

Eugen Bleuler's schizophrenia—a modern perspective

Anke Maatz, MA, MD; Paul Hoff, MD, PhD; Jules Angst, MD



The introduction of the term and concept schizophrenia earned its inventor, Swiss psychiatrist Eugen Bleuler, worldwide fame. Prompted by the rejection of the main principle of Kraepelinian nosology, namely prognosis, Bleuler's belief in the clinical unity of what Kraepelin had described as dementia praecox required him to search for alternative characterizing features that would allow scientific description and classification. This led him to consider psychological, and to a lesser degree, social factors alongside an assumed underlying neurobiological disease process as constitutive of what he then termed schizophrenia, thus making him an early proponent of a bio-psycho-social understanding of mental illness. Reviewing Bleuler's conception of schizophrenia against the background of his overall clinical and theoretical work, this paper provides a critical overview of Bleuler's key nosological principles and links his work with present-day debates about naturalism, essentialism, and stigma.

© 2015, AICH – Servier Research Group

Dialogues Clin Neurosci. 2015;17:43-49.

Keywords: *Eugen Bleuler; nosology; bio-psycho-social; naturalism; essentialism; stigma*

Introduction

Eugen Bleuler (1857-1939) was born and raised in the village of Zollikon near Zurich in Switzerland. After graduating in medicine, he started his residential training in psychiatry at the Waldau Hospital in Bern. Study trips took him to Paris to work with Jean-Martin Charcot, to Munich where he trained under Bernhard von Gudden, and to London. He completed his residential training at the University Hospital of Psychiatry in Zurich, known as “Burghölzli,” and was appointed director of the mental asylum of Rheinau in 1886. After living with and caring for long-term psychiatric patients in Rheinau for more than 12 years, he returned to Zurich as professor of psychiatry at Burghölzli in 1898, and held this position until his retirement in 1927. Eugen Bleuler died in Zollikon in 1939.

Whilst today Bleuler is perhaps best known for the introduction of the term and concept schizophrenia, or more precisely “the group of schizophrenias,” this paper considers his work on schizophrenia principally in terms of its relationship to long-standing and complex theoretical debates in psychiatric nosology. These concern the very nature of mental illness, in particular the

Author affiliations: Department of Psychiatry, Psychotherapy and Psychosomatics, Psychiatric Hospital, University of Zurich, Switzerland

Address for correspondence: Anke Maatz, MA, MD, Department of Psychiatry, Psychotherapy and Psychosomatics, Psychiatric Hospital, University of Zurich, Lenggstr. 31, CH 8032 Zurich, Switzerland (e-mail: anke.maatz@puk.zh.ch)

Clinical research

relationships between nature and mind and the individual and society. Debates about how nature, ie, the brain and body, is related to the mind were highly topical with regard to mental illness in Bleuler's time and remain so today,^{1,2} as nicely captured in Lipowski's interrogative: "Psychiatry: mindless or brainless, both or neither?"³ Bleuler would have sided neither with a mindless nor with a brainless psychiatry, but would have acknowledged both brain and mind, as well as social factors, as equally important elements in mental health and illness. He can thus be considered an early proponent of a biopsychosocial model⁴ in psychiatry. Reviewing Bleuler's conception of schizophrenia against the background of his overall clinical and theoretical work and contrasting it with Kraepelin's earlier concept dementia praecox, this paper provides a critical overview of Bleuler's key nosological principles and links his work with present-day debates about naturalism, essentialism, and stigma.

Bleuler's contribution to nosology

Bleuler's intellectual background

Bleuler's work stands in the conceptually rich tradition of turn-of-the-century psychiatry and psychology and can be considered a synthesis of various contemporary concepts and theories (see ref 5 for an overview). Amongst these are the theories of Emil Kraepelin (1856-1926) and Sigmund Freud (1856-1939), who, through their different theoretical emphases, introduced him to two—in one view opposed, in another complementary—traditions in psychiatry.^{6,7}

Emil Kraepelin promoted the biological tradition, viewing mental illnesses as "natural disease entities" (*natürliche Krankheitseinheiten*), ie, entities "given by nature"⁸ and existing independently from the psychiatric practitioner and researcher. Acknowledging that science at the time did not yet allow identification of these posited disease entities, he based his preliminary nosology on an alternative principle, namely—following Karl Ludwig Kahlbaum (1828-1899)⁹—on the course and prognosis of a given illness. This led to a dichotomous nosology based on the distinction between the concept of dementia praecox, characterized by a fatal course, and the concept of manic-depressive insanity, characterized by a positive course.^{10,11} This nosological system had gained wide acceptance amongst psychiatrists by the turn of the century.

