The Kraepelinian tradition

Paul Hoff, MD, PhD

*Emil Kraepelin (1856–1926) was an influential figure in the history of psychiatry as a clinical science. This paper, after briefly presenting his biography, discusses the conceptual foundations of his concept of mental illness and follows this line of thought through to late 20th-century "Neo-Kraepelinianism," including recent criticism, particularly of the nosological dichotomy of endogenous psychoses. Throughout his professional life, Kraepelin put emphasis on establishing psychiatry as a clinical science with a strong empirical background. He preferred pragmatic attitudes and arguments, thus underestimating the philosophical presuppositions of his work. As for nosology, his central hypothesis is the existence and scientific accessibility of "natural disease entities" ("*natürliche Krankheitseinheiten"*) in psychiatry. Notwithstanding contemporary criticism that he commented upon, this concept stayed at the very center of Kraepelin's thinking, and therefore profoundly shaped his clinical nosology.*

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Introduction

In the 21st century, Emil Kraepelin's views remain a major point of reference, especially regarding nosology and research strategies in psychiatry. However, the "neo-Kraepelinian" perspective has also been criticized substantially in recent years, the nosological dichotomy of schizophrenic and affective psychoses being a focus of this criticism. A thorough knowledge and balanced interpretation of Kraepelin's work as it developed alongside the nine editions of his textbook (published between 1883 and 1927)[1] is indispensable for a profound understanding of this important debate, and for its further development beyond the historical perspective.

A brief biography

Emil Kraepelin was born in Neustrelitz (Mecklenburg, West Pomerania, Germany) on February 15, 1856. He studied medicine in Leipzig and Wuerzburg from 1874 until 1878. He worked as a guest student at the psychiatric hospital in Wuerzburg under the directorship of Franz von Rinecker (1811–1883). He began his professional career in 1878 working with Bernhard von Gudden (1824–1886) at

Author affiliations: Professor of Psychiatry, University of Zurich, Switzerland

Address for correspondence: Psychiatric University Hospital, Clinic for Psychiatry, Psychotherapy and Psychosomatics, Lenggstr. 31, CH 8032 Zurich, Switzerland
(e-mail: paul.hoff@puk.zh.ch)

the District Mental Hospital in Munich, where he stayed until 1882. Kraepelin then moved to Leipzig to work with Paul Flechsig (1847–1929) and Wilhelm Erb (1840–1921). He was promoted to university lecturer there in 1883.

In Leipzig, his lifelong personal and scientific relationship with Wilhelm Wundt (1832–1920) began. Encouraged by Wundt, Kraepelin, aged 27, wrote his *Compendium of Psychiatry* in 1883, the precursor (formally the first edition) of his influential textbook *Psychiatry*. Kraepelin continuously stayed in contact with Wundt by correspondence and paid him several visits until Wundt's death in 1920. Often in his publications Kraepelin acknowledged and emphasized the importance of this relationship for the development of his psychiatric thinking.

In 1884 Kraepelin married Ina Schwabe. The couple was to have eight children, of whom died at very young ages from birth complications or infectious diseases. After a short period of employment in Leubus (in Silesia) and Dresden, Kraepelin was appointed professor of psychiatry at the University of Dorpat (Baltic) in 1886. In 1891 he took over the chair of psychiatry at the University of Heidelberg. From 1903 until 1922 Kraepelin was ordinary professor of psychiatry in Munich where, in 1904, he opened the new building of the psychiatric hospital of the Ludwig Maximilian University. The main part of this complex is still in use nowadays. Despite the adverse conditions caused by World War I, Kraepelin founded the German Research Institute for Psychiatry *(Deutsche Forschungsanstalt für Psychiatrie)* in Munich in 1917 to encourage and improve psychiatric research.[2] During his long sojourn in Munich, Kraepelin's colleagues at the university hospital and the research institute included Alois Alzheimer (1864–1915), Franz Nissl (1860–1919), Korbinian Brodmann (1868–1918), Walter Spielmeyer (1879–1935), August Paul von Wassermann (1866–1925), and Felix Plaut (1877–1940). In 1924 the research institute was integrated into the Kaiser Wilhelm Society and, in 1945, became the Max Planck Institute of Psychiatry as part of the Max Planck Society. Emil Kraepelin died in Munich on October 7, 1926, aged 70. Kraepelin's memoirs were published in German (1983) and in English (1987).[3]

