the drama takes play. We can treat the symptoms triggered by the neurotransmitters activated by the plays in our memories but only the resolution of the etiology (experiences, conflicts, traumas, and upbringing) could bring a total resolution of the suffering. Medications will provisionally hold the reactions to the play but cannot resolve them. Can neurosciences identify the source of the conflicts, study the mind and provide clues to the de-activation of these past experiences that hunt humans? Mind, as well as consciousness remains impenetrable and poorly understood. This approach also require a good medical

evaluation to rule out medical etiology (Berezin, 2013).

The convergent transdisciplinary validation across psychopathology, clinical psychology and psychiatry presented by the researchers Stoyanov, Machamer, and Schaffner (2013) responded to criticisms from Cloninger (Nature of categories and the role of personality) with an optimistic approach that can well serve as conclusion to this article.

Cloninger is right about limitations of categorization as done in the DSM but the approach recommended is not based on categorization but on the contrary, the identification of neurobiological signatures that may underpin broader diagnostic entities (dimensions, clusters, prototypes) that correlate with current “disorders” but are totally ignored based on our limitations to diagnose based on neuro-scientific approaches (for reservations about this approach read Phillips 2011; Philosophy,

Psychiatry and Psychology). The essence of their proposal is a possible route to improve the neuroscience-clinical psychiatry correlations via simultaneous investigation of the clinical features of mental disorders and the underlying brain mechanisms, no categories. A constructive attempt to bridge the explanatory gap and improve the dialogue between neuroscience and mental disorders (Psychology and Psychiatry). We just will attempt to identify the neurobiological mechanisms underlying both normal and abnormal mental processes. Personality is important but represent a trait while we are in pursue of discrete states.

Criticism against the radical forms of reductive theories of mind in psychiatry, characterized by persistent and stubborn pursue of biological answer in neurons, then neurotransmitter and now in circuitries with no interest in other domains and disciplines, clearly suggest a dead end approach and further worsening

of current suffering, dysfunction, disabilities and stigmatization of mental illness.

There is evidence that a variety of mental conditions correspond with causal substrate in the brain, which may be used for diagnostic purpose. Nonetheless, there are a number of other certainly at present irreducible, intentional entities that transcend well beyond our concept and maybe due to virtues, values, consciousness and the mind in the context of socio-cultural values. The search of a unique approach seems to be no possible in mental health. Transdisciplinary approach could help redefine the right approach or separate these entities.

For psychiatry and psychology to be more than an intuitive and controversial healing practice, it should establish epistemological sufficient scientific facts as a basic for the superstructure of whole person represented in values, spirituality,

relationships and so forth. Validity in psychiatry has two dimensions, a reductive one in term of etiology and pathogenesis and another, irreducible as clinical in term of person centered assessment who answer to what this particular patient has, what he is, what he does and what he encounter as life story (narrative) (McHugh & Slavney, 1998).

This approach of correlating psychology and neurosciences represent an enormous frame shift in epistemological perspective and could redefine the paradigm or disciplinary matrix so needed to guide our current approach to mental disorders and human suffering. It can provide an intensive dialogue with neuroscience to explore the complex non-linear connections between the domain of mentality and its neural substrate. This approach complemented with a more robust scientifically based, more reliable and valid, person centered approach could represent a more appropriated way to

develop treatment approaches and management in our patients and avoid abuse or misinterpretations in different contexts.

Finally if Cloninger is right about the role of personality as predictor, and not cause, interventions to change personality would not be, as the goal of medicine and clinical psychology is, an effective way to attempt therapy and or preventive measures to improve healthy conditions (Stoyanov, Machamer, & Schaffner, 2013).

Let's see what psychology and the neuroscience can discern out the current complexity and confusing state of mental health. Just a final reminder that the complexity of the mental health field is what render it so fascinating and unique and at the same time a great ground for the disciplines of complexity, humanities and science.

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