At the same time, Sigmund Freud, founder of psychoanalysis, struggled to find recognition for his new concepts in academic psychiatry. Also rooted in a biological tradition, yet offering a new psychological explanation of mental illness as the unfolding of unconscious intrapsychic conflicts,¹² Freud's theory was met with skepticism, if not outright rejection, as a dogmatic world-view.¹³ Bleuler was the only influential contemporary academic psychiatrist who not only joined in the debate about psychoanalysis, but also, while always remaining circumspect, implemented psychoanalytic treatment and research at Burghölzli.^{14,15}

Bleuler's thinking was further shaped by the German philosopher and psychologist Johann Friedrich Herbart (1776-1841). Championing a scientific approach to psychology, Herbart was one of the major proponents of association theory. This saw human mental life as consisting in a multitude of basic, individual mental acts that are combined ("associated") into more complex cognitive functions.¹⁶ As will be shown in the following section, Bleuler, like the Viennese psychiatrist Erwin Stransky (1877-1962),^{17,18} integrated aspects of this atomistic approach to psycho(patho)logy in his work on dementia praecox and its reconceptualization as schizophrenia.

Introducing the "group of schizophrenias"

In 1908, Bleuler publicly introduced the term and concept schizophrenia in a lecture given at the meeting of the Deutscher Verein für Psychiatrie (German Psychiatric Association) in Berlin.¹⁹ In the opening paragraph, he summarized his reasons for abandoning Kraepelin's earlier concept dementia praecox:

I wish to emphasize that in *Kraepelin's* dementia praecox it is neither a question of an essential dementia nor of a necessary precociousness. For this reason, and because from the expression dementia praecox one cannot form further adjectives nor substantives, I am taking the liberty of employing the word schizophrenia for revising the *Kraepelinian* concept. In my opinion the breaking up or splitting of psychic functioning is an excellent symptom of the whole group [...] (translation from ref 20)

Whilst this passage also underscores the importance of linguistic labels in psychiatry, the wish to rename Kraepelin's dementia praecox is only a secondary motive in Bleuler's introduction of schizophrenia. Having gathered epidemiological data on the prognosis and end

states of patients admitted with a diagnosis of dementia praecox, he came to the conclusion that this group of patients could not be coherently defined by a specific prognosis, ie, that this Kraepelinian nosological principle had to be rejected.²¹ Importantly, however, Bleuler wanted to maintain the nosological unity of the group of patients that Kraepelin identified by dementia praecox and believed that there was something “specifically schizophrenic behind the general manifestations” of the disease.¹⁹ He shared Kraepelin’s assumption of an underlying physical disease process that the sciences of his day could not yet identify, and—having rejected Kraepelin’s principle of prognosis—he set about searching for alternative criteria to define the essence of schizophrenia. To this purpose, Bleuler turned to psychology, where, influenced by Herbart’s atomistic view of the mind,¹⁶ he identified the alteration of associations, ie, of the way in which basic mental acts meaningfully combine into more complex units, as schizophrenia’s most fundamental feature. This idea is more fully developed in Bleuler’s 1911 volume *Dementia Praecox or the Group of Schizophrenias*²²:

The connections between associations are lost. The disease interrupts the threads that give direction to our thoughts in an irregular fashion, sometimes affecting only a few, sometimes a large proportion of them. Thus, the result of the thought process is rendered unusual, and often logically incorrect (p 10, translation AM).

