Kraepelin's Psychiatry

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Age 30 - 1886

Age 65 - 1921

TABLE 1. Biographical Highlights: Emil Wilhelm Magnus Georg Kraepelin, MD

Year	Age	Event[17,43,66–71]
1856		Born 15 February (Neustrelitz in Mecklenburg in northern Germany), as 7th child of Karl Wilhelm Kraepelin (1817–82, who is alcoholic and abusive, and abandons family when Emil is 6 years old) and Emilie Dorothea Lehmann (1819–96)
		Close relationship with brother Karl (1848–1915), later professor of botany and zoology, who introduced Emil to psychology writings of Wundt
1862–74	6–18	School years in Neustrelitz
		Completes Carolinum high school
1874	18	Begins medical studies in Leipzig
		Leaves for initial military duty
1875–77	19–21	Continues medical studies in Würzburg
1877	21	Continues medical studies in Leipzig with Wilhelm Max Wundt (1832–1920)
		Awarded MD, University of Würzburg (thesis with Wundt on neural mechanisms; prize for psychiatry paper)
		Assistant (trainee) in psychiatry to Franz von Rinecker (1811–83) in Würzburg
1878–81	22–25	Psychiatry/neuropathology trainee in Munich with Johann von Gudden (1848–1931) (with leave to complete military duty in Neustrelitz [1879–80])
1880	24	First publication on proposed reforms of criminal justice system
1882	26	Clinical assistant (Leipzig) in neuropsychiatry with Paul Flechsig (1847–1929), but soon leaves or is dismissed
		Becomes engaged to marry
1882–83	26–27	Research fellow (Leipzig) with Wundt and clinical assistant to Wilhelm Erb (1840–1921)
		Achieves habilitation (based on a thesis) and is lecturer and Privatdozent in Leipzig
1883	27	Declines clinical position at Görlitz with Karl Kahlbaum (1828–99)
		1st edition of *Textbook* published (entitled *Compendium of Psychiatry*, encouraged by Wundt, dedicated to von Gudden)
1883–84	27–28	Lecturer/assistant with von Gudden (Munich)
1884	28	Staff psychiatrist, Schlesi Asylum at Leubus in Silesia
		Marries Ina Schwabe (1855–1944), also from Neustrelitz, on 4 October
1885	29	Staff psychiatrist, regional general hospital in Dresden
		First daughter Marie dies shortly after birth in November
1886–91	30–35	Professor of psychiatry and director of University Psychiatric Hospital, Dorpat (now Tartu), Estonia

Trede et al HARVARD REVIEW PSYCHIATRY 2005;13:155–178

1887	31	Second daughter Antonie born (later becomes a psychiatrist, directs an inpatient unit in Munich, cowrites 8th edition of *Textbook* in 1909–13, and dies in 1962)
		2nd edition of *Textbook* published
1888	32	Third daughter Vera born, dies of diphtheria at 18 months in 1890
1889	33	3rd edition of *Textbook* published
1890	35	First son Hans born, dies of sepsis at 12 months in 1891
1891–1903	35–47	Professor of psychiatry, University of Heidelberg
1892	36	Published monograph on effects of drugs on mental processes
		Fourth daughter Eva born, lives until 1983
1893	37	4th edition of *Textbook* published
1894	38	Fifth daughter Ina born, lives until 1959
1896	40	Sixth daughter Hanna born, lives until 1972
		Founds *Psychologische Arbeiten* journal
		5th edition of *Textbook* published
1899	43	6th edition of *Textbook* published
1900	44	Second son Ernst (eighth and last child) born, dies in infancy
1903–04	47–48	Travels in Asia and South Pacific
		7th edition of *Textbook* published over 2-year period
1904–22	48–66	Professor of psychiatry, University of Munich
1908	52	First visit to United States (last in 1925, age 69)
1909–15	53–59	8th edition of *Textbook* published over 6-year period
1917	61	Founds the German Psychiatric Research Institute in Munich
1922	66	Retires to emeritus status
1926	70	Dies of pneumonia-influenza on 7 October
1927		9th (partial, posthumous) edition of *Textbook* published (with Johannes Lange [1891–1938])
1928		New Institute of Psychiatry opens in Munich (renamed the Max Planck Institute of Psychiatry in 1954)

Complexity I

- Kraepelin trained in neuropathology with Van Gudden.
- He trained in the new science of experimental psychology with Wundt.
- Wundt explicitly directed him into clinical psychiatry.

ABEL'S MEDICINISCHE LEHRBÜCHER.
PSYCHIATRIE
VON
Prof. Dr. E. KRAEPELIN.
ZWEITE AUFLAGE.
ABEL'S MEDICINISCHE LEHRBÜCHER.
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SIEBENTE AUFLAGE
II. BAND
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PSYCHIATRIE
ACHTE AUFLAGE
IV. BAND

“The Directions of Psychiatric Research” 1887

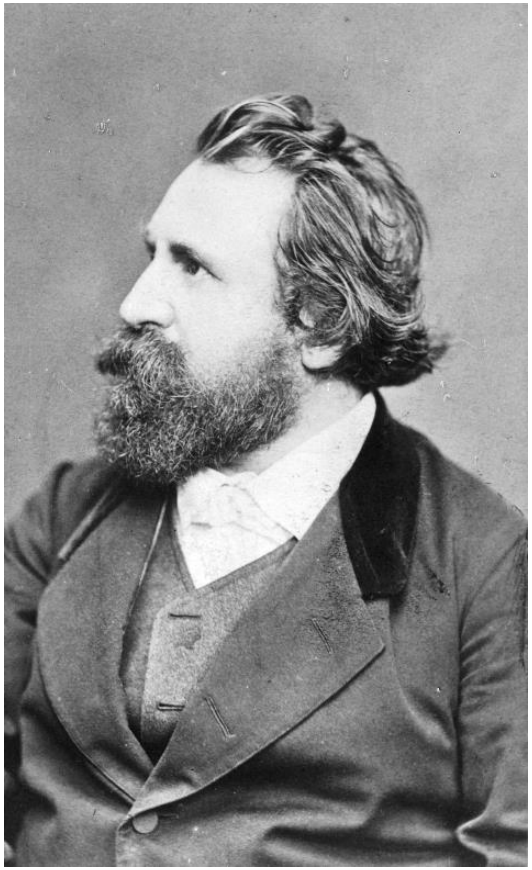
- EK’s Inaugural Lecture at the University of Dorpat at the age of 31.
- Been well translated into English: Kraepelin, E. (2005). The directions of psychiatric research. *History of Psychiatry*, *16*(3), 345-364.

