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## **Sex on the brain: the rise and fall of German sexual science**

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**Throughout the 19th century, German medical, scientific and legal scholars found themselves puzzled and engaged by the diverse forms of human sexuality. Psychiatrists like Richard von Krafft-Ebing interested in explaining deviance encountered scientifically trained advocates for emancipation like Magnus Hirschfeld, and the result was the new – if unstable – discipline of sexual science. Because they based arguments for social intervention on knowledge of nature and the body, the field's proponents – like the advocates of eugenics and racial hygiene – argued that they were biologists. After 1900, this mutual biological engagement of sexual science and eugenics revealed itself in overlapping debates between the proponents of both fields.**

### **The Hirschfeld conundrum**

On 14 August 1929, the eve of the second annual conference of the World League for Sexual Reform, the aged Swiss psychiatrist August Forel (1848-1931) sent a short open letter of congratulation to the members of the league and its co-president, the German sex researcher and advocate Magnus Hirschfeld (1868-1935). Forel, who along with Hirschfeld and the British researcher Havelock Ellis (1859-1939) had brought the league into existence in 1928, succinctly stated his hopes for the conference and the league: to serve both eugenic goals and world peace by counteracting capitalism, alcoholism and the dysgenic effects of wars [1].

Hirschfeld doubtless agreed with Forel's statements (Figure 1). By 1929 Hirschfeld had achieved a worldwide reputation both as a scholar of human sexuality, especially its same-sex-oriented forms, and as an advocate of legal and social equality for homosexual men and women. In 1897 he had founded the *Wissenschaftlich-humanitäre Komitee* (Scientific-Humanitarian Committee) to advocate research and the decriminalization of homosexuality. From 1899 to 1923 he edited the *Jahrbuch für sexuelle Zwischenstufen* (Yearbook for Intermediate Sexual Forms), which explored the theory that male and female were not exclusively dimorphic. In 1914 he published a 1067-page handbook entitled *The Homosexuality of Men and Women*, a work that extensively explored the 'biological' and 'sociological' phenomena of homosexuality through the lens of his intersex theories [2]. He also directed the Berlin-based *Institut für Sexualwissenschaft* (Institute for Sexual Science), which he had founded in 1919.

It might come as some surprise therefore that such a keen advocate of human emancipation could have supported Forel's first-stated goal: eugenics. Yet Hirschfeld did. While he did not support many of the more contentious eugenic ideas like sterilization –

his final book, in fact, was a historical and critical indictment entitled *Racism* – he did believe in encouraging what were seen as genetically superior reproductive pairings. In 1913 he, along with other German medical sex researchers including Iwan Bloch (1872-1922) and Albert Eulenburg (1840-1917), founded a new professional organization called the Medical Society for Sexual Science and Eugenics. From 1914 to 1928, this society published the widely respected *Zeitschrift für Sexualwissenschaft (Journal of Sexual Science)*.

### **Sex, race and biology**

At the same time that Forel was writing to Hirschfeld, however, some of Forel's other students and colleagues were pursuing their eugenic interests down darker paths. Ernst Rüdin (1874-1952), a psychiatrist, had just been appointed to a leading position at the German Research Center for Psychiatry in Munich, an affiliate of the Kaiser Wilhelm Society. From this position he would go on to co-author the Nazi *Gesetz zur Verhütung Erbkranken Nachwuchses* (Law to Prevent Offspring with Hereditary Disease) of 14 July 1933 [3]. Rüdin and his mentor Alfred Ploetz (1860-1940), another close friend of Forel's from as far back as the 1880s, had in 1905 co-founded the German Society for Racial Hygiene – using a term propagated by Ploetz in the 1890s specifically to give both a medical and a Germanic cast to Francis Galton's Greek-derived 'eugenics' [4].

The curious conceptual and biographical closeness of the leading figures of German sexual science and racial hygiene has indeed raised the eyebrows of a number of scholars interested in both fields [5]. Nonetheless advocates interested in political hindsight and the 'lessons' of history have tended to cast attention – and certainly fairly so – upon the differences in ethics and social practice between the emancipating intent expressed by sexual scientists like Hirschfeld and the exclusionary and inhumane work of racial hygienists like Rüdin. At the same time, it cannot be argued that German sexual science and racial hygiene were simply different emanations of a *Zeitgeist* of reformist zeal in the decades around 1900 that emerged from every point of the political compass [6]. The two fields in fact must be seen as part of the same sphere in which many scientists in late 19th-century Germany believed the creation and organization of knowledge could create discipline, health and superiority in individuals, populations and societies.