Three authors with substantial influence on Kraepelin's thinking: Griesinger, Kahlbaum, Wundt

Wilhelm Griesinger (1817–1868) was a seminal figure in 19th-century psychiatry since he called for thorough clinical and pathophysiological research based on the premise that mental illnesses are illnesses of the brain. However, this often-quoted statement does not at all prove Griesinger's adherence to a plain materialistic position. He held differentiated views on the problem of somato- and psychogenesis, although favoring the first in the case of what were later to be called "endogenous psychoses." As Verwey[4] has shown, Griesinger`s position may be labelled as *methodological* materialism insofar he clearly voted for an empirical, especially neurobiological, approach when it comes to research on the etiology of (severe) mental illness.[5,6] But he did not support *metaphysical* materialism that categorically denies the existence of anything but material—in our field: neurobiological—phenomena. At the end of the 20th century, *eliminative materialism* became a prominent representative of such a radical position.[7]

Griesinger also was one of the founders of social psychiatry by suggesting psychiatric outpatient services in heavily populated urban areas.[8] This aspect, however, did not play a major role in Kraepelin's reception of Griesinger's work.

Karl Ludwig Kahlbaum (1828–1899) continued the traditions of French psychopathology as represented by Jean-Pierre Falret (1794–1870) and Antoine Laurent Jessé Bayle (1799–1858). He had developed a clinically orientated research method in the second half of the 19th century in Germany, strongly focusing on the course of illness. This approach, like Griesinger's, was believed by many authors to overcome the speculative concepts of romantic medicine.[9,10] Kahlbaum emphasized the conceptual and methodological differences between neuroanatomy and psychopathology. With "progressive paralysis of the insane" as a powerful example he exemplified the way from a mere *syndrome course unit (Syndrom-Verlaufs-Einheit)* to an etiologically defined *disease entity (Krankheitseinheit)*.[11]

Wilhelm Wundt (1832–1920), one of the founders of experimental psychology, influenced Kraepelin in a way that can hardly be overestimated. Wundt's aim, on the one hand, was to establish psychology as a natural science with an experimental approach to collect data. In this line of thought, he harshly criticized the speculative concepts of philosophy of nature in the sense of Friedrich Wilhelm Schelling (1775–1854) and Friedrich Schleiermacher (1768–1834). On the other hand, he—like Griesinger—did not agree with materialism or association psychology, the latter having been introduced

to the German-speaking countries by Johann Friedrich Herbart (1776–1841) some decades before. Especially in his earlier writings, Wundt strongly favored a parallelistic point of view in the mind–body problem. The young Kraepelin, who had worked at Wundt's laboratory in Leipzig for some time, was impressed by these Wundtian ideas, since they allowed experimental research to be successfully applied in psychology without ignoring the epistemological differences between the mental and the physical. Over time, Kraepelin modified Wundt's concepts by extracting what he regarded as useful for empirical research in clinical psychiatry. That is why Wundt's psychology, viewed through the "filter" of Kraepelin's texts, may appear much more unified and straightforward than it really was. Kraepelin simplified and, in a way, "smoothed out" Wundt's concept, but he did not adulterate it.[12] However, as Engstrom[13] recently pointed out, there are divergent positions as to the degree of practical relevance which Wundtian psychology reached for the development of Kraepelin's psychiatry.

Kraepelin and philosophy—an ambivalent issue

In his student years, Kraepelin, according to his autobiography, took considerable interest in philosophical topics.[2] But this attitude changed. As a psychiatrist and researcher, he became more and more skeptical as to the relevance of philosophical perspectives on psychiatry. As Engstrom[14,15] has shown, Kraepelin's view of what (natural) science was, and what impact it had or should have on social and political developments, was typical for the self-concepts of natural scientists at the turn from the 19th to the 20th century. Notwithstanding his growing skepticism towards philosophy, Kraepelin did apply, albeit often implicitly, major theoretical frameworks to his understanding of scientific psychiatry. The most important ones—realism, parallelism, experimental approach, and naturalism—shall now be discussed in some detail. Afterwards, Kraepelin's application of degeneration theory to his concept of mental illness will be outlined.

Realism

For Kraepelin, like for most of his contemporaries in academic psychiatry, there was a "real world" existing in full independence from persons perceiving it, describing it, or doing research on it. This world included other people and their healthy or disturbed mental processes. Therefore, Kraepelin, at least implicitly, accepted a "realistic" framework in the philosophical sense of the term. He often emphasized that the psychiatric researcher has to describe objectively what "really" exists and what "nature presents" to him or her. This is precisely the cornerstone of any realistic philosophy.