In this volume, Bleuler develops a symptomatology organized around two dichotomous distinctions: that between basic and accessory and that between primary and secondary symptoms. Basic symptoms are those which are necessarily present in any case of schizophrenia; accessory symptoms may or may not occur. The distinction of primary and secondary refers to both etiology and pathogenesis, with primary symptoms being caused directly by the assumed neurobiological disease process, whilst secondary symptoms are seen as the potentially understandable reactions of the psyche to the disturbing primary symptoms. The alteration of associations is the only symptom that Bleuler regarded as both basic and primary, and can thus be described as the core disturbance in the Bleulerian conception of schizophrenia. Importantly, the alteration of associations is not to be equated with formal thought disorder but to be understood as a disturbance affecting all aspects, both cognitive and affective, of mental life.²³ Also, Bleuler was keen to stress that the alteration of associa-

tions had been identified by empirical observation, not by theoretical speculation,¹⁹ and that it was accessible to experimental testing.²³ Two other phenomena that Bleuler characterized as basic (but not primary) symptoms were ambivalence and autism. By ambivalence, he understood the simultaneous presence of contradictory ideas and emotions; autism described the phenomenon of a patient’s getting lost in personal ideas, emotions, and intentions without being able to adapt to the external reality, resulting in a reduction of communication.

Linking Bleuler’s implementation of psychoanalytic, or more generally psychodynamic, ideas, with his distinction between primary and secondary symptoms and thus to the interaction between brain/body and mind, a further distinction has to be introduced, namely that between form and content. Bleuler himself did not systematically introduce nor use this distinction, but it is implicit in his statement that what is psychologically understandable is the content of schizophrenic symptoms,²⁴ ie, why a specific hallucination or delusion occurs. As the following quotation makes clear, he thus assumed a neurobiological disease process giving rise to a primary symptom, the alteration of associations, to which—understandably—the psyche reacts giving rise to secondary symptoms, with individually meaningful content:

It goes without saying that the disease process cannot give rise to the complex psychological symptoms which we are accustomed to consider first and foremost. This process cannot account for the fact that it is a specific delusional idea or a specific hallucination that occurs. The process can only lead to certain fundamental disturbances of the psyche on the basis of which, in conjunction with precipitating and determining factors, hallucinations and delusional ideas emerge.¹⁹ (p. 455, translation AM).

The characterization of schizophrenic symptoms as bearing individually meaningful content is one of the important novelties in Bleuler’s understanding of schizophrenia. In the words of his son Manfred Bleuler:

One of Bleuler’s main aims in choosing and following his career was to arrive at an understanding of schizophrenic symptoms as expressions of an inner psychodynamic life. [...] He studied the schizophrenic’s life essentially in the same way as we study the inner life of neurotics, of healthy men, and of ourselves.²⁵

In his summary of the development of the schizophrenia concept at the Burghölzli hospital over the course of nearly 70 years (1902-1971),²⁶ Manfred Bleuler ex-

Clinical research

panded on this attitude and orientation so central to his father's work: he stressed that the view of schizophrenic symptoms as secondary phenomena, ie, understandable intellectually and emotionally, also made them in principle accessible to therapy. Such therapy consisted of two pillars, firstly personal communication (today analytically oriented psychotherapy) in order to help patients by understanding their intentions and skills in adapting to reality; and secondly multiple joint activities, such as work and leisure activities in groups of patients. During his time at the Rheinau Psychiatric Hospital, Eugen Bleuler devoted as much time as possible to such personal contacts with his patients; later, during his years at Burghölzli, he suffered severely from a lack of time to do this.

Unlike Kraepelin, then, Bleuler saw no contradiction between the assumption of an underlying neurobiological disease process and the assumption of psychological understandability, but integrated both in his conception of schizophrenia. The nosological divide between psychotic and neurotic disorders, commonly drawn along the line of biologically determined versus psychologically understandable disease, is thus blurred. In the light of his keen awareness of social factors in the course of the disease and his efforts to address those therapeutically,^{27,28} Bleuler can thus be seen as an early proponent of a bio-psychosocial understanding of mental illness.

Whilst the belief in a “specifically schizophrenic” feature spurred Bleuler's reconceptualization, he was anxious to leave his concept open for scientific revision and to accommodate the possibility that such a unifying feature might indeed not exist. He therefore spoke cautiously of “the group of schizophrenias” and intended his account to be a preliminary one.

