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Standing on the Shoulders of Pinel, Freud, and Kraepelin: A Historiometric Inquiry into the Histories of Psychiatry

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Abstract

History of psychiatry can provide us with a map of the evolution of the practice and identify its major figures. A historiometric approach was taken to available history of psychiatry texts and a historical dictionary. Reliability was tested against data from the journal *History of Psychiatry*. Those cited in all historical accounts are characterized as major figures, while those cited in at least 60% of the sources are considered significant figures. An index of eminence is calculated for each significant figure. The Cronbach's alpha was .89. Seventy-four significant figures were identified, of which eighteen are considered major figures. Among these, Freud, Pinel, and Kraepelin have the highest eminence – respectively. Pinel, Freud, and Kraepelin represent key moments in three epochs in the history of psychiatry: the asylum era, the first biological psychiatry, and the psychoanalytical period, respectively. The most recent historical periods are not well represented yet in histories of psychiatry.

Introduction

The study of history of psychiatry can not only demonstrate how far we've come in the care of those with mental disorders, but also how we got to the present state of the field as well as who was responsible for some of its main contributions. As such, the history of psychiatry has been studied under many different lights and has been marked by significant disagreement on its overall arch. At times, some historical accounts tell the story of a benign progress towards a more humane and sound way to care for those with mental disorders – see the classic books by Gregory Zilboorg (Zilboorg and Henry 1941) and Franz Alexander (Alexander and Selesnick 1966), both psychiatrists – while in other accounts psychiatry can be seen as part of a major societal structure to control behavior – see the work by the French philosopher and historian Michel Foucault (Foucault 1973). Given this state of conflicting views, and strong opinions, is there a way to try to organize the main contributions to psychiatric practice and generate a list of significant figures one can use to guide students and residents in understanding the historical roots and paths that has shaped the way we practice today? Can we use a quantitative method to identify, and rank, those eminent figures in the history of psychiatry?

In his book *Human Accomplishment: The Pursuit of Excellence in Arts and Sciences* (Murray 2003), scholar Charles Murray overviews the main contributions to human

endeavors in the arts and sciences, and uses a modified historiometric technique, first proposed in Francis Galton's 1869 book *Hereditary Genius*, to measure eminence within the respective fields of human activity. The historiometric approach has evolved over time and provides a way to quantify historical contributions (Simonton 1984) and has been used in a variety of topics from music (Simonton 1998), to research productivity (Nader, Pietschnig et al. 2012), to leadership (Ligon, Harris et al. 2012). With the proper adjustments, proceeding with caution, and being aware of the limitations of this approach, it is possible to use major reference works to first, identify major and significant figures across different areas of human activities, and second, estimate the relative impact of these figures within that field throughout history. These specific ranks and scores are calculated to stimulate interesting discussion and are not meant to be a precise measure of such subjective construct as eminence.

Using this historiometric approach, the present study aims to identify major and significant figures in the history of psychiatry and estimate their respective eminence in its evolution.

Methods

Sources: To be included in the analysis a source needed to be a general history of psychiatry, thus excluding those related to the history of psychiatry in specific locations (Gabriel 1997), or subspecialties, like the history of psychopharmacology (Healy 2002) or the history of psychoanalysis (Ellenberger 1970). Sources were also excluded if they restricted their narrative to a specific time period, like the Victorian Age (Scull 1981) or imperial Germany (Engstrom 2003). As such, the following nine narratives were included, listed in chronological order of publication: "A History of Medical Psychology" by Gregory Zilboorg, published in 1941 (Zilboorg and Henry 1941); "A History of Psychiatry" by Jerome Schneck, published in 1960 (Schneck 1960); "The History of Psychiatry" by Franz Alexander and Sheldon Selesnick, published in 1966 (Alexander and Selesnick 1966); "A Short History of Psychiatry" by Erwin Ackerknecht, second edition, published in 1968 (Ackerknecht 1968); "World History of Psychiatry" by John Howells, published in 1975 (Howells 1975); "Discovering the History of Psychiatry" by Mark Micale and Roy Porter, published in 1994 (Micale and Porter 1994); "A History of Psychiatry: From the Era of the Asylum to the Age of Prozac" by Edward Shorter, published in 1997 (Shorter 1997); "Madness, a brief history" by Roy Porter, published in 2002 (Porter 2002); "History of Psychiatry and Medical Psychology" by Edwin Wallace and John Gach, published in 2008 (Wallace and Gach 2008). Anyone with an individual biographical entry in the Historical Dictionary of Psychiatry (Shorter 2005) was also included in the parent list. The number of citations in the journal History of Psychiatry for each figure was also surveyed for reliability testing. A correlation matrix on the number of citations across these ten sources, along with a Cronbach's alpha, for reliability measures are calculated.