The term *biology* demarcated this sphere of scientifically justified intervention. In Germany around and after 1900, biology was therefore not only the conceptual science of life, but also the science of *better* life. As such, German biology generated dozens of sub-disciplines of widely varying staying power, and marked them with compounds including '-*biologie*'. Both eugenicists and sexual scientists sought to represent themselves as biologists through new compound terms and arguments about intervention in living systems. Rüdin and Ploetz published their own work – along with that of major biological thinkers from Wilhelm Weinberg (1862-1937) to Richard Goldschmidt (1878-1958) – in their journal *Archiv für Rassen- und Gesellschaftsbiologie* (Archive for the Biology of Race and Society; *ARGB*), which they founded in 1904. Hirschfeld himself appropriated the evolutionary thought of Ernst Haeckel (1834-1919), the vigorous German advocate and popularizer of Darwinism, in his 1912 work entitled *Naturgesetze der Liebe* (Natural

Laws of Love). As he argued in his 1914 *magnum opus* on homosexuality, ‘evolution provides the key to understanding same-sex love’ [7]. In his Institute for Sexual Science in Berlin, the main lecture hall was named for Haeckel. Hirschfeld also advocated Haeckel’s philosophical worldview-system known as *monism* and belonged to the Monist League [8].

### **The emergence of sexual science**

Over the course of the 19th century, German sexual science developed slowly into a recognizable biological subdiscipline. Its founders and early advocates worked at the intersection of medicine and law. They identified new methods of scientific investigation that could provide data and arguments for or against the pathology and criminality of various sexual practices. From its beginnings, therefore, sexual science fell fully within the conceptual scope of German biology. The term *Biologie* had come into use only around 1800, and its earliest proponents used it to refer both to a general explanation of living phenomena in nature (Gottfried Treviranus, 1776-1837) and to a system of general human medicine (Karl Friedrich Burdach, 1776-1847) [9].

Sexual science emerged out of forensic medicine and psychiatry, both fundamentally concerned with defining and identifying forms of behaviour and disease considered deviant or criminal. Longstanding religious and legal proscriptions of sodomy meant that non-vaginal sexual intercourse, but especially sexual behaviour between two people of the same sex, posed obvious questions to forensic and psychiatric investigators, and early 19th-century German scholars gave these issues increasing attention [10].

As early as 1796, Johann Valentin Müller (1756-1813) explored the problem of the source of same-sex attraction in his work on forensic medicine [11]. Johann Ludwig Casper’s *Handbuch der gerichtlichen Medizin* (Handbook of Forensic Medicine) (1857) and *Klinische Novellen* (Clinical Reports) (1863) did the most to make a systematic description of criminal sexual behaviour part of the German forensic investigator’s remit [12]. Casper (1796-1864) also perceived his task as a biological one: in the third edition of his *Handbook* (1860), he even divided the work’s two volumes between the biological – the investigation of still-living subjects – and the thanatological, dealing with corpses.

German psychiatrists were no less interested in these issues. Johan Häussler published a book on the relationship between sexual behavior and mental illness in 1826, and in 1844 Heinrich von Kaan gave his own treatise a title that would, after its appropriation by Richard von Krafft-Ebing (1840-1902) beginning in 1886, come to define late nineteenth-century sexual science: *Psychopathia sexualis* [13]. After 1860, two trends in German psychiatry made these questions all the more significant: the movement away from institutionalization and restraint towards social prophylaxis and the availability of new experimental and descriptive methods in neurophysiology. Psychiatry thus redoubled its biological character, because detailed research on the cells and tissues of the body appeared increasingly to be able to justify therapeutic and social practices [14]. In 1870, Carl Westphal (1833-1890) published the first major article in a psychiatric journal about the issue of same-sex attraction: “Die conträre Sexualempfindung” (Contrary Sexual

Feeling) in the *Archiv für Psychiatrie und Nervenkrankheiten* (Archive for Psychiatry and Nervous Diseases).