Bleuler's nosological changes were met with enthusiasm by some, with criticism by others, and the reception of his work varied between countries—ie, psychiatric cultures. Whilst in Switzerland, for example, the concept of schizophrenia was quickly adopted, it was criticized in Germany for carrying too much psychoanalytical baggage and for relying on the poorly defined concept of association. In Britain, where Kraepelin's prognosis-based nosology had been criticized early on for promoting therapeutic nihilism and unjustified “counsels of despair,”²⁹ the reception of Bleuler's schizophrenia was impeded by its perceived close connection with Kraepelin's dementia praecox. Once the break with Kraepelinian nosology implicit in the new

concept was recognized, this latter aspect was especially welcomed.³⁰ Later the concept was developed further, giving rise to derivative concepts, such as schizoidism.³¹⁻³³ Later the concept was developed further, giving rise to derivative concepts such as schizoidism, which, whilst present in Bleuler's work on schizophrenia from the outset, was only explicitly introduced under that label by Kurt Binswanger (1887-1981) in 1920.³¹

Bleuler's later work

Bleuler's later writings on general psychology and philosophy received little attention from either his contemporaries or later workers. This may be due to the rather speculative, and in parts obscure, nature of works like *Psychoids: Organizing Principle of Organic Development*³⁴ or “Mnemism and psychoids.”³⁵ In these works, Bleuler proposes a comprehensive “life science” in which physical, mental, and social phenomena are not seen as separate or even opposed, but as equal aspects of a single integrative life principle.³⁶ In the light of the portrayal of Bleuler as a proponent of a bio-psychosocial understanding of mental illness given above, these works might be interpreted as his attempt to theorize the relation and interaction between brain/body, mind and the social sphere.

Discussion and conclusion

When we examine Bleuler's intellectual background and the major theoretical debates in psychiatry around the turn of the century, it is hard not to notice important similarities with ongoing debates today.

Born of the rejection of Kraepelin's principle of prognosis, on which his dementia praecox was based, the view of a variety of possible courses of schizophrenia, often summarized in a simplified manner as a rule of thirds, belongs to the stock-in-trade of present-day psychiatry.

Yet current debates about renaming schizophrenia would seem to suggest that the Kraepelinian understanding still lingers amongst professionals and lay persons alike: one of the declared aims of renaming schizophrenia in Japan, for instance, was to replace the view of an incurable condition by one associated with therapeutic optimism, in other words, to replace a Kraepelinian by a Bleulerian understanding. This, it was hoped, would enable better access to psychiatric care and re-

duce stigma.^{37,38} Why, one might ask, was the Bleulerian understanding not taken up from the outset? We shall return to this question later after first reconsidering other features of Bleuler's concept.

Stemming from the search for something "specifically schizophrenic," Bleuler's approach stands in the tradition of essentialist views of mental illness, to which it further contributes through the identification of the alteration of associations as "schizophrenia's clinical core."³⁹ Whilst not explicitly addressing its phenomenological status, ie, the question of whether this core disturbance has itself phenomenal quality, Bleuler was adamant that it was not a theoretically inferred construct, but a phenomenon open to empirical observation and testing.¹⁹ He thus challenges the view recently put forward by Mishara and Schwartz,⁴⁰ that only nonessentialist, phenomenological accounts of mental illness can provide hypotheses that can be tested by experimental neuroscience. With regard to the relationship between neurobiological and psychological understandings and approaches in psychiatry, it seems that whilst psychological theories and therapeutic approaches have gained recognition in research and treatment, there is currently a strong tendency to naturalize the mind, ie, to hold the mind to be exhausted by nature as understood by the natural sciences.⁴¹ Efforts to naturalize mental illness come in many forms, and are observable not only in psychiatry but in all the mind sciences, including psychology and philosophy (of mind).^{2,42,43} Despite these efforts, the authors of the latest edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*⁴⁴ have not included biomarkers, regarding them as still incapable of carving nature at its joints, ie, correctly and reliably identifying natural disease entities. Moreover, the ontological and epistemological status of such markers remains unclear.⁴⁵

