Book Review

Psychiatry as a Cognitive Neuroscience

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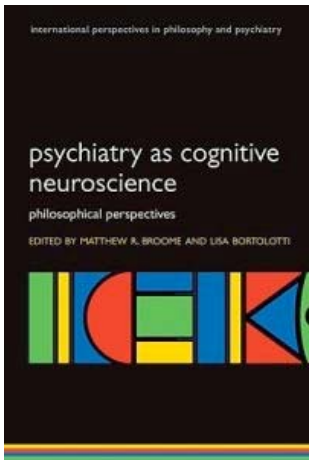
Elisabetta Sirgiovanni[*]
elisirgiovanni@hotmail.com



The first thing one might think about a book bearing the title *Psychiatry as cognitive neuroscience* is that it looks unbelievably promising. Authors of this collection of papers, which is in the new series for the OUP devoted to the analytical philosophy of psychiatry, agree to the recent suggestion in the psychiatric debate: re-conceiving psychiatry in cognitive terms (see Marshall and Halligan 1996, Murphy 2006). The book is written by major experts of this new field but could hardly act as an introduction for beginners: all papers presuppose a certain level of knowledge.

Actually the title could somewhat deceive future inexpert readers. At present psychiatry is neither a cognitive nor a scientific discipline. Compared to etiology-based medical disciplines, psychiatry has a purely descriptive nosography. Namely, it is stuck at a scientifically primitive stage. Thus, as being etiologically *pre*-paradigmatic in Kuhn's (1962) sense (see Aragona 2006), psychiatry is roughly equivalent to the pre-seventeenth century general medicine. Besides, the field explored (psychiatry as a cognitive discipline) is much more at dawn than well-developed, and it is not founded on some shared theoretical manifest. As a matter of fact, cognitive neuropsychiatry is no more than a hybrid label coming from cognitive neuropsychology, which provided models and tools for new research on psychiatric symptoms (in particular delusions). Firstly, the *deficit* paradigm comes from cognitive neuropsychology for psychopathology, as an alternative to the *conflict* paradigm from psychoanalysis and to its assumption of *subtractivity* from the normal cognitive functioning. Secondly, the reductionist view suggested by the 'neuro' prefix, which links psychiatry to neural substrates granted by the new techniques of functional neuroimaging. Nevertheless even cognitive science, except for some background constraints, is still hesitant about the paradigm to embrace and confined by two different conceptions of mind, namely the classical (i.e., functionalism) and post-classical cognitivism (i.e., connectionism, dynamicism and situated cognition). One could wonder which kind of cognitivism psychiatry should look at. Sure, «cognitive neuroscience is not cognitive science in the broad generic sense» (p. 201, ft. 1). But that is the first remarkable omitted question in this philosophical book: what is cognitive neuroscience?

Apart from a short introduction, the 17 chapters of the book are divided into 7 main sections, to which the editors' paper (Chapter 18) follows as an epilogue. The first three sections show a broader philosophical purpose: discussing psychiatry as a science (Section 1), as dealing with natural kinds (Section 2), and as either a personal or sub-personal level discipline (Section 3). Section 4 introduces to the issue of neuroscience and links to the following more specific sections on phenomenology (Section 5), delusions as cognition (Section

[*] University of Siena

6), and moral psychology. Each contribution is conclusive in its own purpose and can be read apart from others.

Concerning the question of the scientific nature of psychiatry (Section 1), three contributions are given. Rachel Cooper's Chapter 1 claims that the question itself is a non-sense referred to any discipline, as the history of philosophy of science (from Popper to Feyerabend) shows that the search for a demarcation criterion for science failed. The solution defended conceives science as a "family resemblance term"' in the Wittgensteinian sense, and it replaces the core question about the scientific nature with the question on the reliability of methods employed. Chapter 2, written by Bill Fulford and Norman Sartorius, reveals a secret detail about the historical genesis of the current descriptive classifications (OCD and DSM) of mental disorders. Against the received history, authors deny the recurring statement of C. G. Hempel and E. Stengel's contribution towards less mentioned psychiatrist Sir. Aubrey Lewis' fatherhood. Richard Samuel's Chapter 3 faces the question whether mental illnesses can be or not object of scientific enquiry in the shape of a philosophical defense of the NK (i.e., Natural Kind) Thesis for delusions from common objections.