“The Directions of Psychiatric Research” 1887

- The dominant influences in psychiatry in Germany/Austria at that time were Wilhelm Griesinger (1817-1868) and Theodor Meynert (1833-1892) who both advocated for relocating the focus of psychiatric research away from clinical studies in the mental asylums to university neuropathology laboratories.
- Kraepelin advocated reversing that trend – to focus on clinical work – but keeping that work in University Departments.
- In this lecture, Kraepelin also advocated the importance to psychiatry of the new field of empirical psychology, as developed by Wilhelm Wundt. I won’t further comment on that here.

Griesinger

Meynert



“The Directions of Psychiatric Research” 1887

- Let me quote, selectively, from Kraepelin’s comments:
- Griesinger … insisted that hopes for an expansion of psychiatric knowledge rested on the study of neurological diseases. Nevertheless, to date it cannot be said that our understanding of mental disorders has been significantly advanced by the results of pathoanatomic studies of the brain. Certainly, we have learned that tangible changes in neural tissue comprise the basis of certain nervous conditions accompanying specific forms of madness, especially paralysis... But beyond this, there are no definitive achievements for which psychiatry is indebted to pathological anatomy.

“The Directions of Psychiatric Research” 1887

…we are still a long way from our goal; further in fact, than it may appear at first glance. Accordingly, it is at this point that fantasy, unfettered by the uncomfortable shackles of fact, begins to overtake the slow pace of empirical research. .. Meynert’s school has not entirely escaped the ruinous consequences – to want immediately to move into and live in Meynert’s airily-constructed house, before its foundation has been securely laid and hard work has tightened up, one by one, the loose joints of his theory.

“The Directions of Psychiatric Research” 1887

Final paragraphs of his talk:

But one must not forget that similar …difficulties are not foreign to other medical disciplines. In fact, to this day medicine has yet to overcome all these issues fully. From this experience, we can derive real hope that in the not too distant future our science, the more it is able to escape the influence of theoretical speculation and fight its way towards sober observation and the registration of the facts, will really be able to produce a ‘*clinical science of mental disorders*.’

“The Directions of Psychiatric Research” 1887

The path to this goal must doubtless lead first to the most extensive differentiation of individual observations possible … Once we have thus carefully and scientifically surveyed all the different forms derived from psychiatric experience, then it will finally be possible, from a higher vantage point, which accounts for not just one but for all clinical symptoms, *to comprehend clearly the natural congruity and boundaries of specific disease manifestations*. *The first and immediate general problem of psychiatry will be resolved once its material has been sorted and grouped by clinical researchers*; the resolution of the second, much more important and difficult problem – tracing disease forms back to their pathological origins – needs the systematic cooperation of all the auxiliary sciences.

“The Directions of Psychiatric Research” 1887

- Conclusion of Kraepelin scholar Eric Engstrom:
  - “Kraepelin believed that neuropathologists had made two fundamental errors. First, they had been too eager to draw clinical conclusions from histopathological research. The result had been highly speculative claims about the causal linkage between psyche and soma. Second, Kraepelin criticized those brain-researchers who had blazed a trail into neuropathology, but who had never found their way back to psychiatry.” Engstrom, E. J. (2016). Emil Kraepelin’s inaugural lecture in Dorpat: contexts and legacies. *Trames*, *20*(4), 337-350.

“The Directions of Psychiatric Research” 1887

- To this I would add that Kraepelin then saw, through a glass darkly, the need for psychiatry, using an empirical framework, to gets it’s nosologic house in order. This was a necessary prerequisite for further progress in its “clinical science.”

Kraepelin the Nosologist

REAPPRAISAL

The evolution of Kraepelin's nosological principles

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(World Psychiatry 2020;19:381–388)

Kraepelin the Nosologist

- Emil Kraepelin developed a new psychiatric nosology in the eight editions of his textbook. He had three phases:
  - 1) editions 1-4, in which he describes nosological principles in search of data;
  - 2) editions 5-7, in which he declares the mature version of his nosological principles and develops new disease categories;
  - 3) edition 8, in which he qualifies his nosological claims and allows for greater differentiation of psychiatric disorders.
- Kraepelin's nosology is grounded in three principles.
- First, *psychiatry, like other sciences, deals with natural phenomena*.
- Second, *mental states cannot be reduced to neural states, but science will progress and will, ultimately, reveal how nature creates abnormal mental states and behavior*.
- Third, *there is a hierarchy of validators of psychiatric diagnoses, with the careful study of clinical features (signs, symptoms and course) currently being more important than neuropathologic and etiological studies*.

Kraepelin the Nosologist

- EK's 6th edition usually gets more attention – contained his mature descriptions of both DP and MDI
- But conceptually, his 5th edition represented more of a watershed.
- In the forward to this edition, he wrote
  - In the development of this book, the current edition means the last decisive step *from a symptomatic to a clinical perspective of insanity.* All pure 'clinical pictures' have thus disappeared from the nosology.
- That is, he replaced "symptom complexes" with disease concepts.
- Course and outcome became his primary validators:
  - As soon as we are able to predict, based on the current condition of a patient, the most likely further development of his affliction with a degree of certainty, *then the first important step towards a scientific and practical command of the clinical picture has occurred.*

Kraepelin the Nosologist

- These ideas, however, did not arise de novo, but were strongly influenced by Karl Kahlbaum and Ewald Hecker. From the 1860–1880s, they articulated a paradigm shift in the conceptualization of psychiatric diagnosis, from symptom-based syndromes, popular since the late 18th century, to proto-disease entities. This effort was influenced by parallel developments in general medicine, especially the rise of bacterial theories of disease where different syndromes had distinctive symptoms, courses, and etiologies. Their thinking was particularly shaped by the increasing understanding of general paresis of the insane.
- Kendler KS, Engstrom EJ. Kahlbaum, Hecker, and Kraepelin and the Transition from Psychiatric Symptom Complexes to Empirical Disease Forms. American Journal of Psychiatry. 2017;174(2):102-9.

