



Heinrich Quincke (1842–1922) and the social hygiene movement

Beato Suwa

Received: 6 May 2024 / Accepted: 13 June 2024
© Springer Medizin Verlag GmbH, ein Teil von Springer Nature 2024

Summary

Background Heinrich Irenaeus Quincke can be considered one of the most versatile and innovative medical scientists and inventors of his time. Both lumbar puncture and the treatment of lung abscesses are largely due to Quincke. Quincke's edema (angioedema) was also named after him. A historical trace from Quincke's early Berlin period sheds new light on the personal and political background regarding his two appointments to Bern in 1873 and Kiel in 1878.

Methods On the one hand, this work is based on a literature search of historical journals and other publications from around 1870. On the other hand, a recently discovered original material is evaluated. This is a letter from Quincke with the place/date "Berlin, 4 August 72", in which he registers for the "45th Assembly of German Naturalists and Physicians in Leipzig."
Results Quincke had personal contacts with the early social hygiene movement, which was partly rooted in Switzerland. This movement was later popularized by the psychiatrist Auguste Forel (1848–1931), among others.

Discussion A work on the outbreak of the Wrocław relapsing fever epidemic (*Febris recurrens*, "relapsing fever") in 1868 may have played an important role in the early social hygiene movement. It describes in a very impressive way the catastrophic social and hygienic conditions in the city's slum, which were directly linked to the outbreak of the epidemic. The relapsing fever may have had similarities with today's Lyme disease.

Keywords Relapsing fever · Lyme borreliosis · *Borrelia recurrentis* · *Borrelia burgdorferi* · Quincke's edema (angioedema)

Abbreviations

45VdNÄL	45th Assembly of German Naturalists and Physicians in Leipzig
ADAV	General German Workers' Association
DFP	German Progressive Party
LADAV	Lassall's General German Workers' Association
SDAP	Social Democratic Workers' Party

Background

Relapsing fever (*Febris recurrens*, "relapsing fever") was caused in our latitudes almost exclusively by *Borrelia recurrentis*, with *Pediculus humanus humanus* (the clothes louse) as the vector, although in more remote regions of the world other borrelia can also cause the disease (in a varied form), with Ixodidae (ticks) as vectors. It is characterized by attacks of high fever (approx. 41 °C) lasting 2–9 days, which recur if not treated with antibiotics. The patient's nutritional status plays an important role in the prognosis and susceptibility to the disease [1, 2].

Breslau (today Wrocław in Poland, formerly a city in Prussia until 1945), the birthplace of Ferdinand Lassalle (1825–1864), was already a stronghold of the early labor movement in Prussia around 1850 [3–6]. The physician and botanist Christian Gottfried Daniel Nees von Esenbeck (1776–1858) played an important role as a political figure in Wrocław [5]. The connection between medicine and the early labor movement thus already had a tradition in Wrocław [4, 5]. Julius Stein (1813–1889) was in contact with Nees for a long time [5, 6]. Stein participated politically as a left-

Dr. B. Suwa (✉)
Practice for child and adolescent psychiatry/psychotherapy,
Gartenweg 24, 39164 Wanzleben-Börde, Germany
beato.suwa@gmail.com

wing liberal democrat in the 1848/1849 revolution in Wrocław [6].

Politically, large parts of the early labor movement around 1869 were still organized through the left-liberal “German Progressive Party” (Deutsche Fortschrittspartei, DFP; [4, 6]). The “Social Democratic Workers’ Party” (SDAP) was not founded until 1869 [4]. Only the “General German Workers’ Association” (ADAV and LADAV), founded in 1863, which set itself apart from liberalism and in part regarded itself as liberalism’s main political opponent, had certain, but still minor political significance [3, 4].