Chapter 2 and 3 arouse more interest than Cooper's one. It's true that philosophy of science debate stranded on the conception of irrationality of scientific discovery in Feyerabend's style. Nevertheless science, even if not infallible and objective, can be conceived not as completely arbitrary. Science is in fact conceivable as an enquiry benefiting from the inter-subjective controllability of objective theories (see Brown 1977). So the question of the scientific status of a discipline is still significantly relevant in the debate. Moreover, the suggested meaning shift could hardly stop calling into question psychiatry. Current psychiatry methods are still not reliable if the here undefined reliability is somehow related to the capability of providing explanations and treatments for mental illnesses. The idea of method centrality stands not because the question on psychiatry as a science is inappropriate, as it is not, but because the question on a definite choice on methods is more impellent.

Fulford and Sartorius's contribution is original in the debate. They bring up in discussion standard historical reconstruction on Carl Hempel's theoretical responsibility for current psychiatric taxonomy. Just a little negligence is that authors, although recognizing Hempel as associated to the Vienna Circle (p. 30), identify him as an «American philosopher» (twice in p. 29). However, even though emigrated to the United States after anti-Semitic repression and involved in the American debate, Hempel was German-born.

In line with other Samuels' works, Chapter 3 is brilliant and well-articulated. Delusions are conceived as natural kinds even if possibly multiply realized. Responses to objections appear motivated but, compared to the debate exposition, they are shorter, thus further developable. Delusion is a fundamental psychiatric symptom and became recently matter of debate for normativity in psychiatry. Nevertheless Constructivist objections against natural kinds are dedicated to mental illness in general and Samuel's discussion could have worked for it too. The explicit reference to delusions in the title of the paper contrasts the generality of the section as well as the topic that seems much more pertaining to the next section.

Section 2 in fact is dedicated to the nature of mental illness and includes Hanna Pickard's Chapter 4 and Dominic Murphy's Chapter 5. Contrary to Samuels' opinion, Pickard stands for a defender of the old-fashioned Thomas Szasz' thesis of the myth of mental illness, in particular for schizophrenia (hence psychoses and again delusions) and personality disorders, while she states that their symptoms can be scientifically explained and thus psychiatric symptoms are not a myth. The paper is right in conclusions but misleading. At present most of psychiatrists, perhaps all of them, agree upon the invalid scientific status of these two diagnostic categories. Nevertheless I have doubts that this means sharing generally the Szasz' view, which inspired

anti-psychiatrist movement in the 70s and appears much more metaphysically radical than Pickard thinks.

More accurate is Dominic Murphy's chapter on the medical model in psychiatric classification. He reports new references and considerations, but his paper coincides essentially with his recent book, where stated conception of multilevel cognitive reductionism is well-developed. That is, a strong (etiological) version of the medical model for psychiatry does not entail necessary the new-fangled micro-reductionist approach from molecular psychiatry. Even in this case, though, the topic (classification) seem not completely relevant to the section purpose and the paper might have been better included in the previous section, instead of Samuels' one that might have appeared here.

Section 3 proposes to reconcile paradigms, namely personal narratives with sub-personal scientific explanations. Tim Thornton's Chapter 6 deals with paradigms explicitly in these philosophical terms; John Campbell's Chapter 7 talks of rational attitudes and neuroscientific explanation; and Philip Gerrans' Chapter 8 compares inferential accounts to neurobiological explanations for delusion. Samuel's question of the normativity of delusions returns here as the philosophical macro-tension of the metaphysical interface between realms of speech.