Kraepelin the Nosologist

- He asserted a causal structure for psychiatric disorders and the special role of clinical observation:
  - In the course of mental illness, the same causes also have to have the same effects everywhere. If we encounter, as we so often do, seeming deviations from this law, then, without a doubt, either the causes or the effects have not really been the same. Once we have managed to process clinical knowledge to such an extent that we can construct clinical groups with particular causes, symptoms and courses, it will become our task to penetrate the essence of individual pathological processes

Kraepelin the Nosologist

- In making the point about the meager results of patho-anatomic research, Kraepelin concluded that scientific research in psychiatry should be conducted
  - … not just on the somatic conditions of the cerebral cortex, but also the mental manifestations of those conditions. In this way we obtain two closely intertwined, but fundamentally incomparable strands of evidence of somatic and mental phenomena. The clinical picture is a product of the causal relationship of these strands to one another.

Kraepelin the Nosologist at Work

- How did Kraepelin's major nosologic categories (e.g., dementia praecox and manic-depression insanity) emerge? Was it a single ex cathedra moment of insight?
- I did a deep dive into the relevant texts on the development of DP in 4 papers from 2018 to 2020:

- 1. Kendler KS. The Development of Kraepelin's Mature Diagnostic Concepts of Paranoia (Die Verrucktheit) and Paranoid Dementia Praecox (Dementia Paranoides): A Close Reading of His Textbooks From 1887 to 1899. *JAMA Psychiatry.* 2018;75(12):1280-1288.
- 2. Kendler KS. The development of Kraepelin's mature diagnostic concept of hebephrenia: a close reading of relevant texts of Hecker, Daraszkiewicz, and Kraepelin. *Mol Psychiatry.* 2020;25(1):180-193.
- 3. Kendler KS. The Development of Kraepelin's Mature Diagnostic Concept of Catatonic Dementia Praecox: A Close Reading of Relevant Texts. *Schizophrenia Bulletin.* 2020;46(3):471-483.
- 4. Kendler KS. The Development of Kraepelin's Concept of Dementia Praecox: A Close Reading of Relevant Texts. *JAMA Psychiatry.* 2020;77(11).

Kraepelin the Nosologist at Work

Focus here on his development of the concept of DP:

He was a model builder and conceptual tester.

He typically asked his students to do thorough reviews of critical areas.

The start of his working on his DP concept was the concept of Hebephrenia from Hecker.

While still at Dorpat, he asked Daraszkiewicz to review the field.

For catatonia, his starting point was Kahlbaum's monograph on catatonia. While still at Dorpat, he asked Behr to do a monograph on catatonia.

Over multiple editions of his textbook, he worked and reworked different nosologic structures.