Heinrich Irenaeus Quincke (1842–1922)

H. I. Quincke was born on 26 August 1842 in Frankfurt (Oder) as the second son of the physician Hermann Quincke (1808–1891; [7, 8]). His older brother was the well-known physicist Georg Hermann Quincke (1834–1924) [7]. H. I. Quincke had served an apprenticeship as a carpenter alongside grammar school [9, 10]. He then studied medicine in Berlin and for a time in Würzburg and Heidelberg. After his doctorate and minor activities, Quincke trained in internal medicine under Friedrich Theodor Frerichs (1819–1885) at the Charité (Berlin University Hospital) between 1867 and 1871, where he also habilitated (achieved his postdoctoral lecture qualification) in 1870 [9, 10]. In 1873, Quincke received an appointment at the University of Bern [10]. In 1878, Quincke followed a call to Kiel, where he worked and published his scientific results for about 30 years until his retirement in 1908 [9, 10]. After his retirement, Quincke moved to Frankfurt (Main; [10]). He became an honorary professor at the Senckenberg Institutes in 1912 and, after the founding of the University of Frankfurt in 1914, was involved in clinical and teaching activities as an internist during the First World War, for example, by giving clinical lectures [10]. Quincke died there on 19 May 1922 by suicide shortly before his 80th birthday at his desk, which he had made himself as a teenager [10]. Quincke’s work in medicine was characterized by numerous works and inventions in various fields [10]. The establishment of the lumbar puncture method, for example, was an important basis for August Bier’s (1861–1949) Kiel experiments on spinal anesthesia [10, 11]. The possibility of lumbar puncture thus created the prerequisite for numerous completely new diagnostic and therapeutic approaches [11]. “Quincke edema” (angioedema) named after him is characterized by acute swelling [12]. Quincke was also able to contribute to improving the treatment of lung abscesses [13].

Friedrich Albin Hoffmann (1843–1924)

F. A. Hoffmann studied medicine in Tübingen, Würzburg, and Berlin, where he completed his residency at the Charité (under F. T. Frerichs; [10, 14]). After

his habilitation in 1872, Hoffmann received a call to Dorpat (today Tartu in Estonia, formerly partly a German-speaking university in the Russian Tsarist Empire) in 1874 [14, 15]. It is interesting to note that Hoffmann was appointed full professor and director of the Leipzig Medical Polyclinic in 1886. Hoffmann remained in Leipzig until his retirement in 1921 [14]. In addition to his histological–pathological studies, his commitment to nutritional medicine and his rather conservative view of the origin of “traumatic neuroses” (symptoms of traumatic neuroses were interpreted as an expression of the desire for financial retirement) are noteworthy [16–19].

Material and methods

This work is based on a literature search of historical journals and other works from the period around 1870, on the one hand, and on the evaluation of recently discovered original material (letter from Quincke to the “Allgemeine Deutsche Kredit Anstalt” in Leipzig with place/date “Berlin, 4 August 72”), on the other hand. The material was placed in its historical context. Overall, the results of the research carried out support the hypothesis that the letter is authentic. For example, all three owners of the three business cards mounted on the letter could be identified in the section “erstes Verzeichniss der Mitglieder und Theilnehmer” (first directory of members and participants) of the “45th Assembly of German Naturalists and Physicians in Leipzig” (45VdNÄL), which was published in the *Tageblatt* (a detailed report or journal of the assembly) of the 45VdNÄL [20]. In the same *Tageblatt*, Quincke’s contribution is also described in one paragraph and Hoffmann’s lecture “Ueber Glykogen in der Leber” is also briefly mentioned three times [20]. Hoffmann’s lecture was based on studies carried out jointly with Carl Bock (1842–1873) (hereinafter referred to as C. Bock). In addition, the material as a whole has a very unusual and authentic character.

History of the material

The *Tageblatt* of the 45VdNÄL states “Redigirt von Professor Dr. A. Winter” [20]. In the second half of the 19th century, the Leipzig university librarian, medical historian, and otologist J. A. Winter published the well-known *Schmidt’s Jahrbücher der in- und ausländischen gesammten Medicin*, a journal of enormous scope, which covered the entire field of medicine, including theoretical medicine. This activity resulted in an extensive collection of correspondence, some of which is of interest to medical history. The material discussed in this study therefore could have been part of the collection of J. A. Winter (1816–1901), who, as far as can be ascertained, may have received the registration letters for the 45VdNÄL, presumably for the preparation of the 45VdNÄL’s *Tageblatt* journal, from the “Deutsche Kredit Anstalt” in Leipzig (main

sponsor and organizer of the 45VdNÄL). As part of the 45VdNÄL, an “Assembly of German Medical Associations” was held, with Hermann Eberhard Friedrich Richter (1808–1876) elected as its secretary [21, 22].