The consequences for psychiatric nosology are evident: Kraepelin strongly advocated the view that different mental disorders are categorically distinct objects, "natural kinds" or, as he usually put it, "natural disease entities" *("natürliche Krankheitseinheiten").* These he firmly believed to exist independently of the researcher or clinician. They both describe what they find; they deal with "given things." Their own activities in collecting data and formulating scientific hypotheses or diagnostic criteria are underestimated or may even go unnoticed. One consequence of this basic attitude was Kraepelin's emphasis on the descriptive approach in psychopathology in general and in psychiatric diagnosis in particular, which implied a largely skeptical position towards heuristically oriented methods. These issues will later be addressed again in the context of modern operationalized psychiatric diagnoses on the one hand and of the actual topic of "reification" of psychiatric diagnoses on the other hand.

Parallelism

Kraepelin advocated the concept of psychophysical parallelism: for him, mental and physical (neurobiological) events are separate, but closely linked and act as "parallel" phenomena. Like Wilhelm Griesinger, whom he admired for his critical attitude towards speculative psychiatric theories, he disapproved of reductionist materialism which once and for all *identifies* mental events with neurobiological processes. Hence, he defended the existence of mental phenomena against all kinds of what he, like Karl Jaspers, called "brain mythologies." Contrary to Wundt, however, Kraepelin, although a parallelist, did not enter the longstanding and highly ramified philosophical debate on this issue. For example, he did not differentiate between parallelism and interactionism, nor did he comment on the problem that any strict parallelism makes it more than doubtful if mental phenomena still may be regarded as an independent sphere: Should they not be (at least partly) independent, but stand in a

one-to-one relationship with the somatic level, then the step to (causal) determinism—which Kraepelin was *not* willing to accept—is a small one.

For this reason, one might call Kraepelin's position in the mind-body debate ambivalent, if not blurry. Indeed, there is an implicit tendency towards monism in Kraepelin's writings, particularly when it comes to his ideas about psychology as a natural science. But this monistic tendency, quite similar to what one finds in Griesinger's writings, was not a metaphysical one, but again a weak version of methodological monism. The main argument here is Kraepelin's continuous emphasis on quantitative empirical methods, thus strongly moving psychiatric research in the direction of natural sciences. Consequently, the scientifically controlled experiment became a central tool for him.

Experimental approach

From his early years, Kraepelin strongly supported the development and implementation of psychological and psychophysiological experiments into psychiatric research. For him, this approach constituted the *via regia* to any profound understanding of disturbed, but also of healthy mental processes. Both Wundt and Kraepelin realized the difference between a physical and a psychological experiment, but in their views the experimental design as such did not differ significantly in both areas. Kraepelin went so far as to consider the experimental approach a kind of guarantee for the scientific status of research in psychiatry. Consequently, he rated it higher than the mere description of clinical phenomena, although he also accepted and promoted the latter method as indispensable tool, at least for the time being. Clinical research, especially, on the long-term course of mental illness became—as mentioned above—a methodological cornerstone of his nosology. However, Kraepelin maintained a skeptical attitude towards subjective, especially biographically determined, aspects of mental disorders, which could not or at least not easily be studied experimentally. This general assumption also led to Kraepelin's harsh, not to say polemical, criticism towards psychoanalysis.[16]

Naturalism

The question how far the explanatory power of physical, chemical and, especially, biological findings might reach was a main topic for the scientific community at the end of the 19th century. The answers of leading authors not only in biology and medicine, but also in philosophy often favored a strong version of naturalism. Emil Kraepelin clearly was one of these authors. To give an example: In his early writings—mainly in those on forensic topics—he stated that *a priori ideas* (in the sense of Kantian philosophy), freedom of the will, and personal autonomy based on individually accepted (or declined) moral values do not exist. For him, man is *nothing but* a part of nature, and, consequently, anything man can do is a product of this natural existence. This position closely resembles what is nowadays called evolutionary naturalism.[17-19] Later in his life, he became somewhat more cautious concerning these matters, but there is no reason to believe that he substantially changed his mind. His naturalistic, antimetaphysical point of view made Kraepelin feel sympathetic towards Darwinist and biologistic theories. However, he did reject oversimplifications that were highly popular at that time, such as those in the monistic theories of Ernst Haeckel (1834–1919), Jakob Moleschott (1822–1893), and Ludwig Büchner (1824–1899). But also in this regard he did not engage himself in a detailed debate on philosophical issues.

