

Psychiatry: Looking to the Future

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Abstract

The aim of this letter is to stimulate the psychiatrists to a greater awareness on the biomolecular aspects of the psychopathology. The letter highlights the inconsistencies of the DSM-V, where, and once again, it ignores the biological consistency of the “psychopathological” phenomenon. It is also underlined that the diagnostic error, in course of the first manifestation of a mood disorder, is extremely high, with all the risk that this error involves, as a result of an incorrect medication therapy.

Keywords

DSMV, Psychopathology, Misdiagnosis, Biochemistry, Molecular Biology, Quantum Computation

Letter from the Editor

The request I received to assume the role of Editor in Chief of Open Journal of Depression has surprised me, deeply and pleasantly. For many years I have dealt with biological markers in Mood Disorders with results that, today, are beyond any reasonable expectation, and I think this is perhaps the main reason for the request.

During this long journey of research, I had the support of friends and important scientists, to name a few:

Kary Mullis (Nobel Prize 1993 for PCR), Mark Rasenick (Physiology and Biophysics, and Psychiatry Director, Biomedical Neuroscience Training Program, University of Chicago), Jack Tuszynski (Allard Chair & Professor, Department of Physics, University of Alberta, Edmonton, Alberta, Canada), Gustav Bernroider (Associate Professor for Neurobiology, University of Salzburg, Austria), Donald Mender (Lecturer in psychiatry, University of Yale), Basant K. Puri (Faculty of Medicine, Department of Medicine, Imperial College of London), Giuseppe Vitiello (Dipartimento di Fisica “E. R. Caianello”, Università di Salerno), Eliano Pessa (Dipartimento di Scienze del Sistema Nervoso e del Comportamento, Università di Pavia), Massimo Pregnolato (Dipartimento di Scienze del Farmaco), Francesco Cappello (Dipartimento di Biomedicina Sperimentale e Neuroscienze

Cliniche, Università di Palermo), Giovanni Lercker (Scienze e Tecnologie Alimentari, Università di Bologna), Lucio Tonello (“P. Sotgiu” Research Institute, L. U. de. S. University, Lugano, Switzerland), Fabio Gabrielli (“P. Sotgiu” Research Institute, L. U. de. S. University, Lugano, Switzerland).

My colleagues were neuroscientists, chemists, pharmacologists, mathematicians, physicists and philosophers who, together, have understood how the new frontiers of psychiatry could and should open to new interpretation in order to better understand the phenomenon of “brain and soul” that, for so long, has absorbed and intrigued scientists all over the world.

This decade has clocked the review of the new DSM ([American Psychiatric Association, 2013](#)), the fifth in the series, the instrument considered the “bible” of psychiatry worldwide.

The document, which is used today, appears to be firmly rooted in traditional conservative psychiatry ignoring the progress made by the biological research field. Clearly, the dichotomy between conservative and progressive psychiatry is not over, despite the efforts of the biological and molecular research in the field of psychiatry, brain science, neurotransmitters and quantum computation in the brain and consciousness, i.e., the disciplines that belong to neuroscience. It seems correct, from the point of view of ethics, to remember how difficult it is to think of the research in psychiatry as completely independent of influential external factors (Kuhnian paradigms). In fact, [Kuhn \(1962, 1970, 1977\)](#) defines extraordinary science as a stage of scientific research during which the foundations of knowledge have been under discussion yet still there is no agreement on the definition of the problems themselves. In scientific research, new and revolutionary aspects and progress, find always incredulity, suspicion and obstacles; a disease from which man will never heal.

Psychiatry is a branch of science characterized by great complexity; psychiatric research has to face complex and advanced fields of knowledge, bringing together different disciplines able to interpret with awareness and criticality the phenomenon called “the human brain”.

Recently some major events have allowed a progressive movement of thought, which is not only innovative, but subject to profound and insistent criticism, mainly at high intellectual and scientific levels. This movement centers on the ideological implications of psychiatric diagnosis and of the increasing complexity of the nuances that classify the psychiatric disorder, rather than looking at a window that allows, through biological markers, a reliable diagnosis and appropriate care in the first diagnostic instance by limiting the diagnostic error, unaware that psychiatric diagnosis has dragged on for years about the recognition of bipolar disorder from major depressive disorder where there is a diagnostic misinterpretation ranging from 40% ([Bowden, 2001](#)) to 70% ([Tenth World Day for the Prevention of Suicide, 2012](#)).

When the diagnosis is made incorrectly then the medication used as therapy may have side effects. It has been demonstrated that the membrane viscosity is a peculiar characteristic in depressive subjects ([Cocchi & Tonello, 2010; Tonello & Cocchi, 2010](#)) and that regulates serotonin receptors uptake ([Heron et al., 1980](#)).

The activity of SSRIs, for instance, on one hand, leads to a reduction of depressive disorder by promoting the entry of larger amounts of serotonin in the brain on the other hand, continuing the inhibiting effect of the serotonin uptake on the platelet membrane receptors ([Rosen, 2009](#)). This, essentially leaves the serotonin decoupled from platelet receptors and could maintain some side effects such as inflammatory bowel disease, osteoporotic effect and vasoconstriction ([Cocchi, Tonello, & Lercker, 2010](#)).

We can assume that the psychiatric disorders can correspond, also, to different states of consciousness, and this is a key point in understanding the molecular entanglements of human and animal behavior.

For this reason, a reflection is required on the concept of the domain where the processing and/or the expression of consciousness, takes place. It is necessary to investigate the molecular modifications of the neuron according to the different modifications of the viscosity of the neuronal membrane ([Cocchi, Gabrielli, Tonello, & Pregolato, 2010; Tonello & Cocchi, 2010; Cocchi, Tonello, & Rasenick, 2010; Cocchi, Gabrielli, Tonello, & Pregolato, 2011; Cocchi, Gabrielli, Tonello, Pregolato, & Pessa, 2011; Cocchi, Gabrielli, Pessa, Pregolato, Tonello, & Zizzi, 2012; Cocchi et al., 2013; Benedetti et al., 2014; Tonello et al., 2015; Cocchi et al., 2015; Cocchi & Minuto, 2015](#)) considering also the structures of the medium in which they are, in particular, also water from the thermodynamic point of view. A valuable help in the understanding of the neuron functioning can come from quantum molecular computation, which should allow for the interpretation of neuron modifications and ion channel function, in the occurrence, at least, of the above mentioned psychiatric disorders.

Open Journal of Depression, under my editorial leadership, will be positioned to take a new path that, alongside the traditional, observational psychiatry, will put in place the much needed evidence-based research in biochemical, molecular, mathematical-physical, philosophical and humanistic perspectives for inclusion in the field

of psychiatry. A new knowledge will emerge from this approach that will be championed by Open Journal of Depression in search for a new conception and understanding of psychiatry, in a temporal dimension that is getting closer.

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