This leaves current psychiatry in a position very much akin to Bleuler's: whilst a neurobiological basis of mental illness is generally taken for granted, it is not considered to provide a sufficiently firm foundation for a psychiatric nosology. Bleuler's theoretical position regarding this question is not altogether clear. In the work

on schizophrenia he assumes a neurobiological process underlying the disturbance, without in any way—etiologically, diagnostically, or therapeutically—reducing the disturbance to the brain process. He was aware of the variable familial occurrence of schizophrenia and convinced of the role of genetic factors, but his work did not focus on biological causes of schizophrenia but on symptoms, their meanings and their personal and social consequences.

This suggests that he embraced a kind of non-eliminative naturalism, whilst in his later work he seems to have turned, or to have been in search of, some form of mind-body identity theory. Although these theoretical questions remain unresolved, Bleuler's clinical position was clear. In his patient-oriented attitude he displayed an early understanding of mental illness as bio-psychosocially constituted, and thus needing to be therapeutically addressed on all three levels. Such understanding has proven clinically useful and therefore become common sense in medicine generally, even though a theoretically satisfying explanatory model for this bio-psychosocial understanding is still lacking.⁴⁶

To return to the question posed earlier, namely, why was Bleuler's construct of schizophrenia as accessible to understanding and therapy not taken up from the outset?

Might the sheer multidimensionality of his conception of schizophrenia, which remains hard to grasp when compared with Kraepelin's clear-cut dementia praecox, have impeded acceptance? Or is it, that regardless of the theoretical conception, the phenomena observed in schizophrenia point to something so utterly unfamiliar that despite all knowledge to the contrary, a pessimistic prognosis is easily assumed? Or again, has the difficulty in overcoming therapeutic nihilism and stigmatization less to do with the phenomenon itself and more with society's general tendency to search for and define the Other? These remain open questions, but ones that need to be taken into account when considering and reconsidering the nosological status of schizophrenia and psychiatric nosology more broadly. □

Clinical research

La esquizofrenia de Eugen Bleuler: una perspectiva moderna

Con la introducción del término y concepto de esquizofrenia su inventor, el psiquiatra suizo Eugen Bleuler, obtuvo fama mundial. Como Bleuler rechazó el principio fundamental de la nosología de Kraepelin, que se basaba en el pronóstico, su idea acerca de la unidad clínica de lo que Kraepelin había descrito como demencia precoz lo obligó a buscar otros rasgos característicos que permitieran una clasificación y descripción científicas. Esto lo llevó a considerar factores psicológicos y en menor medida factores sociales junto con suponer un proceso patológico neurobiológico subyacente como constitutivo de lo que él entonces denominó esquizofrenia, lo que hizo de él un precoz defensor de una comprensión bio-psico-social de la enfermedad mental. Este artículo entrega una visión crítica de los principios nosológicos clave de Bleuler al revisar su concepto de esquizofrenia junto con los antecedentes de todo su trabajo clínico y teórico, y relaciona su trabajo con los debates actuales acerca del naturalismo, el esencialismo y el estigma.

La schizophrénie d'Eugen Bleuler, une perspective moderne

Grâce à l'introduction du terme et du concept de schizophrénie, son inventeur, le psychiatre suisse Eugen Bleuler, est mondialement connu. Comme Bleuler rejetait l'idée principale de la nosologie Kraepelinienne, à savoir le pronostic, sa foi en l'ensemble clinique de ce que Kraepelin a décrit comme démence précoce l'obligea à rechercher des traits caractéristiques alternatifs permettant une classification et une description scientifiques. Ceci le conduisit à prendre en compte les facteurs psychologiques et dans une moindre mesure, sociaux, à côté d'un processus pathologique neurobiologique sous-jacent supposé comme constitutif de ce qu'il a ensuite appelé schizophrénie, faisant donc de lui un des premiers défenseurs d'une compréhension bio-psycho-sociale de la maladie mentale. En examinant la conception de Bleuler sur la schizophrénie par rapport au fond de son travail global clinique et théorique, cet article présente un aperçu majeur des principes nosologiques clés de Bleuler et associe son travail aux débats actuels sur le naturalisme, l'essentialisme et la stigmatisation.