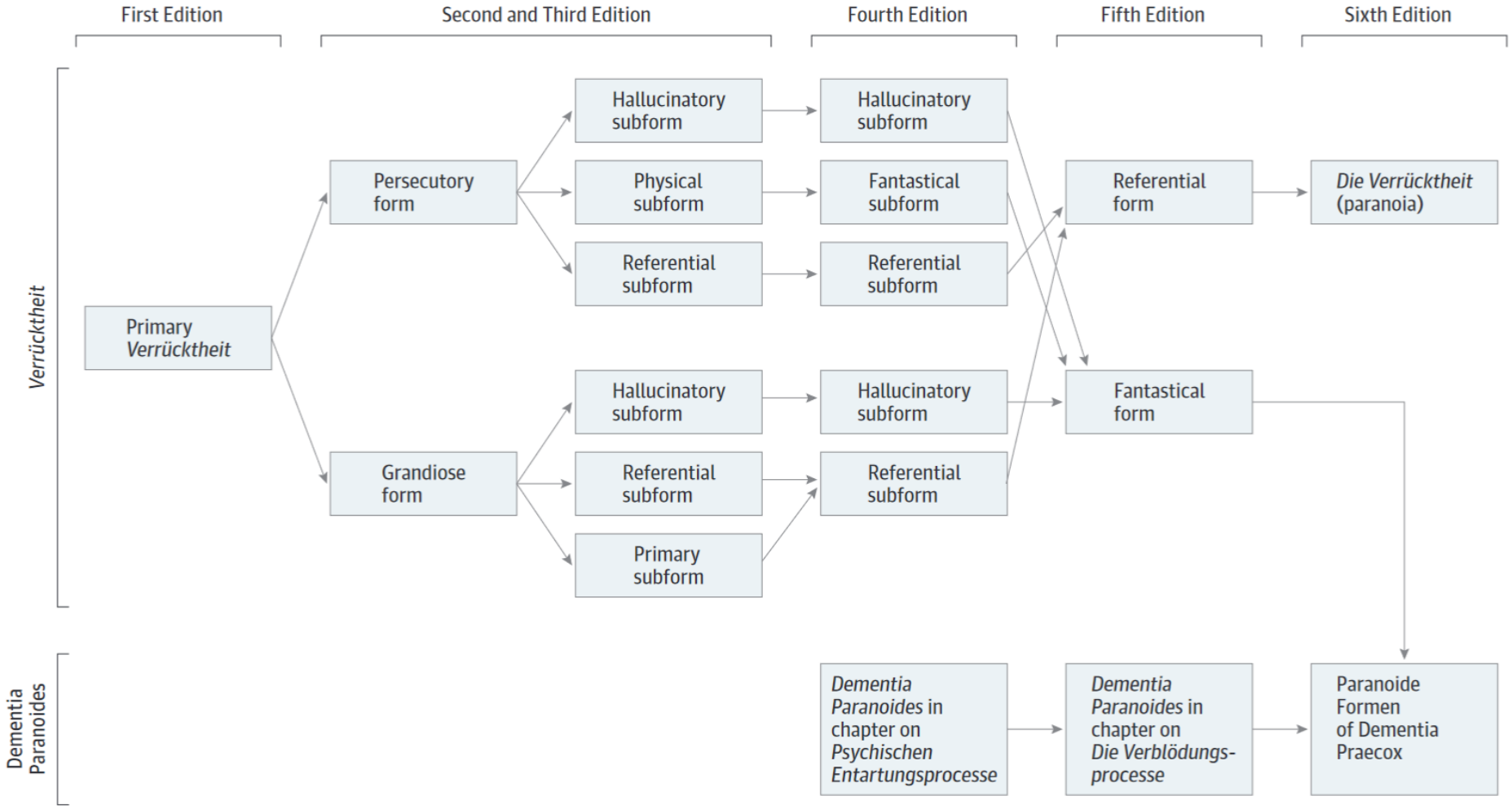
Kraepelin the Nosologist at Work

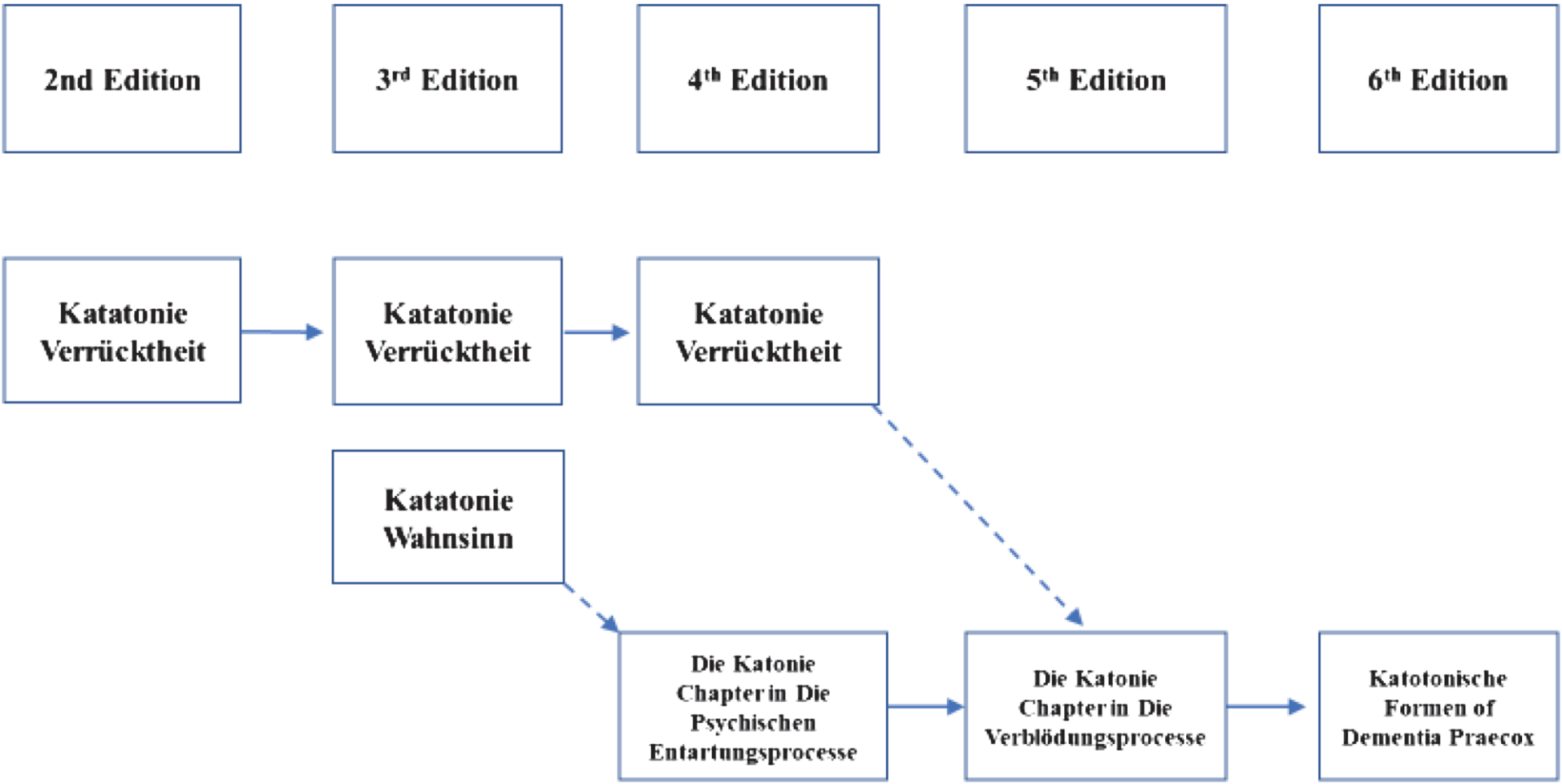
- Only Dementia Paranoides evolved as a result of taking a broad diagnostic concept from the early 19th century – monomania/Verruckheit – and over several successive editions – dividing it into paranoia and dementia paranoides.

- In 1896, at the Annual Conference of the Association of German Psychiatrists in Heidelberg on “Goals and Paths of Clinical Psychiatry,” he said

- The difficulty…lies in distinguishing what is significant from what is coincidental in each clinical picture….More detailed analysis teaches us to recognize very important differences between disturbances which are externally very similar…. The consideration in all instances of the further course and outcome allows what is essential and fundamental of individual clinical processes to emerge clearly…, it could be possible that different processes lead to the same end…. [and] the same process could lead to different outcomes…the most important result of this research [was] the particular singling out *of the dementing processes*. This does not concern the coincidental, “secondary” outcomes of other, simple mental disturbances, but the outcome in mental weakness is certainly predestined from the outset, *as in paralytic dementia.*

Figure. A Schematic Diagram of Emil Kraepelin's Diagnostic Approach to Nonaffective Delusional Psychoses From the First Through the Sixth Editions of His Textbook