Results

The material is a letter in 8° format, written in Quincke's handwriting. On the front, the left edges of the three business cards are all glued onto the stationery (Fig. 1). A postal coupon is mounted in the center of the back (Fig. 2).

The three business cards are labeled as follows (from top to bottom):

1. F. A. Hoffmann [printed] Dr. med. [printed, one line below] Berlin-Charité [handwritten, bottom right]
2. Dr med. H. Quincke [printed] Docent an der Universität (lecturer at the University) [printed, one line below] Behrenstr. 12. I. [handwritten, bottom left] Berlin [handwritten, bottom right]
3. Dr. med. Carl Bock [printed, partially obscured by 2nd] Berlin-Charité [handwritten, bottom right]

The postal coupon on the back is labeled as follows (from top to bottom):

Coupon. (Kann vom Adressaten bei nebenstehendem Strich abgetrennt und als Beleg zurückbehalten werden) (Can be detached by the addressee at the adjacent line and retained as a receipt).
[Printed]

12 [handwritten] Thlr [printed] / [handwritten] gr. [printed] / Pf [handwritten]

Name and place of residence of the sender:
[printed]

Dr. H. Quincke [new line] Privatdocent (a position comparable with senior lecturer or assistant professor) [new line] Berlin [new line] Behrenstr. 12.

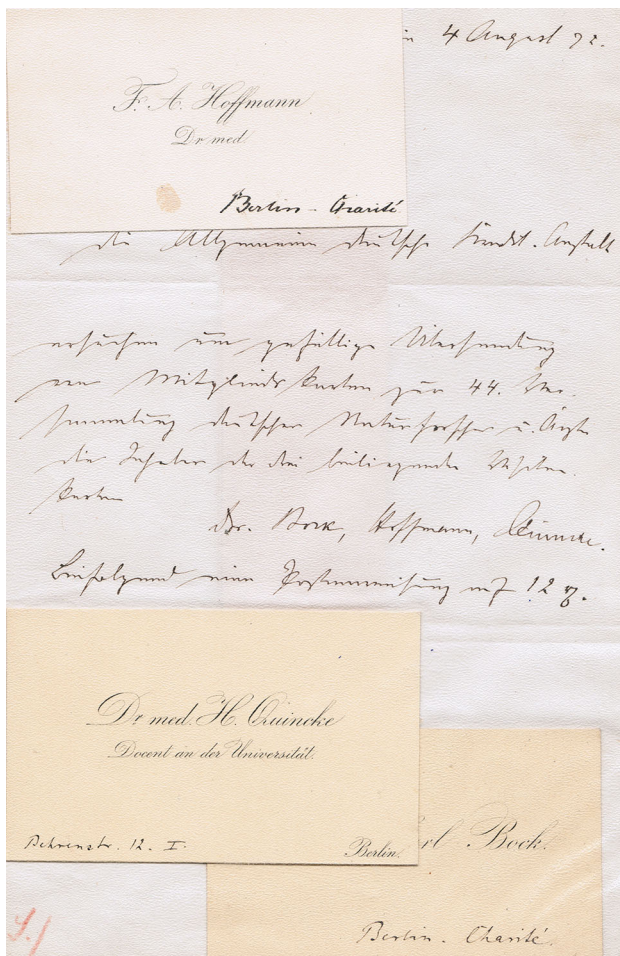


Fig. 1 Front of the letter from H. I. Quincke dated 4 August 1872. In preparation for archiving in a university archive