At the same time, commentators troubled by the social and legal problems generated by the criminal status of sodomy began to speak out about same-sex sexual behaviour. The first to achieve wide recognition and dissemination in Germany was himself a lawyer and civil servant, Karl Heinrich Ulrichs (1825-1895). Between 1864 and 1879 Ulrichs published twelve pamphlets, first under the pseudonym Numa Numantius and later under his own name, arguing that same-sex love was part of the natural order, because men and women attracted to their own sex were simply endowed with particularly large measures of the sex other than their own. He was also savvy enough to distribute his writings to investigators like Westphal and Krafft-Ebing, who cited him regularly in their case studies and analyses. The concepts ‘homosexuality’ and ‘heterosexuality’ were first coined in 1868 in a letter to Ulrichs by the German-Hungarian writer Károly Kertbeny (pseud. Karl Benkert, 1824-1882). Kertbeny went on, like Ulrichs, to advocate the decriminalization of homosexuality [15]. Krafft-Ebing took up his terminology (while himself coining many now-common terms like ‘sadism’ and ‘masochism’), which embedded it permanently in both scientific and popular language [16].

Psychiatrists also paid close attention to the growing forms of evolutionary explanation in the 19th century. French practitioners in particular, hewing to Lamarckian understandings of the inheritance of acquired characteristics, feared that mental illness could result from hereditary degeneration. In 1857, these concerns took their most representative form in Bénédict-Augustin Morel’s (1809-1873) *Traité des dégénérescences physiques, intellectuelles et morales de l’èspec humaine* (Treatise on Physical, Intellectual, and Moral Degenerations in the Human Species). Ambroise Tardieu (1818-1879) and Claude-François Michéa (1815-1882), Morel’s contemporaries in the forensic field, explored sexual acts deemed sodomitical.

German psychiatrists and biologists adopted degeneration theories more slowly, but after the propagation of Darwinism in Germany in the 1870s, concerns about degeneration flourished there too, reaching their zenith in the popular book market with the publication of Max Nordau’s (1849-1923) *Entartung* (Degeneration) in 1892. The leading German psychiatrists of the late 19th century therefore made their reputations by combining arguments about sexual behaviour, heredity, crime and degeneration. Krafft-Ebing, Forel, Eulenburg, Albert von Schrenk-Notzing (1862-1929), Paul Julius Möbius (1853-1907), and Leopold Löwenfeld (1847-1924) all approached sexual behaviour as closely linked to problems of degeneration. Sigmund Freud (1856-1939) chose to abandon the term ‘degeneration’, but his theories of the structure of the psyche and the cultural and social determinants of its development – which he claimed for biological science – sought to provide explanations of the same phenomena [17].

Furthermore, the interest that psychiatrists and forensic specialists had given sexual behaviour crossed into other medical specialties. The extraordinarily productive and persuasive pathologist and politician Rudolf Virchow (1821-1902) made public health central to all of his practice [18]. Virchow’s student Albert Moll (1862-1939) developed

his training in anatomy and pathology into a career as a neurologist with particular interests in hypnotism, homosexuality and childhood sexuality. His 1891 treatise *Die conträre Sexualempfindung* was the first major medical monograph that focused specifically on homosexuality. The physician Iwan Bloch, trained as a dermatologist (the specialty that in German medicine traditionally treated venereal disease), coined the term *Sexualwissenschaft* (sexual science or sexology) in 1906 (Figure 2). The physician who took interest in the social aspects of hygiene the farthest was Alfred Grotjahn (1869-1931), a dedicated socialist who first developed ‘social hygiene’ as a specialty in German academic medicine. He became Professor of Social Hygiene in Berlin in 1920, a position from which he advocated increasingly vigorous eugenic measures, including sterilization, on socialist grounds [19].