2nd Edition
3rd Edition
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Katatonie Verrücktheit
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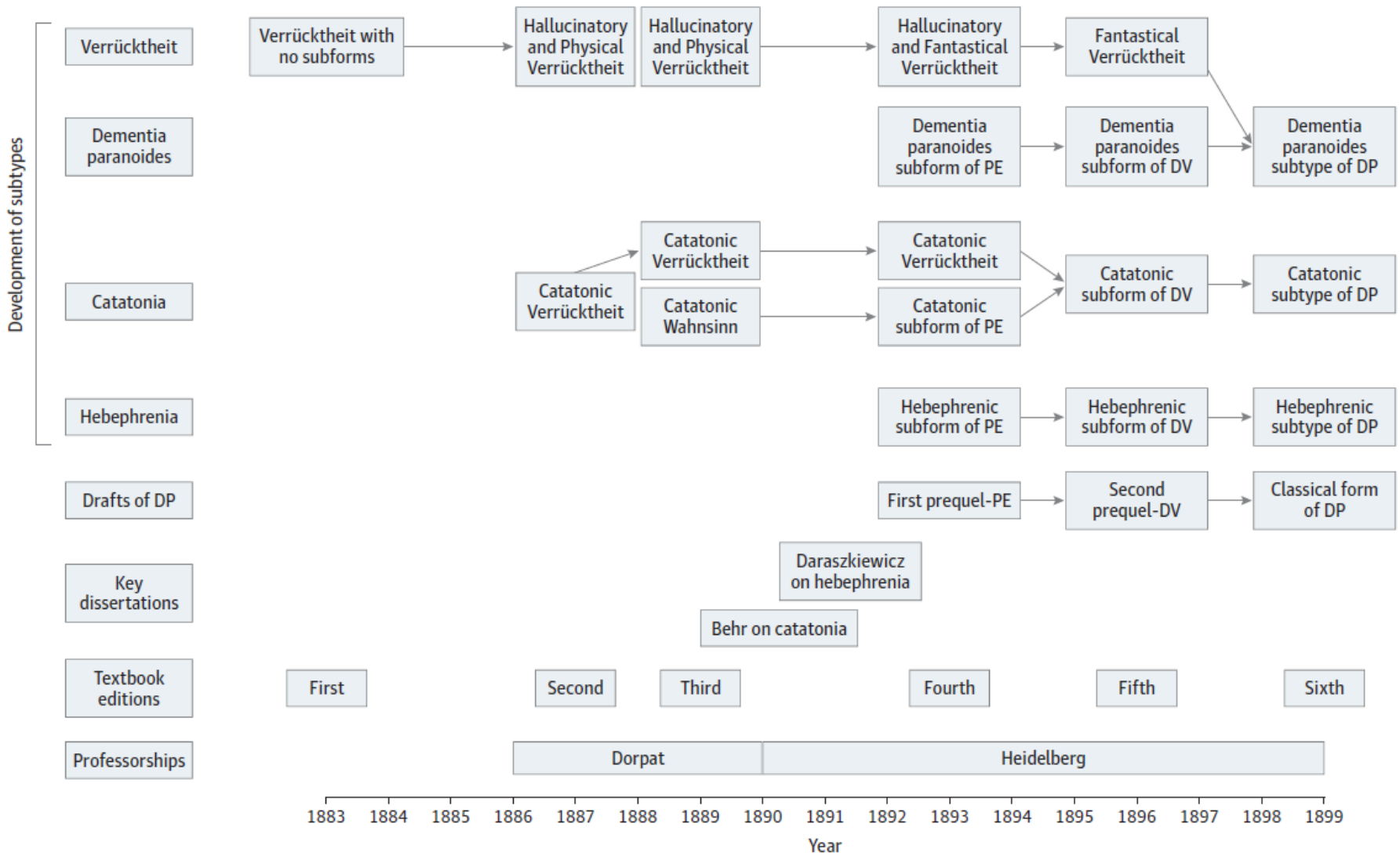
Die Katonie Chapter in Die Psychischen Entartungsprocesse
Die Katonie Chapter in Die Verblödungsprocesse
Katotonische Formen of Dementia Praecox

Figure. Development From 1883 to 1899 by Emil Kraepelin of His Classical Formulation of Dementia Praecox (DP) in His Sixth Edition



PE- Psychische Entartungsprocesse - The Processes of Mental Degeneration
DV - Verblödungsprocesse - Dementing Processes

EK's Empirical Approach to the Resolution of Nosologic Questions

Contents lists available at ScienceDirect

Journal of Affective Disorders

journal homepage: www.elsevier.com/locate/jad

Review article

Dreyfus and the shift of melancholia in Kraepelin's textbooks from an involutional to a manic-depressive illness

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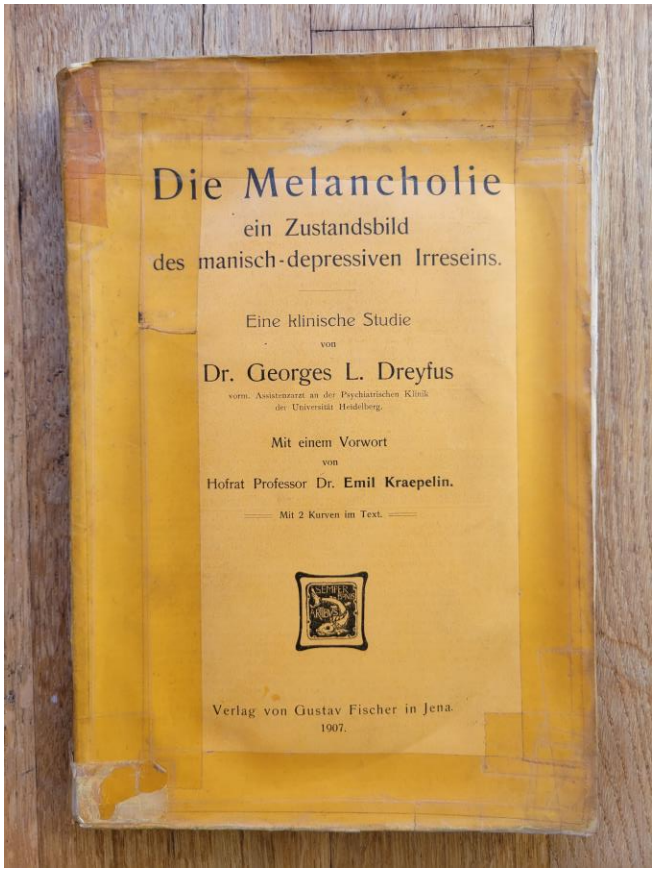
The Dreyfus Monograph