Significant figures: an initial parent population is derived by examining the index of each identified source and listing each name, as well as those having an individual biographical entry in the historical dictionary of psychiatry. In order to be categorized as a significant figure a person had to be named in over 50% (six or more) of sources.

Major figures are those considered crucial to understanding the development of psychiatry. We used the most conservative measure to identify major figures, i.e. in order to be considered a major figure a person had to be mentioned in all included sources.

Measuring eminence: for the general narratives in history of psychiatry, the index was consulted and the number of pages for each figure entered; that number was then divided by the number of pages in the source as a weighting procedure. So, Freud is cited in 23 pages in Schneck's book that has 196 pages, yielding a score of .117 – which may be interpreted as 11.7% of the book. The narratives were summed into one index score. Then the top index score, in this case Freud, was converted into 100 and all other scores were divided by Freud's crude index score and multiplied by 100. That final percent score is the eminence score calculated for each significant figure.

Reliability measures: For the journal History of Psychiatry, electronic searches were conducted with the complete name of each figure – as listed in the roster - and the number of papers listed was used as the base for the eminence estimation for reliability testing; for example, in the journal Pinel returned 155 results, Freud returned 144, and Kraepelin 131.

Results

The parent population, those cited multiple times in the sources, included 194 individuals. A correlation matrix for the index scores was calculated and is presented in **table 1**, along with the correlation with the number of citations in the journal History of Psychiatry. The correlations ranged from .38 (Alexander/Howells) to .77 (Ackernecht/Zilboorg). The Cronbach's alpha for the included nine sources was .89 suggesting that the items have relatively high internal consistency. Two sources were not available in hard copies (Howells 1975, Micale and Porter 1994) and the eminence score was calculated using the Google Books web-based tool and counting how many pages each name retrieved – to test the reliability of this method one hardcopy source was randomly chosen to be checked against this technic yielding a correlation coefficient of .71, $p < .0001$. There is a negative correlation between year-of-birth and the eminence scores (correlation -.12) which points to the ranking favoring older figures, however it was not statistically significant ($p = .19$).

A total of seventy-four figures were cited in at least six sources and were categorized as a significant figure. The roster of significant figures is presented on appendix 1. Only eighteen figures were cited in every source, thus considered major figures, and they are presented in **table 2** along with brief information on their contribution, national origin, and lifespan. If a broader definition, i.e. those cited in 90% of sources, yielded a roster of 30 major figures so defined.

A graph with the comparative eminence index for all 18 major figures is presented in **figure 1**. The measures of eminence did not correlate perfectly with the categorization of major figures, as some figures are given significant attention by specific sources and are not cited at all by others. Among the top 18 in the eminence measure there are five that are not major figures: Weyer, Adolf Meyer, Franz Alexander, Michel Foucault, and Eugen Bleuler. This indicates these figures are extensively discussed in some historical accounts but are not

universally cited to be categorized as major figure – see appendix table for complete ranking, by eminence, of all significant figures.

None of the major figures, and only three of the significant figures, were women; they were: Anna Freud, Dorothea Dix, and Melanie Klein. Only three significant figures were born outside Europe or the United States: Aretaeus of Cappadocia (modern day Turkey), St Augustine from Numidia (modern day Algeria), and the Iranian philosopher and physician Avicenna. In contrast, 40 (54%) of the 74 significant figures come from German speaking nations: twenty from Germany, ten from Austria, and six from Switzerland – plus four from Hungary which for most of the time covered in the study was part of the Austro-Hungarian Empire, whose capital Vienna features prominently in any history of psychiatry. Following the Germanic nations, in number of significant figures, is the United States, with nine, France, with eight, and England with seven – plus two from Scotland; the remainder come from Italy, with Chiarugi, Lombroso, and Cerletti, Portugal, with Moniz, and Russia, with Pavlov. Eight (10.8%) of the significant figures migrated from their places of birth: Anna Freud from Austria to England, Melanie Klein from Austria to England and then to the United States, all the others migrated to the US, Adolf Meyer from Switzerland, Franz Alexander, Thomas Szasz, and Laszlo Von Meduna, from Hungary, and Erik Erikson from Germany.