Admittedly, paradigms are all but reconciled by Thornton and Campbell. Thornton's negative answer gives little hope to the naturalist. No place for neither reductionism nor supervenience antireductionism nor stance strategies middle way. And the pragmatic suggestion is to pursue local accommodations neglecting the idea of a philosophical global resolution. Campbell's solution on propositional attitudes is that they express causal relations not rational ones, in spite of the well-known Davidson-Dennett tradition that states the link between rationality and mental state ascription. Again examples come up from delusions. Campbell appears agnostic, though, about the discovery of a biological mechanism linking cause and effect and then maintains personal level descriptions.

On the contrary, Gerrans' neurocomputational theory on the role of prefrontal cortex for delusion is the only reconciling. He brilliantly links the two apparently incommensurable paradigms on delusion as either a belief or a neurotransmitter problem. He originally provides a bridge among three level hypotheses: dopamine from neurobiology, mental time travel process from cognitive psychology and autobiographical narratives from phenomenology. Thus he challenges the standard confirmation bias conception (Stone and Young 1997) in favor of a narrative bias account and finds evidence of it from cognitive behavioral therapy. In all that, the paper is of great scientific interest.

Section 4 originally deals with psychiatry and the neurosciences. All over the section, neuroscientific findings are integrated by conclusions coming from philosophy. While Chapter 9 looks at higher brain size levels (cognitive function and brain areas), Chapter 10 is at a lower (neurogenetics). Dan Loyd's Chapter 9 integrates cognitive accounts on schizophrenia with the phenomenological concept of temporality. He then reports recent findings in fMRI on schizophrenia symptoms involving multiple brain areas, and he proposes to use fMRI for a unifying account of schizophrenia as a disruption in temporal domain. Dan J. Stein's Chapter 10 considers gene polymorphism contribution to mental illness and its implications for some philosophical questions. He concludes with irreducibility of psychological phenomena to a particular gene variant. The chapter is, though, a bit rushed and shallow in argumentations. Finally, Stephens and Graham's Chapter 11 explicitly states the impossibility to trace a neuroscientific account for compulsion in addictions without referring to norms coming from philosophical analysis. That is to say, the onlooker (philosophy) gets the best of the fight.

Section 5, on phenomenology and scientific explanation, concludes again in favor of philosophy. Matthew Ratcliffe's Chapter 12 defends phenomenological subjective explanation as object of enquiry. In short, no neuroscience research without phenomenology, in particular

for depression. Shaun Gallagher's Chapter 13 on the phenomenology of delusion shows the same purpose. He reviews delusion debate, namely the most recent versions of top-down and bottom-up accounts. He then shows an alternative model, not predicated as the formers on the standard view of delusion as dysfunction in the brain. This model is based on the relativistic phenomenological hypothesis of multiple realities. It is however conceived as an essential descriptive integration to the scientific explanatory account (see p. 260).

Section 6 is explicitly devoted to delusion and cognition. It consists of Keith Frankish's Chapter 14 on a two-level framework for delusion, and the remarkable Anne and Martin Davies' Chapter 15 on how to explain pathologies of belief. Frankish's effort to interpret the doxastic conception of delusion by the recent dual-system theory on belief is appreciable. He argues that beliefs can be located at two different levels (one unconscious and dispositional, the other conscious and functional), and that delusions, whatever doxastic or non-doxastic, belong to the second as acceptances. His arguments, although supported by experimental data on reasoning, are strictly folk psychological, but they suggest an attractive path that Mr. and Mrs. Davies tread better. Their extended and painstaking contribution is top-grade. They suggest different explanations of delusion can be parametric variation within the two-factor framework. However, the great merit of the paper is connecting for the first time in the debate belief evaluation to cognitive and brain functions through experimental neuroimaging studies on reasoning. That makes the paper an indispensable reading and an extraordinary advance in the debate on delusion, where the naturalization of reasoning processes is usually denied (see Bermúdez 2001, Murphy 2006).