- In Kraepelin's 1899 6th textbook, wherein he first articulated his mature concept of manic-depressive insanity (MDI), "Melancholia" was not part of MDI but remained a separated disorder in the Involutional Disorders chapter.
- This distinction was based on symptoms, course of illness and outcome, and was viewed critically by a number of prominent psychiatrists.
- In 1904, Kraepelin asked the Swiss-Jewish Psychiatrist George Dreyfus, who had been trained at Heidelberg under Franz Nissl Kraepelin's close colleague, to undertake a follow-up study of all the cases he had diagnosed as IM while working in Heidelberg from 1892 to 1903.
- The results of Dreyfus's investigation were published in 1907 as a 329-page monograph entitled "Melancholia: A Picture of Manic-Depressive Insanity. A Clinical Study".

The Dreyfus Monograph

- Kraepelin wrote this in the introduction:
- “My colleague Dreyfus has undertaken the equally difficult and rewarding task of researching the fates of the patients who, since 1892, were diagnosed with melancholia at Heidelberg. Even if only some of these patients are still alive, his research has in a decisive way largely brought clarity to the much-disputed question of the clinical significance of melancholia.”



The Dreyfus Monograph

- Dreyfus studied 82 cases diagnosed with IM. He concluded from a detailed review of prior records and from a personal follow-up on 46 patients, 34 of whom he personally interviewed, that the course and outcome was entirely consistent with MDI. Many had prior MD episodes from which they recovered. Nearly all of the poor outcomes noted initially by Kraepelin were the result of inadequate follow-up periods or arteriosclerotic brain disease. He concluded that IM from the perspectives of symptoms, course and outcome, were typical examples of MDI.
- Kraepelin changed his mind and IM were incorporated into MDI in his 8th edition.
- Here is how he summarized this story in his autobiography:

The Dreyfus Monograph

- … I believed that it was necessary to separate another special melancholic disease from the manic-depressive state. … This observation later proved to be misleading… More important was the fact that quite a few depressions during old age led not to recovery, but to dementia and did not have the generally favorable prognosis of manic-depressive diseases. Only much later, as a result of Dreyfus's follow-up investigations, did it become clear that this did not necessarily apply to all cases. For one, a number of apparently incurable melancholic patients did finally recover… But in the cases which could not be cured, arteriosclerotic or senile changes sometimes occurred … ((Kraepelin, 1987) p. 66).

Final Reflections

- Finally, we turn to Kraepelin's most important of his final set of essays, this one, published in 1920, six years before his death.

EXPERT REVIEW

Check for updates

"Manifestations of insanity": Kraepelin's final views on psychiatric nosology in their historical context

Stephan Heckers[1✉], Eric J. Engstrom[2] and Kenneth S. Kendler[3]

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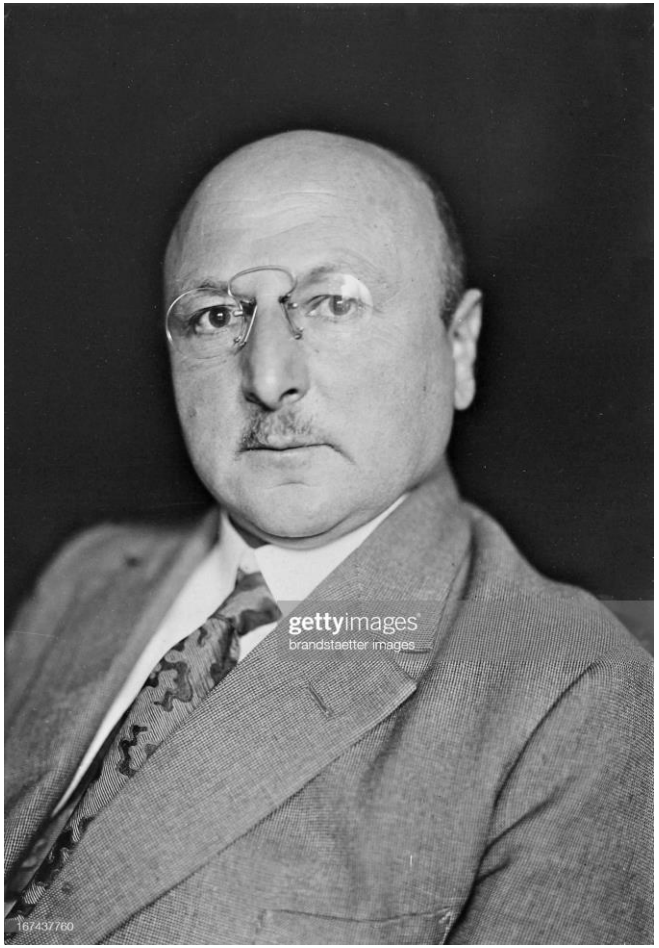
Emil Kraepelin, more than any other individual, has shaped the nature of our psychiatric diagnostic system. Kraepelin published his final contribution to psychiatric nosology as an essay in 1920, which both modified and explicated the conceptual foundation for this approach to diagnosis. This essay was a response to a new generation of psychiatrists, particularly Karl Jaspers, Karl Birnbaum, and Ernst Kretschmer, who each challenged Kraepelin's view that psychiatric disorders represent natural kinds, (i.e., truly distinct entities). They had argued for a structural analysis of psychosis stressing the impact of unique, personal attributes on the causes and clinical presentations of mental diseases. The authors give this text a close reading and conclude that it offers a final nuanced description of Kraepelin's advanced nosologic views and his emerging interest in life history and culture. Kraepelin held fast to his position that psychiatric disorders represented distinct natural kinds, but acknowledged that the distinctions between them were often obscured by personality, life experiences, and/or cultural effects. Kraepelin used several metaphors to illustrate his final views, that of an "organ register" being the most prominent. Psychiatric disorders, he postulated, belong to three registers, each with its own distinct clinical features and putative brain-based mechanisms. Published a century ago, this final synthesis of Kraepelin's views, a capstone to his career, raises central issues about the nature of psychiatric illness and the appropriate goals for psychiatric nosology. They are fertile issues for psychiatric research and practice today.