Discussion

In a survey of sources on the history of psychiatry we found seventy-four figures cited in the majority of sources, considered significant figures, and within those, eighteen individuals included in every single narrative, considered major figures. Among the major figures, Sigmund Freud holds the first place on eminence, followed by Philippe Pinel, in second, and Emil Kraepelin, in third. In fact, these three figures may be considered giants in the field, as one of them was always at the top in every historical source - Pinel tops five sources (four books plus the journal rankings), Freud tops four, and with Kraepelin topping one.

The history of psychiatry seems to follow several general trends coalescing in major epochs. Each one of the identified giants – Pinel, Kraepelin, and Freud – represents the one of the first three historical epochs.

The first epoch, starting in the mid 1700's focused on the taking over of the asylums by physicians with Philippe Pinel (born 1745) in France being the most significant figure albeit not the first, for William Battie (b. 1703) founded the St. Luke's hospital for Lunatics in 1750, nor the only one – one can find Samuel Tuke (b. 1784) in England, Vincenzo Chiarugi (b. 1759) in Italy, and Benjamin Rush (b. 1746) in the US, proposing similar approaches.

That takeover of the asylum by physicians opened the door to the second epoch, referred to by Shorter as “The First Biological Psychiatry” era, dominated by German academic psychiatry. The apex of that movement was the systematization of psychiatric nosology by Emil Kraepelin (b. 1856) in Munich.

The third epoch saw a movement out of the asylum towards those with anxiety and mood disorders, using talk therapy championed by the Sigmund Freud (b. 1856). The figure of

Freud casts a long shadow in psychiatric history and to this day his legacy is debated, with opposing camps passionate about his overall net impact.

The fourth epoch in psychiatric history was brought upon by the use of psychopharmacology to address mental disorders. It appears that historical narratives of psychiatry have not paid enough attention to these more recent developments, despite the efforts of historians like Shorter who called this the “second biological psychiatry”. More work shall be done to recognize the pioneer, and at times heroic, efforts of figures like John Cade, and his work on the therapeutic use of Lithium, Delay and Deniker, in developing chlorpromazine, and Nathan Kline, on antidepressants. These are clearly significant figures, if not major ones, in the recent history of psychiatry but they do not appear in enough available historical accounts today.

The fifth, and possibly current, epoch in psychiatry involves the application of findings in genetics and neurosciences to the understanding of the causes of mental illnesses, with an eye towards prevention and early detection. It is too early to identify which approaches will yield better results, or generate a new paradigm, but early figures like Arvid Carlsson, Paul Greengard, and Eric Kandel – awarded the Nobel Prize in Medicine 2000 for “their discoveries concerning signal transduction in the nervous system” – are certainly among some of the significant figures with a place in future histories of psychiatry.

Limitations of these findings include the lack of coverage for developments in Africa, Asia, and other places outside Europe and North America. This is an artifact of the sources available to be included in the study and hopefully will serve to instill interest in the study of the history of psychiatry in those regions, bringing forth their own contributions and significant figures.

Another limitation is the dearth of information we can gather on the contribution of women in psychiatry in available sources. The paucity of women among the significant figures is disheartening, albeit expected given the societal constraints placed on women through the period under study. One can only hope that another such analysis done one hundred years from now will provide a better showcase for gender equality.

Emil Kraepelin himself wrote a short history of psychiatry published in 1917 (Kraepelin 1962) where he concludes arguing for more funding for psychiatric research in Germany. In reviewing the history of psychiatry it is clear that the successes of German academic psychiatry warranted that call for support for research institutes. The work of Wilhelm Griesinger (Shorter 2005) is considered foundational in creating the structure responsible for the dominance of German psychiatry in the historical accounts today: university based clinics, collaboration with other medical specialties – at the time neurology and pathology, and funding for psychiatric research.