Last section, Section 7, is on moral psychology. It includes Jeanette Kennett and Steve Matthews' Chapter 16 on frontal lobe damages and lack of agent responsibility, and Iain Law's Chapter 17 on the interference of depression with normal moral motivation. While the former relates normative concepts as autonomous agency to the neural basis of cognitive function (mental time travel), the latter deals with depression and concepts as motivation and virtue at the personal level of philosophy and folk psychology.

Conclusive chapter, by editors Lisa Bortolotti and Matthew Broome, keeps in line with many other papers. Authors again try to show why neurosciences cannot do all the explanatory work in psychiatry by the two examples of normativity in the definition of deviancy (in particular the normative concept of 'authorship' for delusion) and environmental etiology or externalism in schizophrenia. Again they tip the scales too much in favor of philosophy and folk psychology. Here authors seem to forget, however, two important things. On the one hand, cognitive neuroscience does not correspond necessarily to eliminativism. But stating the importance of psychology or other higher-level science does not need to take the form of denying the possibility of reduction of higher levels (see, for example, Bechtel 2007). On the other hand, assuming the internalist view according to which the *locus of control* is the mind-brain does not mean that the quest to understand how a cognitive agent is situated in its environment is not well motivated (see Bechtel 2009).

In conclusion, such a long book hardly calls for a conclusive verdict. As we have seen, each paper has a different degree of scientific value compared to others: some are very interesting, others are less winning. By the way, the book as a whole is affected by a list of problems. Firstly, the book is not well-organized. Section titles are often misleading and included papers are sometimes off the topic (see what said about Sections 1-2-3-4). Even the book title is inappropriate. As a matter of fact, the subtitle *Philosophical Perspectives* translates much more the book purposes. This is not a text of reference for the new cognitive neuropsychiatry, as the title seems to suggest. This is much more a philosophical text that critically explores the real possibility of such a research. The book thus appears much more destructive than constructive.

The general view arising from many papers is in fact that this discipline inevitably resists to naturalization. Therefore, why talking about "psychiatry as a cognitive *neuroscience*" if in many cases the neuroscientific approach encounters insuperable limits (personal explanation, phenomenology, normativity, and so on)? Here future psychiatry seems rather mainly conceived as an anti-reductionist discipline. Namely, each epistemological level maintains complete autonomy and has no hope to be linked to the lower. To tell the truth, the book remains ambiguous on the subject (perhaps because not all authors would have shared the same opinion – see, as examples, Chapter 8, 15 and 16 for a contrary approach).

Secondly, a problem recurring in the philosophical debate on psychiatry affects this book as well. The book gives too much weight to delusion. Certainly delusion is a core psychiatric symptom, but it is not all the story. Contemporary philosophy of mind have centered the debate on delusion since hypotheses on delusion (in particular, the Capgras delusion) became paradigmatic of the new research in cognitive neuropsychiatry. In due time this restricted philosophical interest might appear a caricature of the discipline. What about other psychiatric phenomena? A feeble interest for them is showed in the book (only 5 of 18 chapters mention one of the other psychiatric conditions).

Thirdly, the book often seems to come to a standstill. According to philosophers' wish, the first concern doesn't seem to be how to better construct a cognitive neuropsychiatry to resolve the puzzling problem of mental illness, but reserving a secure place for philosophy in this new field of research. The book nearly ignores the literature on Mechanist account for general cognitive neuroscience (see Bechtel 2008, Craver 2007), which would have overcome the fear of the death of philosophy and psychology because of reduction. And in worrying too much about philosophical issues, it sometimes appears to miss the point of psychiatry. That is, the point of a medical practice with concrete needs. Reduction of higher levels would be the way to put philosophical ideas in the concrete form of clinical intervention.

In conclusion, this text is a good guide to keep expert scholars abreast of philosophical developments on psychiatry. Nevertheless, because of few considerable papers, it is only a partial tool if it aims to clarify to psychiatrists what espousing a cognitive neuroscientific direction might really mean for themselves. So, apart from some remarkable contribution, the book as a whole does not come up to expectations. Unfortunately, we are still a long way from a tangible cognitive revolution in psychiatry.

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