Molecular Psychiatry (2022) 27:328–334; https://doi.org/10.1038/s41380-021-01232-9

Bottom Line

- Challenging essay.
- Should be read and pondered by anyone with an interest in the origins of our psychopathological concepts.
- He responded to the recent work and criticisms of his nosology by two major figures *Birnbaum* and *Kretschmer.*

Karl Birnbaum
1878-1950



Ernst Kretschmer
1888-1954

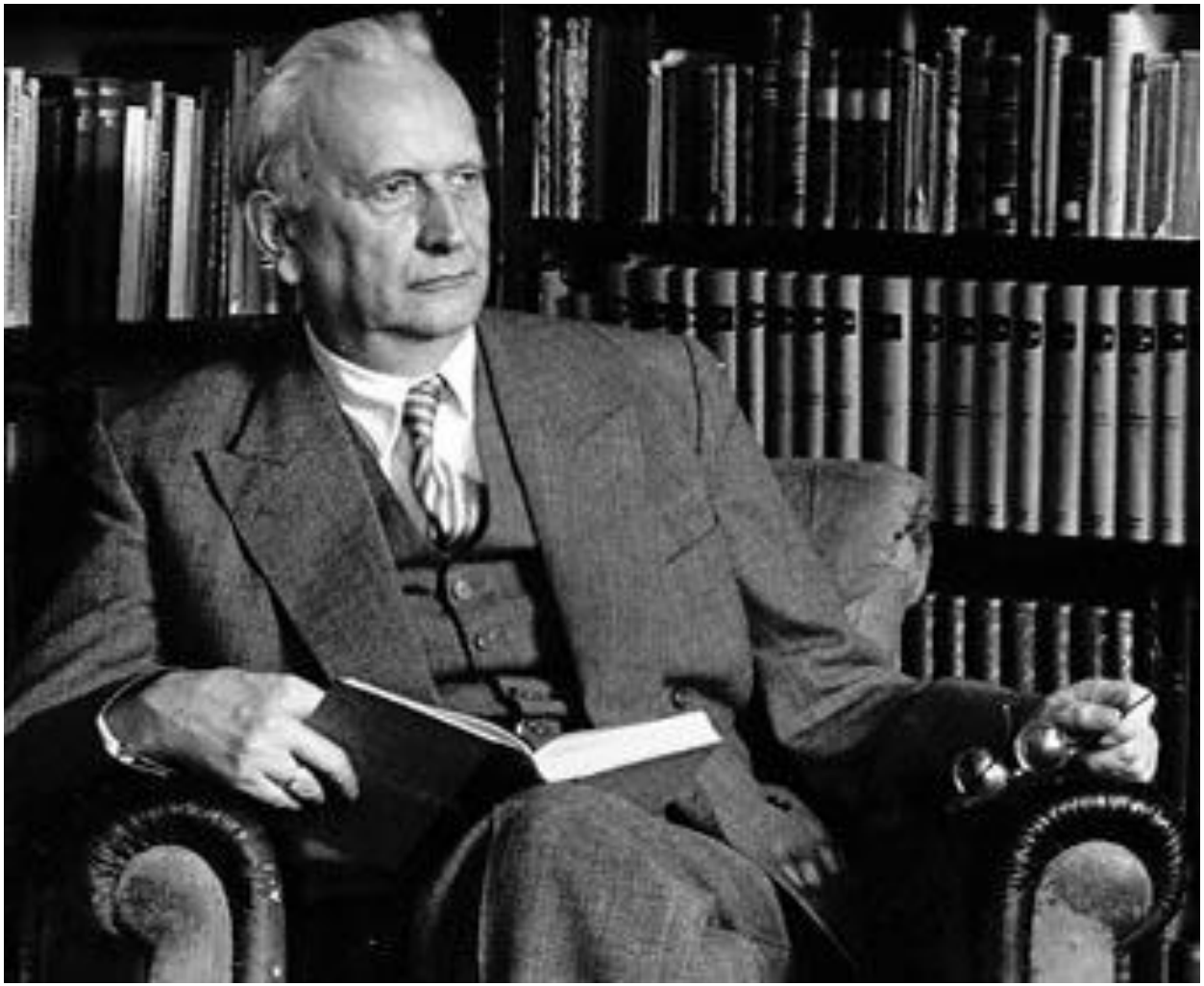
Bottom Line

- Birnbaum argued that some features of psychiatric illness likely directly reflect etiologic influences (pathogenic), others are a result of personal developmental, psychological and cultural influences (pathoplastic). Kraepelin agreed, writing
- It seems absurd to propose that neurosyphilis causes patients to believe that they are the proud possessors of cars, mansions, or millions of pounds. EK
- Kretschmer, in his monograph on “Sensitive Delusions of Reference,” emphasized the importance of psychological factors and traumas in the onset of psychotic illness.

Complexity

- Kraepelin acknowledged these points. He agreed that the pathway from etiology to clinical manifestations of illness was likely considerably more complex than he had assumed earlier in his career.

Karl Jaspers 1883-1969



Karl Jaspers

- Jaspers argued a different point. Whiiel endorsing EK's paradigm of nature disease in theory, he saw it as an unachievable goal.
  - The idea of the disease unit is actually … a task whose goal is impossible to achieve since the goal lies in infinity; [but a task] which nevertheless shows us the fruitful direction of research and which is a true point of orientation for empirical individual research.

Complexity

- Kraepelin drew the line here.
- The greater complexity of the etiologic pathway to clinical signs and symptoms was no reason, in his view, to abandon the hope that careful clinical research can discover and refine, as natural kinds, the major forms of psychiatric illness.