Kraepelin's attitude towards degeneration theory

There has been substantial criticism of Kraepelin`s broad, albeit neither uncritical nor unlimited, acceptance of degeneration theory. His position was even said to have carried "overtones of proto-fascism,"[20,21] thus creating more or less direct links between the basically naturalistic attitude of most academic psychiatrists in the end of the 19th century, the increasing influence of degeneration theory during the same period of time, and the rise of national socialism including its horrible crimes against the mentally ill.

It should be noted that degeneration theory is far from being only a psychiatric or even medical issue. It had gained wide influence not only in the natural sciences, but also in philosophical and political circles in the last decades of the 19th century. As for psychiatry, major roots can be found in French psychopathology, especially in the writings of Bénédict Augustin Morel (1809–1873) and Valentin Magnan (1835–1916). The central idea of this concept was that in "degenerative" illness there is a steady decline in mental functioning and social adaptation from one generation to the other.

There might, for example, be an intergenerational increase of the degree of mental and social dysfunction from a nervous character to major depressive disorder, then to overt (and often chronic) psychotic illness and, finally, to severe cognitive impairment, ie, dementia.

Degeneration theory was a vague and speculative concept, brought forward decades before the rediscovery of Mendelian genetics and their application to medicine in general and to psychiatry in particular. It did, indeed, gain influence when combined with social Darwinism and the movement of "racial hygiene." The "Society of Racial Hygiene" was founded in 1905 by the physician Alfred Ploetz (1860–1940). One of the founding members was the Swiss psychiatrist Ernst Rüdin (1874–1952) who had worked at Kraepelin's clinic in Munich from 1907 on and—more than 25 years later—became a central figure in preparing and executing laws that were enacted by the national socialist regime and cost many mentally ill or handicapped people their lives.[22-28]

Decades earlier, at the end of the 19th century, Emil Kraepelin and most of the contemporary authors of psychiatric textbooks broadly used arguments derived from degeneration theory. Kraepelin made a special reference to them with regard to manic-depressive illness, paranoia, and personality disorders. However, like Eugen Bleuler (1857–1939) in Zurich, Kraepelin`s attitude towards degeneration theory was not straightforwardly positive, but also critical. For example, he commented approvingly on the basic ideas of Cesare Lombroso`s (1835–1909) "criminal anthropology," but did not accept the idea of overt "stigmata degenerationis," by which individual persons could be identified as being "degenerated" simply by their physical appearance.[29]

There is no doubt that Kraepelin in many respects accepted degeneration theory and implemented it in the debate on etiology and pathogenesis of mental disorders. However, it is not appropriate to draw a *simple and direct* line from earlier versions of degeneration theory to National Socialism. A differentiated view is needed here, which will only be reached by thorough and unbiased research.[30]

Kraepelin`s psychiatric nosology

The theoretical perspective

On the clinical level, Kraepelin changed the details of his diagnostic system over and over again. On the basic level, however, his nosology showed remarkable stability over time. Between the second and the ninth editions of his textbook (ie, from 1887 to 1927) Kraepelin did *not* change his central postulate that was based on his clear-cut, albeit mostly implicit, philosophical realism mentioned above. As for the essential features of mental disorders, he stated that especially psychotic disorders will eventually be classified in a "natural" system. Consequently, he postulated that there would be no fundamentally different nosological findings depending on the scientific method which is applied. Pathological anatomy, etiology, or clinical symptomatology including long-term course of illness (the latter being his own life-long focus of research): for Kraepelin, all these approaches would necessarily converge in the same "natural disease entities," simply because they *are* natural kinds. These natural kinds will, in the best case, be *detected* by research; they are not seen as being *constructed* by research.

The scientific discussion that emerged after Kraepelin had published the principles of his nosology in many respects resembles present-day debates: What is the *nature* or, more modestly, the *epistemological status* of mental illness? Are there *natural kinds* of mental illness? Specifically, what are the advantages and limitations of the *bio-psycho-social model*?