### **Eugenics and sexual science**

German racial hygiene therefore emerged slowly as a specific branch of this wide-ranging German sexual science [20]. Francis Galton’s coinage ‘eugenics’ had of course fallen on receptive ears in Germany, both for its interest in the hereditary determinants of ‘genius’ in society (*Hereditary Genius*, 1869) and its arguments about interventions in human reproduction to achieve it. In Germany, however, post-Darwinian concerns about the anti-selective aspects of modern life (from eyeglasses to sedentary professions to new mobility of racial and religious groups to the fear that wars destroyed the best and bravest genetic stock in the population) took a larger part in the development of racial hygiene. These concerns also took form in widespread interest across the political spectrum in the reform of social and personal practices and lifestyles, from gymnastics and abstinence from alcohol to clothing reform, hiking and nudism [21].

The two men who did the most to establish and propagate racial hygiene in Germany, Alfred Ploetz and Wilhelm Schallmayer (1857-1919), were both trained physicians who had explored philosophy, the social sciences and utopian social reform movements prior to completing their medical studies. These interests continued to guide their thinking, and they both built careers as writers and advocates rather than as clinicians or researchers. Both also came to represent their work as part of the field of biology. Schallmayer’s 1891 treatise *Die drohende physische Entartung der Kulturvölker* (The Immanent Physical Degeneration of Cultured Peoples) recommended a national project to engage physicians against the threat of degeneration. In 1905 he linked biology directly to his interventionist arguments in his *Beiträge zu einer Nationalbiologie* (Contributions to a National Biology) [22]. Ploetz’s 1895 *Grundlinien einer Rassen-Hygiene* (Outlines of Racial Hygiene) brought the term into wide use. In 1904 he and Rüdin established *Rassenbiologie* (biology of race) as a synonym for racial hygiene in the title of their new journal, the *ARGB*, a move which successfully widened the appeal of the journal to established professional and academic investigators in a range of biological and medical fields.

By 1904, then, sexual science had been slowly coalescing out of a range of biological, medical and social concerns for almost a century, even if the terms *Sexualwissenschaft* and sexology were only beginning to emerge as markers of an established academic and

clinical field. Racial hygiene was, by comparison, a recent intellectual development that claimed authority over many of the same issues. It was Rüdin who trumpeted the challenge to sexual science immediately upon the founding of the *ARGB* [23]. In the very first issue of the journal (1904) he unambiguously appropriated for the field of racial hygiene the endlessly controversial aspect of sexual behaviour that had motivated much of the investigation and advocacy of 19th-century sexual scientists: homosexuality. In an article entitled ‘On the role of homosexuals in the life process of the race’, he demanded that homosexuality be treated as a biological issue – meaning particularly that it be seen not as an individual issue for medical or psychiatric investigation or therapy, but as a social problem derived from hereditary degeneration that damaged the reproductive capacities of the ‘race’. He bemoaned what he perceived to be a ‘waste of reproductive material’, argued that homosexuality undermined the ‘fighting nature’ of human beings, and vigorously attacked Hirschfeld’s arguments that homosexuality was not evidence of degeneration. In his efforts to appropriate authority over sexual behaviour for racial hygiene, he even went so far as to argue counter-intuitively that the legal ban on homosexuality in Germany (the notorious paragraph 175 of the imperial penal code) should be repealed. He claimed that efforts of lawyers and courts could not truly affect the health of the race as a whole, and the ban therefore only generated cases of blackmail – an argument that many advocates for homosexual emancipation also made.

Rüdin’s appropriation of homosexuality for the *ARGB* turned out to be surprisingly successful. For well over a decade, research articles and commentary about the issue appeared regularly in the journal. Leading figures in racial hygiene, sexual science and more general biological research weighed in on its pages about the determinants and forms of same-sex sexual behaviour. Rüdin’s article stimulated a rebuttal in the second issue of the *ARGB* by Benedict Friedlaender (1866-1908), a scholar associated with Hirschfeld’s Scientific-humanitarian Committee (but who did not accept Hirschfeld’s theory of homosexual intersexes). Friedlaender argued that homosexuality was a form of ‘physiological friendship’. His rebuttal was accompanied, in typical *ARGB* fashion, by a further response from Rüdin. Five years later, in 1909, the race theorist Otto Ammon (1842-1916), prompted in part by Ploetz, stimulated a major controversy among the advocates of racial hygiene with an article about evolution, homosexuality and masturbation. Ammon’s article provoked a series of energetic responses from Rüdin and Forel, both of whom supported Ammon’s claims about homosexuality as evidence of degeneration but disagreed with his arguments that masturbation was the primary cause of homosexuality.