Kraepelin as a Research Leader

- Life dream to establish a Psychiatric Research Institute
- Able to fulfill this in Munich in 1917. German Institute for Psychiatric Research. He developed the following “laboratories”:
- Neuropathology - Alzheimer, Nissl, Brodmann, Spielmeyer, Creutzfeldt.
- Serology/Immunology – Plaut

Kraepelin as a Research Leader

- Genetics – Rüdin
- Experimental Psychology – Kraepelin, Isserlin
- Chemistry – Spielmeyer
- Hippius H, Möller HJ, Müller N, Neundörfer-Kohl G.
  - *The University Department of Psychiatry in Munich: From Kraepelin and his predecessors to molecular psychiatry.* New York: Springer; 2008.
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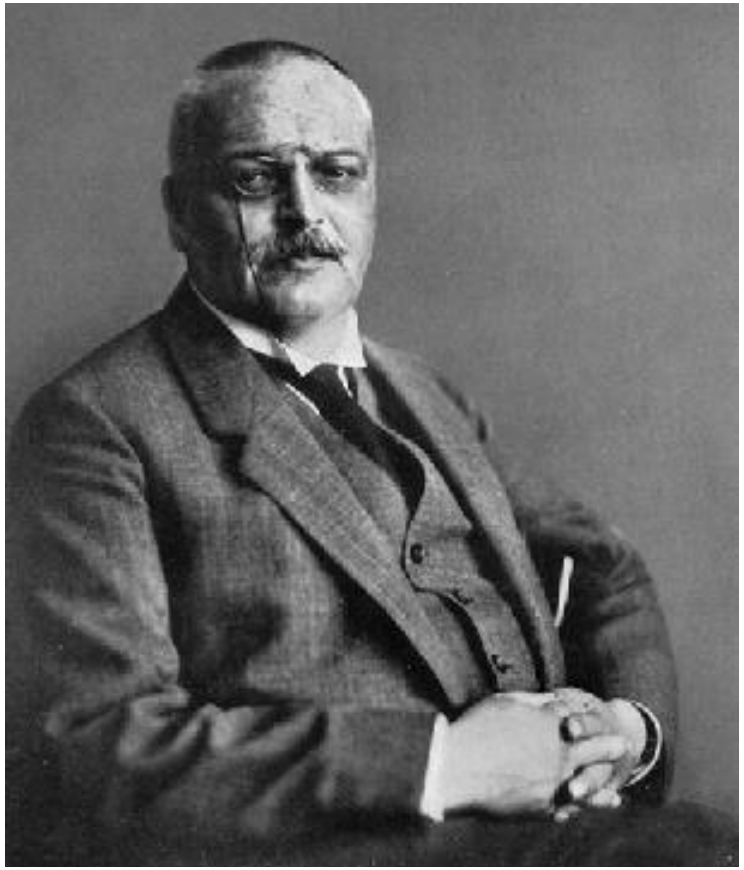
Alois Alzheimer
1864-1915



Felix Plaut
1877-1940

Finally, Kraepelin as a Research Leader

- While early in his life, he rejected neuropathology as a major way forward, as a distinguished professor establishing a research institute, he strongly supported this line of work.
- While in his lifetime, he focused on what he saw as the primary task of his generation – to discover and define the major forms of psychiatric illness – his long-term vision for psychiatry was a multi-level pluralistic one.
- Kraepelin, contrary to Freud, did not found a “Kraepelin School.” Rather, he directed a diverse research institute.

Kraepelin Summary

- At age 30, EK rejected the neuropathological approach toward psychiatric research in favor of his clinical paradigm.
- At age 40, he moved, as influenced by Kahlbaum and Hecker, toward a disease concept of nosology away from a symptom dominated approach.

Kraepelin Summary

- His approach to nosology from his 1st to 6th edition (and on) was to proposed drafts and evaluate them informally with more thought and data. He frequently reworked his concepts.
- At times, he more formally sought specific data to decide nosologic questions.

Kraepelin Summary

- In his older age he moved from a “hard” to a “softer” (or fuzzier) natural kinds view of psychiatric illness.
- Very interestingly, because of his status, and financial savvy, when we got to fulfill his dream of establishing a psychiatric research institute…

Kraepelin Summary

- He did not just fund more of his own clinical-style research. He didn’t found a “Kraepelin school”, as did Freud.
- Rather, he invested in a diverse research program including brain pathology, genetics, serology and psychology.
- So, he had a broad multi-level vision of psychiatric research.

Complexity

- Kraepelin, for obscure reasons, is often viewed in US Psychiatry as a hard-core, reductionist biological psychiatrist.
- Couldn’t be further from the truth.
- As his main life’s work, he rejected the biological psychiatry of his age, turning instead to clinical, longitudinal research.

Complexity

- He rejected the simplistic unitary psychosis model prominent in mid 19th century Germany.
- He recognized the clinical complexity of psychiatric disorders, turning away from simplistic models of nosology by symptoms toward a more ambitious project of carving out disorders.

Complexity

- Later in life, he recognized additional complexity in the nature of the clinical phenomenon he had so carefully studied – pathogenic vs pathoplastic features and the role of environmental stressors.
- When he had the influence and financial backing to establish his research institute – it was based on a pluralistic paradigm of studying psychiatric illness at many levels.

Acknowledgemetns

- Astrid Klee MA – German translator
- Stephan Heckers MD PhD – for many hours of fertile discussion.

Possible Paradigms for Kraepelin and Wernicke

- For Kraepelin, his paradigm for a psychiatric disorder was GPI – diagnosis robustly predicted course. Etiology, clinical signs, brain pathology, course all aligned. A clear nature kind.
- For Wernicke, it was receptive aphasia. Neworks fairly clear. Gross pathology easy to see. A network can be relatively clearly described which can predict the symptoms.

Paradigms for Kraepelin and Wernicke

- For neither figure did these paradigms fully work out. DP was not as clear a natural kind as GPI. His etiological theories – focused on auto-intoxication, did not work out well. The clear sensory, motor, and processing networks that Wernicke felt he identified for aphasia where not so easy to identify for diverse psychotic disorders.