The differentiated debate on psychiatric nosology during Kraepelin's professional life cannot be reflected upon in much detail here. However, some hallmark positions shall be mentioned. Erich Hoche (1865–1943) formulated an especially harsh criticism: In his view it comes close to a waste of time to concentrate psychiatric research on—Kraepelinian or other—disease entities, since, given the scientific means at hand, one could not even decide whether they exist or not, not to say identify them. For the time being, he suggested staying with describing, defining, and evaluating clinical syndromes.[31] Karl Birnbaum (1878–1950) differentiated between "pathogenetic" and "pathoplastic" factors in mental illness, thus focusing much more on the "inner structure" of psychoses than Kraepelin had done.[32] Robert Gaupp (1870–1953), on the basis of the famous case of "Hauptlehrer Wagner,"[33] debated the possibility of psychogenic delusions. In 1913, Karl Jaspers published his seminal *Allgemeine Psychopathologie (General Psychopathology)*.[34] For decades, this book set the standards for the definition and self-understanding of psychopathology as a science, and this explicitly included the area of nosology.

In three papers, written between 1918 and 1920, Kraepelin addressed theoretical issues of psychiatric nosology and research. Here, he commented on critical arguments against his point of view and partly adapted his earlier, epistemologically strong position of the existence and scientific accessibility of mental disorders as "natural disease entities." The titles of these programmatic papers were *"Ziele und Wege der psychiatrischen Forschung"* ("Ends and means of psychiatric research"),[35] *"Die Erforschung psychischer Krankheitsformen"* ("Research in the manifestations of mental illness")[36] and, probably the most important one, *"Die Erscheinungsformen des Irreseins"* ("Clinical manifestations of mental illness").[37] Kraepelin now acknowledged that it might be difficult to detect the link between psychiatric disease entities on the one hand and clinical symptomatology on the other hand. Symptoms were nosologically unspecific, as he knew, being the highly experienced clinician who he was. Therefore, in the 1920 paper, Kraepelin introduced what he called "psychopathological registers" as a middle course between unspecific symptoms and specific diseases. This, of course, comes close to Erich Hoche's position, in fact his main opponent when it comes to nosology. But, and this is essential, it was only a compromise concerning the status of scientific knowledge at that time, *not* a fundamental change of view. At no time, also not in his publications from 1920 until 1926, when he died, did Kraepelin abandon his core postulate of the existence of distinct natural disease entities in psychiatry.[38] As will be discussed later in this paper, here was one of the starting points for neo-Kraepelinian authors in the last quarter of the 20th century.

The clinical perspective

Kraepelin's clinical nosology is best separated into three periods.[12] The *early period,* 1880–1891, is characterized by the search for a reliable and valid psychiatric system between clear-cut naturalistic beliefs and the methodological framework of experimental psychology in the sense of Wundt. As for nosology, Kraepelin slowly moved away from earlier 19th-century concepts which he criticized as unreliable and ill-defined from a clinical and, especially, prognostic point of view. In these years, he did not yet use the term "dementia praecox." A group of clinically heterogeneous paranoid and hallucinatory psychoses tending to chronicity was labeled *Wahnsinn* (insanity). It probably resembled the cases now known as schizophrenic psychoses developing residual states. In addition, Kraepelin introduced *Verrücktheit* (madness) into his nosological system as a chronic psychosis with a better prognosis, which explicitly did not lead to residual states. The affective psychoses were split into three groups: melancholia, mania, and periodical or "circular" psychosis.

In the *middle period*, 1891–1915, Kraepelin's thinking reached the most systematic and influential level regarding its clinical and scientific implications: Kraepelin significantly broadened his clinical experience and self-consciously created a complete nosological system. He finalized his concept of "natural disease entities" as discussed above. The main clinical result of this period—first proposed in the sixth edition of 1899—was the well-known dichotomy of endogenous psychoses: that is, the separation of "dementia praecox" with, as he saw it, a poor prognosis, from manic-depressive illness (today called bipolar disorder) with a good, or at least better, prognosis. With respect to "dementia praecox," he supposed an organic defect as the basis of the illness, a kind of "auto-intoxication," leading to the destruction of cortical neurons. The patient's personality may promote the development of the psychotic illness, but it is not a central pathogenetic factor; contrary to most other nosological areas, "degeneration" was believed to be of *low* importance in "dementia praecox." "Paraphrenia" was conceptualized as a psychosis with acute and heterogeneous clinical symptomatology, including the development of lasting deficits. Its separation from typical cases of "dementia praecox" was justified by the postulated absence of massive disturbances of volition and by a much lesser degree of affective flattening.