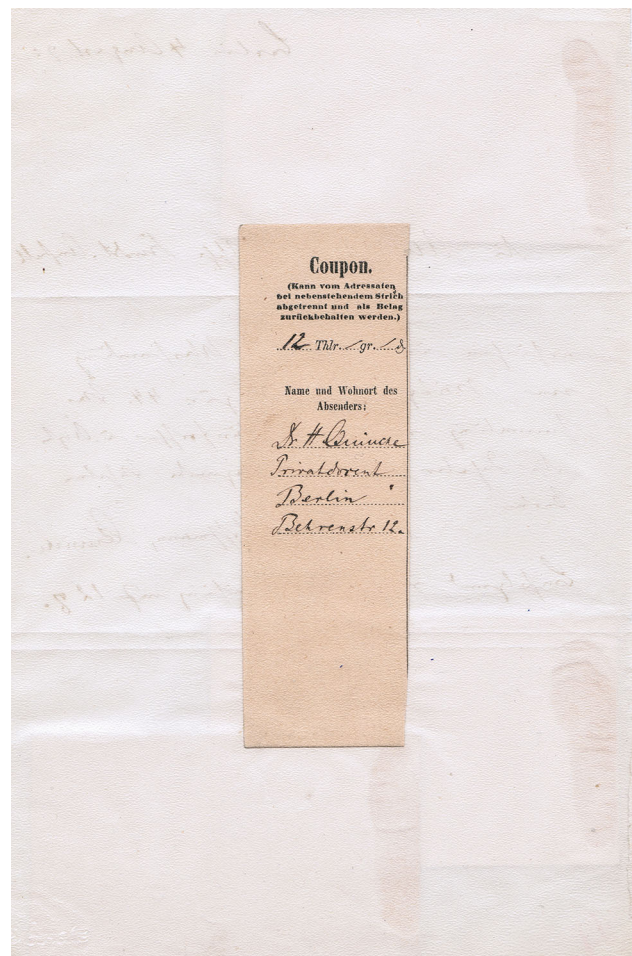


Fig. 2 Back of the letter from H. I. Quincke dated 4 August 1872. In preparation for archiving in a university archive

The German transcription of the letter:

Berlin 4 August 72.

*Die Allgemeine Deutsche Kredit Anstalt
ersuchen um gefällige Übersendung [new line]
von Mitgliederkarten zur 44.¹ Ver – [new line]
sammlung Deutscher Naturforscher u. Ärzte [new line]
die Inhaber der drei beiliegenden Visiten –
[new line] karten [new line] Dr. Bock, Hoffmann,
Quincke. [new line] Beifolgend meine Postüber-
weisung [difficult to decipher] mit 12 Th.*

The English translation of the letter:

Berlin 4 August 72.

*The Allgemeine Deutsche Kredit Anstalt
request that you kindly send [new line] mem-
bership cards for the 44th¹ [new line] assembly of
German naturalists and physicians [new line] to
the holders of the three enclosed business cards
[new line] Dr. Bock, Hoffmann, Quincke. [new line]
Enclosed my postal transfer [difficult to deci-
pher] with 12 Th.*

Who did the third business card belong to?

It is obvious that the “owners” of the first two business cards were the now well-known physicians Quincke and Hoffmann. But who did the third business card belong to? The early social hygienist Carl Bock (01.03.1842–17.03.1873) from Wrocław has hardly received any biographical attention to date. The reason for this could be that the habilitated physician and private lecturer died very young in 1873 at the age of 31 (according to F. A. Hoffmann from “typhus exanthematicus”; [24]). Various sources therefore confuse C. Bock from Wrocław with other scientists bearing the same name or similar names, for example, with the Norwegian expedition traveler Carl Alfred Bock (1849–1932), but also with the physician Carl Ernst Bock (1809–1874), who was known for his numerous works on health education [15]. The work *Experimental-Studien über Diabetes* published by Hoffmann in 1874 and previously carried out together with C. Bock contains an obituary for C. Bock [24].

It is clear from this obituary that C. Bock, who had already been dead for months in the year of publication, must have been the early social hygienist from Wrocław [24]. Born on 1 March 1842, C. Bock was a student at the Wrocław Maria-Magdalenen-Gymnasium and, after graduating from high school, attended the University of Wrocław in his birthplace since 1862

[24]. His studies took him to Zurich and Berlin, where C. Bock completed his state examination [24].

He then became an assistant at the All Saints’ Hospital in Wrocław to Hermann Lebert (1813–1878), who was also born in Wrocław and became professor of “Pathology, Therapy and Medical Clinic” in Zurich between 1853 and 1859, after which he was called to Wrocław [24–26]. Lebert remained in Wrocław until 1874, when he returned to Switzerland [25, 26].