Looking back at these most recent hundred years of psychiatry since Kraepelin’s historical account, one can only imagine his surprise, and awe, at the current state of mental health research with genetic testing, neuroimaging, evidence-based psychotherapy, and molecular-informed psychopharmacology. The combination of clear, careful, and detailed clinical information, publicly and privately funded research, and strong academic and educational

efforts, has made it all possible – and the strengthening of such model is the key to the continuation of our progress.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Figure 1.
Major Figures in the History of Psychiatry - ranked by eminence

Table 1

Correlation matrix across all nine sources and the journal History of Psychiatry

	alexander	ackernecht	howells	micale	porter	schneck	shorter	wallace	zilboorg
alexander	1								
ackernecht	0.4535	1							
howells	0.3764	0.71	1						
micale	0.5766	0.3686	0.3464	1					
porter	0.4054	0.6166	0.6046	0.477	1				
schneck	0.6565	0.7624	0.7084	0.533	0.5804	1			
shorter	0.5436	0.6533	0.5423	0.4016	0.4928	0.694	1		
wallace	0.6364	0.5531	0.5102	0.632	0.4769	0.6821	0.5472	1	
zilboorg	0.4549	0.7689	0.759	0.4377	0.5423	0.7732	0.5091	0.6135	1
journal	0.5513	0.7093	0.6053	0.6166	0.5815	0.7392	0.6601	0.6514	0.6071

Table 2**Major Figures in the History of Psychiatry**

Major Figures Lifespan	Index Rank	National Origin	Contribution
Freud, Sigmund 1856-1939	1	Austria	Developed psychoanalysis as a theory of human behavior and as a modality of psychotherapy; his ideas and influences go beyond psychiatry, into medicine and the humanities.
Pinel, Philippe 1745-1826	2	France	Proponent of “moral treatment” at the Bicetre and the Salpetriere, two large Parisian asylums; published an early nosology for psychiatric disorders in 1798.
Kraepelin, Emil 1856-1926	3	Germany	Proposed a nosology based on morbid outcomes and classified major psychosis into two groups: manic-depressive psychosis (bipolar disorder) and dementia praecox (later, schizophrenia).
Griesinger, Wilhelm 1817-1868	4	Germany	Early proponent of the idea that mental disorders are brain diseases; established a neuropsychiatry chair in Berlin in 1864 and moved psychiatry from the asylum into academic centers in Germany.
Esquirol, Jean Etienne 1772-1840	5	France	Successor to Pinel, inaugurated clinical instruction in psychiatry in France. Coined the term hallucinations, furthered Pinel’s nosology.
Charcot, Jean-Martin 1825-1893	6	France	Eminent neurologist who became director of the Salpetriere in Paris where he used hypnosis to investigate hysteric symptoms.
Rush, Benjamin 1746-1813	8	United States	Among the best known physicians of his time, published the first American psychiatric text: <i>Medical Inquiries and Observations upon the diseases of the mind</i> .
Reil, Johann Christian 1759-1813	10	Germany	The first to use the word “psychiatry” and a proponent of rational psychotherapy. Found the first psychiatric journal, <i>Magazin für die psychische Heilkunde</i> in 1805.
Janet, Pierre 1859-1947	11	France	Introduced “medical psychotherapy” in France and proposed of the concept of “psychasthenia”.
Meynert, Theodor 1833-1892	14	Austria	Neuropathologist and professor of psychiatry in Vienna, advanced a nosology based on histopathological studies; published <i>A Clinical Treatise on the diseases of the Forebrain</i> .
Tuke, William 1732-1822	16	England	Founded the York Retreat for treatment of mentally ill Quakers in 1796.
Jung, Carl 1875-1961	17	Swiss	Proponent of the collective unconscious and founder of the analytical psychology school.
Chiarugi, Vincenzo 1759-1820	18	Italy	Early proponent of the humane treatment of asylum inmates.
Battie, William 1703-1776	20	England	Considered the first physician to work on mental illness full time; published <i>A Treatise of Madness</i> .
Wernicke, Carl 1848-1905	21	Germany	Continue Meynert’s work on linking mental disorders to brain function; published a three-volume <i>Manual of Brain Diseases</i> .
Krafft-Ebing, Richard Von 1840-1902	22	Austria	Coined the terms “sadism” and “masochism”; described sexual perversions in his

Major Figures Lifespan	Index Rank	National Origin	Contribution
			textbook <i>Psychopathia Sexualis</i> .
Maudsley, Henry 1835-1918	34	England	Attempted to integrate psychology, neurophysiology, and psychiatry, developing an outlook grounded in Darwinian evolution theory.
Heinroth, Johann Christian 1773-1843	36	Germany	Published of an early systematic nosology of mental disorders; coined the term "psychosomatic". Proponent of metaphysical causes, dismissive of physical causation.