The later articles on homosexuality in the *ARGB* give evidence of the rapidly increasing status of experimental investigations of heredity in the life sciences after 1900. In 1912, another future chief editor of the *ARGB*, the young Fritz Lenz (1887-1976), produced an article on the heredity of sex-linked traits and pathologies. While his focus was the hereditary nature of disease, he concluded, echoing the misogynistic Viennese philosopher Otto Weininger (1880-1903), that ‘there is an idioplasmatic [i.e. germ cell-generated] correlation between “sex and character”.’ He also argued that the ‘Nordic race’ demonstrates the strongest sexual dimorphism. Lenz’s work therefore participated in the *ARGB*’s discursive patterns of inquiry into homosexuality, which he confirmed in a

snide footnote about ‘those who wish to be less than whole men’. Finally, in 1916, Richard Goldschmidt (Figure 3), recently appointed director of the department of genetics at the Kaiser Wilhelm Institute for Biology in Berlin, extensively revisited the literature on homosexuality in the light of the problem of intersex forms. Goldschmidt had developed a general theory of hereditary sex determination through his experimental work on the gypsy moth *Lymantria dispar*, and he therefore concluded, with overt reference to the work on homosexuality pursued by sexual scientists including Hirschfeld, that human intersexes exist. He also argued that ‘genetic’ sex need not correspond to ‘gonadal’ sex [24].

### **The destruction of German sexual science**

Goldschmidt’s endocrinological argument pointed to the primary research direction that German sexual science would take in the 1920s: generally away from the analysis of culturally embedded behavior and toward explanation of the cellular, glandular, biochemical and hereditary determinants of sex and sexuality. The boundaries of sexual science therefore began to loosen, because the non-experimental claims made by scholars like Hirschfeld (who coined the term ‘transvestite’ in his work during the 1920s) no longer sat comfortably with a biological science increasingly focused on experimentation. That said, research on the effects of glandular secretions on sexual characteristics was still possible at the edge of German sexual science, notably that of the Viennese physiologist Eugen Steinach (1861-1944) who argued that it was the antagonistic secretions of the sex glands that determined sex and sexuality. While corresponding with Hirschfeld, he investigated tissue from the testes of human male homosexuals, and argued that they were indeed unique, a finding that was nonetheless vigorously disputed by Moll and others [25].

In the increasingly polarized political environment of 1920s Germany, sexual science became a flash point for controversy. Hirschfeld and Freud, in particular, were attacked by conservative commentators, and especially by the early propagandists of the Nazi party. By 1930, Hirschfeld was being physically attacked at public appearances, and left Germany on a world tour, never to return to Berlin. On 6 May 1933, as racial hygiene was beginning its development into a constitutive pillar of Nazi administration and Ernst Rüdin was preparing the Nazi sterilization law, Hirschfeld’s home and institute were ransacked by a ‘student’ mob (Figure 4). At the public Nazi book-burnings of 10 May 1933, the institute’s books and Hirschfeld’s research collections formed a substantial part of the pyres. German sexual science thus disappeared from the academic and public spheres, swallowed up by racial hygiene, a field for which it was largely responsible. It revived only haltingly after the Second World War as German medical and scientific investigators assimilated the work of leading American researchers like Alfred Kinsey.

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Figure 1. Magnus Hirschfeld. Courtesy of the Magnus Hirschfeld Archive, Humboldt University, Berlin.

Figure 2. Iwan Bloch as sexual scientist. Courtesy of the Magnus Hirschfeld Archive, Humboldt University, Berlin.

Figure 3. Richard Goldschmidt at the Kaiser Wilhelm Institute for Biology in 1931. Library of the American Philosophical Society, Philadelphia.

Figure 4. The Nazi plundering of Magnus Hirschfeld's Institute for Sexual Science. *New York Herald Tribune*, 17 May 1933. Courtesy of the Magnus Hirschfeld Archive, Humboldt University, Berlin.