From 1869, C. Bock moved to the Charité in Berlin to work with Frerichs (Frerichs was at the University of Wrocław from 1852 to 1859; [10, 24]). At the same time, C. Bock had taken “active part” in the wars between 1866 and 1870 [24]. After C. Bock “returned from the latter campaign to Frerich’s clinic,” he habilitated in Berlin in 1872 [24]. He was “in full possession of his powers and in the middle of a varied and satisfying activity” when he “contracted typhus exanthematicus at the clinic” and died “after 13 days of illness on 17 March, 1873” [24]. C. Bock would have traced “the scientific direction of his training” back to the internist and psychiatrist Wilhelm Griesinger (1817–1868), “with whom he would have had a close relationship as a student in Zurich” [24].

Discussion

H. I. Quincke received a call to Bern in Switzerland in 1873, a few months after the 45VdNÄL [7]. It is possible that C. Bock’s connections to the Swiss Oskar Wyss (1840–1918) and to H. Lebert may have played an important role in this appointment [24, 27]. Against the background of his move from Bern to Kiel, it is noteworthy that, according to the *Tageblatt* of the 45VdNÄL, Quincke mentions a paper by the Danish physiologist Peter Ludvig Panum (1820–1885; also at the University of Kiel from 1853 to 1864) in the context of a discussion of a lecture by Karl Heinrich Christian Bartels (1822–1878) from Kiel [7, 20, 28, 29].

Several professors from Dorpat were represented at the 45VdNÄL, so that personal connections may have played a role in F. A. Hoffmann’s call to Dorpat [14, 15, 20]. Apart from the title, no additional information about Hoffmann’s actual lecture in Leipzig on “Glycogen in the liver” can be found in the *Tageblatt* of the 45VdNÄL [20]. This is presumably due to the fact that it was a preliminary presentation of the results [24].

Connections to the early social hygiene movement

During his time as an assistant (around 1867–1869), C. Bock worked with the Swiss O. Wyss on his publication “Studien über Febris Recurrens nach Beobachtungen der Epidemie im Jahre 1868 zu Breslau,” a 270-page work published in 1869 [24, 27]. Like C. Bock, Wyss took part in the 45VdNÄL and was appointed chief internist at the Zurich Children’s Hospital in 1874 (almost at the same time as Lebert’s return to Switzerland; [20, 30]). The joint work is particularly impor-

¹ This information is an oversight on Quincke’s part. What is meant is the 45VdNÄL, which took place from August 12–18, 1872 [20]. The 44th assembly took place from September 18–24, 1871 in Rostock. Neither Quincke, nor Hoffmann, nor C. Bock are listed as participants in the “first directory of members and participants” of 1871 [23].

tant because of its detailed and stirring descriptions of the catastrophic social and hygienic conditions in the Wrocław auxiliary workers' slum at the time, which are brought into a direct, causal relationship with the outbreak of the epidemic [27]. For example, the work reports on an "unlicensed dog slaughterhouse" (dog meat and horse meat would have been traded as "delicacies" in the auxiliary workers' slum) and on a distinct market characterized by the trade in "rags" [27].

Wyss and C. Bock report that "dog slaughter" was "accused by many inhabitants" as the "cause of the disease" in 1868 [27]. Today we know that relapsing fever in Europe was transmitted by *Pediculus humanus humanus* (the clothes louse) as a vector [1, 2, 31]. Therefore, we can assume that the trade in "rags" was indeed a major cause of the epidemic [27]. Although the hygienic conditions in the "dog slaughterhouse" would have been catastrophic (dogs would have been "bred and fattened"; the "remains of the animals" would have been "heaped together en masse"), from today's perspective "dog slaughter" may have contributed to the containment of the epidemic by improving the nutritional situation of the slum dwellers [27]. Wyss and C. Bock did not explicitly identify parasites as the epidemic's cause in their work. However, the connection between the "rag trade" and the outbreak of the epidemic was described in detail [27]. The authors emphasize the significance of "rags" "from Russia" which were imported "for paper production" [27]. The precise observation, description, and documentation of the individual cases had led the treaters onto this trail.

