

Editorial

Molecular and Quantum Approach to Psychopathology and Consciousness

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Prelude

With the idol of certainty [...] there falls one of the defences of obscurantism [...] for the worship of this idol hampers not only the boldness of the questions, but also the rigor and the integrity of our tests. The wrong view of science betrays itself in the craving to be right; for it is not its possession of knowledge [...] that makes the man of science, but its persistent and recklessly critical quest for truth.

(K.R.Popper, *The Logic of Scientific Discovery*, engl. tr. Hutchinson, London 1959).

Editorial

This decade has clocked the review of the new DSM, the fifth in the series, the instrument considered the "bible" of psychiatry worldwide.

The document, which is accomplished today, appears 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 scientific research in the field of psychiatry, of brain, of neurotransmitters and of quantum computation of the brain and consciousness, i.e., the disciplines that belong to neuroscience. It seems correct, from the point of view of ethics, remember how it is difficult to think of the research in psychiatry as completely independent of influential external factors (kuhnian paradigms).

Recently some major events have allowed a movement of thought not only innovative, but of profound and insistent criticism, mainly at a high intellectual and scientific level, 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 [1] where there is a diagnostic misinterpretation ranging from 40% [1] to 70% (Tenth World Day for the Prevention of Suicide, Rome, 2012).

The fifth edition has been criticized by a number of authorities, even before it was formally published. The main thrust of criticism has been that changes in the DSM have not kept pace with advances in scientific understanding of psychiatric dysfunction. Another criticism is that the development of DSM-5 was unduly influenced by input from the psychiatric drug industry. A number of scientists have objected that the DSM forces clinicians to make distinctions that are not supported by solid evidence, distinctions that have major treatment implications, including drug prescriptions and the availability of health insurance coverage.

From an anthropological point of view, man can be considered as the condensation between *Körper* and *Leib*: the lived experience is always rooted in the biological aspect; phenomenological *possibility* and *impossibilities* are also, and in the first place, biological *possibility* and *impossibilities*.

Keep on stating the difference - often denied only in intentions-between *erkläran* (causal explanation) and *verstehen* (psychological comprehension) means ignoring the productive acquisition of complexity theories; especially, it means being trapped in the "myth of sense" when hypostatizing those lived experiences, phenomenological approaches and philosophical thoughts from which a genuine interpretation of psychopathology should be derived.

Hence, the need for a *gestalt reorientation*: biology too produces some sense, in fact it is the original sense on which other forms of sense can develop and that strongly interacts with philosophy and other types of knowledge (biochemistry, quantum physics, biomathematics, anthropology, sociology...), in the perspective of a comprehensive and heuristic unity, being the symbol of a psychiatry able of mature and independent conceptual reworking.

The Scientific Community and the clinical world must make further efforts to turn psychiatry into a bio-analytical-existential heuristic set of knowledge, so that diagnosis will not be any more enslaved to the Heidegger's *yoke of ideas* [2] (classification ideology and diagnostic imperialism) but rather be guided by cogent biological markers.

In brief, it must start from biology and move towards more and more complex systems, capable of combining biochemical expressions, irreducible existential experiences, social and cultural backgrounds.

Therefore, depression must be set in an un-mythicized, indefinite horizon where biological, physiological, clinical, existential, psychosocial, and anthropological-cultural elements can insert in the most objective hermeneutic framework possible.

In other words, micro-foundation – that is to say the fact of bringing back macro-levels to micro-explanations—with all its constructions and laws, do not have to pave the way for an *eliminative reductionism* (where only molecular micro-evidence counts, whereas everything that is macro, from the biological level to the cognitive and socio-cultural ones is just an epiphenomenon, a trivial incident) but rather lead to an open and pluralistic *inclusionism*.

Anyway, *inclusionism* must avoid potential anti-psychopharmacological implosions, considering drugs just as instruments to control and stabilize psychotic bouts [3].

Actually, it is really easy to degenerate into a pseudo-phenomenological rhetoric, according to merely observational studies [3], and put the emphasis on the side effects of psychoactive drugs, as if the other medications would not have any.

It cannot be denied that uncontrolled marketing operations and convenient as well as unethical psychiatric solutions weigh on psychopharmacology: that is the reason why psychiatry needs clear biological correlates for psychopathologies in order to create a concise, clear, efficient psychopharmacology free from over diagnostic deviations.