In manic-depressive illness the etiology was said to be even less clear than that of "dementia praecox." Kraepelin proposed a genetically determined irritability of affectivity, so that the psychosis itself emerged from certain predisposing "basic states" (*Grundzustände).* Here, as opposed to "dementia praecox," the concept of degeneration was an important element. In this period, Kraepelin integrated different types of circular or recurrent affective illness into the overarching concept of manic-depressive insanity *(Manisch-depressives Irresein,* 6th edition, 1899).[1]

Kraepelin's concept of paranoia was also modified several times in this period. After the broad concept of *"Verrücktheit"* in the early editions of his textbook,

which proved to be of restricted clinical use, he significantly narrowed it, especially in the 5th edition of 1896.[1] Here, paranoia was defined as a severe and chronic delusional illness without constant alteration of personality and volition. The existence of abortive or benign cases was denied up to the 7th edition of 1903/04.[1] In the 8th edition of 1915[1] this very rigid concept was broadened again, but not to such a degree as in earlier editions. Kraepelin now accepted cases with low severity and a comparably good prognosis, but he maintained the strict separation of "dementia praecox" and paranoia.

In Kraepelin's view—typical of his way of thinking within the theoretical framework of degeneration theory—disorders of personality resulted from a circumscript retardation of psychological development. He argued that, since some patients with personality disorders reach a "normal" or mature level of affective and cognitive functioning and some don`t, it was not justified in this field to postulate clear-cut disease processes as, for example, in "dementia praecox."

In his *later period*, 1916–1926, Kraepelin had to deal with criticisms of his nosology. Hoche's syndromatic theory has already been mentioned. Ernst Kretschmer (1888–1964) suggested supplementing the Kraepelinian system with a multidimensional approach.[39] Kraepelin moved towards an internal broadening of his system by reformulating his disease concept as discussed above. He accepted a more differentiated view of pathogenesis and the role of individual psychological factors. However, his postulate of the existence of "natural disease entities" in psychiatry remained unchanged. It had always been and it stayed *the* cornerstone of his nosology.

Kraepelin and 21st-century psychiatry

There are several reasons why Kraepelin's psychiatry became so influential, especially when it comes to nosological issues. Two of them shall be mentioned: first, his approach gained credibility by being grounded in clinical observations, and it proved to be applicable in practical psychiatric work since the question of prognosis had always been a major issue in describing and understanding mental illness. Second, it had been developed by a self-confident author who focused on straightforward quantitative and naturalistic research methods. He claimed to abandon speculative aspects of psychiatry as far as possible. However, he, albeit unintentionally, "imported" implicit theoretical and, in part, speculative aspects into his concept.

In the years after World War II, Kraepelinian ideas and neurobiological approaches in general largely lost influence. They were even discredited and were discussed, if at all, mainly from the historical point of view. Two decades later a major change of paradigm took place. From the 1960s and 1970s on, "biological psychiatry," the precursor of present-day neuroscience, gradually became the most influential field of psychiatric research, and it "reinvented" Kraepelinian psychiatry. Researchers and clinicians from the English-speaking countries began to be called and to call themselves "Neo-Kraepelinians." [40-42] But "Neo-Kraepelinianism" was (and is) nothing less than a clear-cut scientific theory. It is a heterogeneous set of concepts, all of them striving to strengthen the methodological basis and theoretical impact of neurobiological research in clinical psychiatry. Central to "Neo-Kraepelinianism" is the intention to identify the biological basis of mental disorders, their "natural" basis, in Kraepelin's words.

However, neurobiological and psychopathological findings and also the recent debate on the epistemological status of mental illness created a much more complicated picture. Whereas the Kraepelinian approach of orienting psychiatric research on "natural," ie, neurobiological parameters is widely accepted as a powerful tool, the concept of "natural entities" suggested by Kraepelin, especially his dichotomy of major psychoses ("dementia praecox" vs "manic-depressive insanity") is facing an increasing number of critical arguments.[43,44] Such a critique, of course, is not new; on the contrary: from Wilhelm Griesinger[5] to Werner Janzarik[45] and Karl Rennert,[46] to mention a few, many authors supported the concept of "unitary psychosis" *("Einheitspsychose")*. They postulated a continuum of all psychotic, if not all psychiatric disorders, denying any clear boundary between single diagnostic entities, whether they are believed to have a neurobiological basis or not.[47]