REFERENCES

1. Stier M, Schoene-Seifert B, Rüter M, Muders S. The philosophy of psychiatry and biologism. *Front Psychol.* 2014;5:1-3.
2. Stier M, Muders S, Rüter M, Schöne-Seifert B. Biologismus-Kontroversen - Ethische Implikationen für die Psychiatrie. *Nervenarzt.* 2013;10:1165-1174.
3. Lipowski ZJ. Psychiatry: mindless or brainless, both or neither? *Can J Psychiatry.* 1989;34:249-254.
4. Engel GL. The need for a new medical model: a challenge for biomedicine. *Science.* 1977;196:129-136.
5. Scharfetter C. Eugen Bleuler's schizophrenias – synthesis of various concepts. *Schweizer Arch Neurol Psychiatr.* 2001;152:34-37.
6. Hoff P. Historical roots of the concept of mental illness. In: Salloum IM, Mezzich JE, eds. *Psychiatric Diagnosis - Challenges and Prospects.* Chichester, UK: Wiley-Blackwell; 2009:3-14.
7. Hell D, Scharfetter C, Möller A, eds. *Eugen Bleuler - Leben und Werk.* Bern, Switzerland; Göttingen, Germany: Huber; 2001.
8. Kraepelin E. Ziele und Wege der klinischen Psychiatrie. *Allg Zschr Psychiatrie.* 1897;53:840-848.
9. Kahlbaum K. *Die Gruppierung der psychischen Krankheiten und die Einteilung der Seelenstörungen.* Gdansk, Poland: Kafemann; 1863.
10. Kraepelin E. *Psychiatrie. Ein Lehrbuch für Studierende und Ärzte.* 1st ed. Leipzig, Germany: Barth; 1883.
11. Berrios GE, Hauser R. The early development of Kraepelin's ideas on classification: a conceptual history. *Psychol Med.* 1988;18:813-821.
12. Freud S, Breuer J. *Studien über Hysterie.* Leipzig, Germany; Vienna, Austria: Franz Deuticke; 1895.
13. Jaspers K. *Zur Kritik der Psychoanalyse.* Heidelberg, Germany: Springer; 1950.
14. Schröter M, ed. *Sigmund Freud – Eugen Bleuler "Ich bin zuversichtlich, wir erobern bald die Psychiatrie" Briefwechsel 1904-1937.* Basel, Switzerland: Schwabe; 2012.
15. Küchenhoff B. Die Auseinandersetzung Eugen Bleulers mit Sigmund Freud. In: Hell D, Scharfetter C, Möller A, eds. *Eugen Bleuler - Leben und Werk.* Bern, Switzerland; Göttingen, Germany: Huber; 2001:57-71.
16. Herbart JF. *Psychologie als Wissenschaft, neu gegründet auf Erfahrung, Metaphysik und Mathematik.* (2 Bände). Kaliningrad: Unzer; 1824/25.
17. Stransky E. Zur Auffassung gewisser Symptome der Dementia Praecox. *Neurologisches Zentralblatt.* 1904;23:1137-1143.
18. Stransky E. Zur Entwicklung und zum gegenwärtigen Stande der Lehre von der Dementia Praecox (Schizophrenie). *Z Gesamte Neurol Psychiatr.* 1912;8:616-643.
19. Bleuler E. *Die Prognose der Dementia Praecox (Schizophreniegruppe).* *Allgemeine Zeitschrift für Psychiatrie und psychisch-gerichtliche Medizin.* 1908;31:436-480.
20. Kuhn R, Cahn CH. Eugen Bleuler's concepts of psychopathology. *Hist Psychiatry.* 2004;15:361-366.
21. Maatz A, Hoff P. The birth of schizophrenia or a very modern Bleuler: a close reading of Eugen Bleuler's 'Die Prognose der Dementia praecox' and a re-consideration of his contribution to psychiatry. *Hist Psychiatry.* 2014;25:431-440.
22. Bleuler E. Dementia praecox oder Gruppe der Schizophrenien. In: von Aschaffenburg G, ed. *Handbuch der Psychiatrie.* Leipzig, Germany; Vienna, Austria: Deuticke; 1911:1-420; reprinted Nijmegen, the Netherlands: Arts&Boeve; 2001.
23. Bleuler E. Upon the significance of association experiments. In: Jung CG, ed. *Studies in Word-Association.* New York, NY: Moffat, Yard & Company; 1919:1-7.
24. Bleuler E, Jung CG. *Komplexe und Krankheitsursachen bei Dementia praecox.* *Zentralblatt für Nervenheilkunde und Psychiatrie.* 1908;31:220-227.
25. Bleuler M, Bleuler R. Books reconsidered. *Dementia praecox oder die Gruppe der Schizophrenien: Eugen Bleuler.* *Brit J Psychiatry.* 1986;149:661-664.
26. Bleuler M. *Beiträge zur Schizophrenielehre der Zürcher Psychiatrischen Universitätsklinik Burghölzli (1902-1971).* Darmstadt, Germany: Wissenschaftliche Buchgesellschaft; 1979.