Recently, through the combination of nonlinear mathematics and biology, different psychiatric disorders have been recognized [4-7], namely:

Major Depression

Bipolar Disorder

Psychosis

Obsessive Compulsive Disorder

Suicidal ideation

Further a unique and innovative research, based on the molecular diagnosis of Mood Disorders in humans, has been realized in animals, confirming the empirical evidence of a brain molecular contiguity between humans and animals. There are common biochemical features which, according to the evolutionary brain complexity, need to be interpreted on biological and language contexts with respect to each species and to the decision making [8-11].

We can assume the psychiatric disorders, reported above, correspond to different states of consciousness.

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, in our opinion, to investigate the molecular modifications of the neuron according to the different modifications of the viscosity of the neuronal membrane [12-16].

A valuable help to the understanding of the neuron functioning can come from quantum molecular computation, which should allow for the interpretation of neuron modifications, in the occurrence, at least, of the above mentioned psychiatric disorders.

References

1. Bowden CL. Strategies to reduce misdiagnosis of bipolar depression. *Psychiatr Serv.* 2001; 52: 51-55.
2. Heidegger M. (1931-1932, 1942). *Platons Lehre von der Wahrheit* (it. tr.. in Segnavia, Adelphi, 1987).
3. Roman MW. The research basis for Robert Whitaker's "Anatomy of an epidemic: magic bullets, psychiatric drugs and the astonishing rise of mental illness in America. *Issues Ment Health Nurs.* 2012; 33: 707-711.
4. Benedetti S, Bucciarelli S, Canestrari F, Catalani S, Mandolini S, Marconi V, et al. Platelet's Fatty Acids and Differential Diagnosis of Major Depression and Bipolar Disorder through the Use of an Unsupervised Competitive-Learning Network Algorithm (SOM). *Open Journal of Depression.* 2014; 3: 52-73.
5. Cocchi M, Tonello L, Gabrielli F. Cell Membrane and Consciousness: A Journey through Biology, Mathematics and Philosophy. *Ann Depress Anxiety.* 2014; 1: 1035.
6. Cocchi M, Tonello L, Gabrielli F. Mood Psychopathologies: An Integrated Complexity-Based Interpretation. *Psychology.* 2014; 5: 192-203.
7. Cocchi M, Tonello L, Rasenick MM. Human depression: a new approach in quantitative psychiatry. *Ann Gen Psychiatry.* 2010; 9: 25.
8. Cocchi M, Tonello L, Gabrielli F, Pregolato M, Pessa E. "Quantum Hypothesis on Human and Animal Consciousness: a Concept Embracing Philosophy". *Quantitative Molecular Biology and Mathematics, Journal of Consciousness Exploration & Research.* 2011; 2: 547-574.
9. Cocchi M, Gabrielli F, Tonello L. Consciousness from animals to humans: quantum and molecular pathways. *Quantum Biosystems QPP Group.* 2013; 5: 19-20.
10. Cocchi M, Gabrielli F, Tonello L, Delogu M, Beghelli V, Michela Mattioli, et al. Molecular Contiguity between Human and Animal Consciousness through Evolution: Some Considerations. *J Phylogen Evolution Biol.* 2013; 1: 119.
11. Cocchi M, Tonello L, Gabrielli F, Minuto C. Human and Animal Brain Phospholipids Fatty Acids, Evolution and Mood Disorders. *J Phylogen Evolution Biol.* 2014; 2: 2.
12. Cocchi M, Gabrielli F, Pessa E, Pregolato M, Tonello L, Zizzi P. "Major Depression and Bipolar Disorder: The Concept of Symmetry Breaking". *NeuroQuantology.* 2012; 10: 676-687.
13. Cocchi M, Tonello L, Gabrielli F, Pregolato M. "Consciousness and Hallucinations: Molecular Considerations and Theoretical Questions". *NeuroQuantology.* 2011; 1: 182-189.
14. Cocchi M, Gabrielli F, Tonello L, Pregolato M. "Interactome hypothesis of Depression". *NeuroQuantology.* 2010; 4: 603-613.
15. Tonello L, Cocchi M. The Cell Membrane: is it a bridge from psychiatry to quantum consciousness? *NeuroQuantology.* 2010; 1: 54-60.
16. Tonello L, Cocchi M, Gabrielli F, Tuszynski JA. On the possible quantum role of Serotonin in consciousness. *Journal of Integrative Neuroscience,* in press.