More recently, towards the end of the 20th century, the idea of "denosologization" of psychiatric research, if not of psychiatry in general, attracted much interest, especially with regard to neurobiological data.[48] The leading concept behind "denosologization" postulated that there might be quite different, especially (neuro)-biologically defined boundaries separating the various types of mental illness than those based on psychopathological findings, ie, on clinical symptom-

atology and long-term course of illness. For example, if serotonin proved to be a central pathogenetic, if not etiological factor in various affective, anxiety, and obsessive-compulsive disorders, in the view of denosologization of psychiatric classifications (sometimes also called "deconstruction," although both terms by far are not synonymous) the functional status of the brain's serotonergic system could become a major diagnostic criterion, leaving less specific phenomena like psychopathological symptoms far behind.[49-51]

However, neurobiological findings that do not support, or that even clearly contradict, Kraepelin's nosological dichotomy are not necessarily evidence against his basic ideas. One must not overlook the fact that Kraepelin had acknowledged that all diagnostic criteria and categories are due to change according to the actual state of the art in psychiatric research. Accepting this postulate does also nowadays not imply that one is fundamentally questioning Kraepelin's core hypothesis, the existence and scientific accessibility of "natural disease entities." For example, future neuroscientific research may well define boundaries between different types of mental disorders that are quite different from the more or less Kraepelinian ones we use today. But—and this is the essential point—21st-century "Neo-Kraepelinians" could still argue that there is no reason to abandon the idea of "natural kinds" when it comes to the conceptualization of mental disorders. In other words, the terminology of the proposed "psychiatric natural kinds" may change significantly over time. However, in a neo-Kraepelinian perspective, this does not weaken the option that there *are* such natural kinds.

One pitfall has to be mentioned: Neo-Kraepelinian authors are at risk, as was Emil Kraepelin, of overestimating the explanatory power of neurobiological findings and concepts. They could, for example, generally render biological data and criteria more reliable and valid than psychopathological or social ones. In that case, the result could be what Michels[52] ironically labeled "Hyper-Kraepelinianism." Here, Kraepelin's principles of psychiatric research and nosology tend to be applied rigidly, not to say dogmatically, to clinical or scientific findings, sometimes clearly surpassing the original author's framework. For example, Gerald Klerman's[53] basic principles of neo-Kraepelinianism might partly face such a critique. Matter-of-factly, he declared:

> There is a boundary between normality and mental illness. … There are distinguishable mental illnesses. Mental illnesses are not myths. There is not one, there are many mental illnesses. Like in other medical specialties, the task of scientific psychiatry is to investigate causes, diagnosis and treatment of mental illnesses.

Of course, some aspects of these postulates are fully acceptable. However, Klerman's theses do express a general tendency to reify and naturalize mental illness without systematically reflecting upon this issue, just as it was the case in Emil Kraepelin's writings.

As for the scientific credit given to descriptive psychopathology, there is a strong link between "Neo-Kraepelinianism" and operationalized diagnostic manuals, at present the *International Classification of Diseases*, 10th edition *(ICD-10)*[54] and *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition *(DSM-5)*.[55-58] For both, it is of crucial importance to reliably describe and delineate different mental disorders from each other (and, what usually is tacitly included, from the area of mental health). The question of whether there are "natural kinds" in psychiatric nosology or not, is of minor relevance in this context. The main intention is to improve the reliability of psychiatric diagnoses by establishing and continuously developing clear diagnostic criteria and algorithms. Describing what is observable on the behavioral level becomes the most important method, whereas heuristic approaches are rated as problematic, if not unscientific, the programmatic headline being "description, not interpretation." Such a position is very close to Emil Kraepelin's view of the diagnostic process in psychiatry.

Finally, this leads to an especially important issue in psychiatric nosology, if not in the whole field of psychiatry, the topic of "reification" of mental illness. With his fundamental postulate of the existence and scientific recognizability of "natural kinds" in psychiatric nosology—"natural disease entities" in his words—Kraepelin was one of the most influential exponents of "reification." Derived from the Latin term "res" for "thing" or "object," the epistemological term reification covers any scientific concept that acknowledges the existence of "real things," of "reality" in general, that do exist independently from any researcher or philosopher and his or her conceptual frameworks. For example, a strong version of reification could declare schizophrenia a clear-cut neurobiological disease entity, fully detectable by objective measures. For this position, the question of the nosological status of schizophrenia—is it a disease, an illness, a disorder, a syndrome or something completely different?—is easy to

answer. Other authors, however, express severe doubts by formulating a contradictory view: "Schizophrenia is not an illness," as Read et al put it.[50]