27. Bleuler E. Die Behandlung der Geisteskranken im Privathause. In: *Fuenfzehnter Bericht des Zürcher Hilfsvereins für Geistesranke über das Jahr 1890*. Zürich, Switzerland: Ulrich und Co; 1891:13–31.
28. Bleuler E. Frühe Entlassungen. *Psychiatrisch-Neurologische Wochenschrift*. 1905;6:441–444.
29. Norman C. Dementia praecox. *BMJ*. 1904;2:972–976.
30. Anonymous. Dementia praecox. *BMJ*. 1904;1:258.
31. Binswanger K. Über schizoide Alkoholiker. *Z Gesamte Neurol Psychiatr*. 1920;60:127–128.
32. Bleuler E. Die Probleme der Schizoidie und der Syntonie. *Z Gesamte Neurol Psychiatr*. 1922;78:373–399.
33. Bleuler E. Syntonie – Schizoidie – Schizophrenie. *Journal für Psychologie und Neurologie*. 1929;38:47–57.
34. Bleuler E. *Die Psychoide als Prinzip der organischen Entwicklung*. Berlin, Germany: Springer; 1925.
35. Bleuler E. Mnemismus, Psychoide. *Schweiz Arch Neurol Psychiatr*. 1934;33:177–191.
36. Möller A. Grundpositionen im Spätwerk. In: Hell D, Scharfetter C, Möller A, eds. *Eugen Bleuler - Leben und Werk*. Bern, Switzerland; Göttingen, Germany: Huber; 2001:104–112.
37. Sartorius N, Chiu H, Heok KE, et al. Name change for schizophrenia. *Schizophr Bull*. 2014;40:255–258.
38. Sato M. Renaming schizophrenia: a Japanese perspective. *World Psychiatry*. 2006;5:53–55.
39. Parnas J. A disappearing heritage: the clinical core of schizophrenia. *Schizophr Bull*. 2011;37:1121–1130.
40. Mishara AL, Schwartz MA. Jaspers's critique of essentialist theories of schizophrenia and the phenomenological response. *Psychopathology*. 2013;46:309–319.
41. Papineau D. Naturalism. In: Zalta EN, ed. *The Stanford Encyclopedia of Philosophy* (Spring 2009 Edition). Available at: <http://plato.stanford.edu/archives/spr2009/entries/naturalism/>. Accessed January 13, 2015.
42. Thornton T. Recent developments for naturalizing the mind. *Curr Opin Psychiatry*. 2011;24:s502–506.
43. Zahavi D. Naturalized phenomenology. In: Gallagher S, Schmicking D, eds. *Handbook of Phenomenology and Cognitive Science*. New York, NY; Heidelberg, Germany; London, UK: Springer; 2010:3–19.
44. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Washington, DC: APA; 2013.
45. Carroll BJ. Biomarkers in DSM-5: lost in translation. *Aust N Z J Psychiatry*. 2013;47:676–681.
46. Ghaemi SN. *The Rise and Fall of the Bio-Psycho-Social Model: Reconciling Art and Science in Psychology*. Baltimore, MD: John-Hopkins University Press; 2010.