To avoid misunderstandings, *ICD-10* and *DSM-5* have to be mentioned again at this point. Their authors advise users not to regard diagnostic categories as once and for ever definite, not as "natural kinds," but as scientific *conventions* which need further verification—or falsification. Consequently, operationalized diagnostic manuals have to be monitored and adapted continuously according to empirical evidence or conceptual developments.[59]

Up to now, for reasons that have been elucidated in this article, there are only traces of a dialogue between (neo-)Kraepelinian approaches and psychopathological concepts with decisively heuristical elements. However, if one takes the bio-psycho-social model of mental illness seriously, this should no longer be accepted as the state of affairs in 21st-century psychiatry. As many seminal theoreticians of psychiatry postulated decades ago, eg, Karl Jaspers, Arthur Kronfeld, or Ludwig Binswanger, to mention a few, quantitative and qualitative approaches in psychiatric research and practice are not at all mutually exclusive.[60,61] On the contrary, they both depend on each other, given the general aim of our field, to get as close as possible to the "object" of psychiatry which, in fact, is the mentally ill person. In recent years there has been a thoughtful debate about neo-phenomenological concepts that, from different perspectives, strengthen hermeneutical and subjective elements in psychopathology and *at the same time* try to establish links to the neurobiological, but not necessarily the neo-Kraepelinian field.[62-68]

Conclusion

Kraepelin's concept of psychiatry as a clinical science which is consequently oriented towards the principles of natural sciences became highly influential in his lifetime. Towards the end of the 20th century, as the focus of psychiatric research again shifted to neurobiological topics, it was, in a way, rediscovered by a group of authors later called "Neo-Kraepelinians." However, rediscovery is not enough. Present-day psychiatry—be it "neo-Kraepelinian" or not—needs a comprehensive view of Kraepelin's scientific work, far beyond the usual stereotypes. This is the central task of conceptual history of psychiatry.[69-77] As any other psychiatric concept, the Kraepelinian perspective does have its pitfalls and limitations. However, it definitely is one of the most influential approaches the field has seen. And, outspoken or implicit, his approach still shapes a lot of present-day debates on psychiatry as a science and especially on psychiatric nosology. ❑

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La tradición Kraepeliniana

*Emil Kraepelin (1856-1926) fue una figura influyente en la historia de la psiquiatría como ciencia clínica. Este artículo, después de una breve presentación de su biografía, analiza los fundamentos conceptuales acerca de su comprension de la de enfermedad mental y sigue esta línea de pensamiento "neo-kraepeliniana" de fines del siglo XX, incluyendo una crítica reciente, en especial de la dicotomía nosológica de la psicosis endógena. Kraepelin, a lo largo de su vida profesional, puso énfasis en posicionar a la psiquiatría como una ciencia clínica con una fuerte base empírica. Él prefirió actitudes y argumentos pragmáticos, subestimando así los supuestos filosóficos de su obra. En cuanto a la nosología, su hipótesis central es la existencia y accesibilidad científica de "entidades patológicas naturales" (*natürliche Krankheitseinheiten*) en la psiquiatría. A pesar de la crítica contemporánea a la que él se refería, este concepto se mantuvo en el centro del pensamiento de Kraepelin y por lo tanto configuró de manera importante su nosología clínica.*

La tradition kraepelinienne

*Émil Kraepelin (1856-1926) est une personnalité marquante de l'histoire de la psychiatrie en tant que science clinique. Cet article, après une brève présentation de sa biographie, analyse les bases conceptuelles de sa compréhension des maladies mentales et suit cette ligne de pensée jusqu'au « Néo-Kraepelinianisme » de la fin du XXe siècle, comprenant des critiques récentes, en particulier de la dichotomie nosologique des psychoses endogènes. Tout au long de sa vie professionnelle, Kraepelin a mis l'accent sur le développement de la psychiatrie comme une science clinique étayée par un empirisme fort. Il préférait les attitudes et les arguments pragmatiques, sous-estimant donc les présuppositions philosophiques de son travail. Comme pour la nosologie, son hypothèse centrale est l'existence et l'accessibilité scientifique des « entités pathologiques naturelles » (*natürliche Krankheitseinheiten*) en psychiatrie. Malgré la critique contemporaine qu'il a commentée, cette idée est restée au centre de la pensée de Kraepelin et a donc profondément façonné sa nosologie clinique.*

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