Immunological aspects of the work from Wrocław

From an immunological perspective, it is interesting to note that the relapsing fever in Wrocław around 1868 was a disease that no longer occurs in this form today (with the pathogen *Borrelia recurrentis* and *Pediculus humanus humanus* [the clothes louse] as vector) and was caused by a *Borrelia* species [1, 2]. Currently, on the basis of studies on Lyme borreliosis, it has been postulated that, due to immunological characteristics (reduction in the expression of surface proteins, antigenic variation of surface proteins, inactivation of complement and other components of the immune system, and camouflaging of the extracellular matrix, whereby *Borrelia burgdorferi* escapes the immune response in the human body), pathogen-induced autoimmune phenomena are caused by the *Borrelia*, which are responsible for various late symptoms of Lyme borreliosis (e.g., Lyme arthritis; [32]). It is noteworthy that the work of Wyss and C. Bock from 1869 actually contains descriptions of suspicious painful joint swellings in patients with relapsing fever [27]. However, the question of whether these investigations from Wrocław might have had an influence on H. I. Quincke's subsequent description of

angioedema "On acute circumscribed skin edema" from 1882 remains unanswered [12, 27].

Conclusion

H. I. Quincke had personal contacts with the early social hygiene movement through C. Bock. Quincke was therefore presumably close to the politically liberal groups popular among middle-class academics at the time. These contacts may have played a role in his later appointments to Bern (1873) and Kiel (1878). The main hypothesis is that the joint publication by Wyss and C. Bock from Wrocław attracted a great deal of attention, especially in Switzerland. The work may have had a considerable influence on the social hygiene movement in Switzerland, which was later shaped and modified by the psychiatrist Auguste Forel (1848–1931), among others. It was one of the first works of its kind to directly link relapsing fever with the catastrophic social conditions in urban slums.

Declarations

Conflict of interest B. Suwa declares that he has no competing interests.

Ethical standards For this article no studies with human participants or animals were performed by any of the authors. All studies mentioned were in accordance with the ethical standards indicated in each case.

References

1. Cutler SJ. Possibilities for Relapsing Fever Reemergence. *Emerg Infect Dis.* 2006;12:369–74.
2. Cutler SJ. Relapsing fever—a forgotten disease revealed. *J Appl Microbiol.* 2010;108:1115–22.
3. Fetscher I. Lassalle, Ferdinand. *Neue Dtsch Biogr.* 1982;13:661–9.
4. Hoffrogge R. Sozialismus und Arbeiterbewegung in Deutschland – von den Anfängen bis 1914. Stuttgart: Schmetterling-Verlag; 2011.
5. Jahn I. Nees von Esenbeck, Christian Gottfried. *Neue Dtsch Biogr.* 1999;19:26–8.
6. Jansen C. Stein, Julius. *Neue Dtsch Biogr.* 2013;25:151–2.
7. Kipnis A. Quincke, Georg. *Neue Dtsch Biogr.* 2003;21:47–8.
8. Quincke Her. *De morbis infantium in genere* (dissertation) Berlin: Augusti Petschii; 1829. With CV on pp. 29–30.
9. Voswinkel P. Quincke, Heinrich. *Neue Dtsch Biogr.* 2003;21:48–9.
10. Bethe H. Heinrich Quincke 1842–1922. *Sein Leben und Werk unter besonderer Berücksichtigung der Kieler Fakultätsgeschichte. Kieler Beiträge zur Geschichte der Medizin und Pharmazie, Heft 7.* Neumünster: Karl Wachholtz Verlag; 1968.
11. Quincke HI. Die Lumbalpunktion des Hydrocephalus. *Berl Klin Wochenschr.* 1891;28(38):929–33 and 1891;28(39):965–8.
12. Quincke HI. Über akutes umschriebenes Hautödem. *Monatshefte Prakt Dermatologie.* 1882;1(5):129–31.
13. Garré C, Quincke HI. *Grundriss der Lungenchirurgie.* Jena: Gustav Fischer; 1903.

14. Becker C. "Hoffmann, Friedrich Albin". In: *Sächsische Biografie*, edited by Institut für Sächsische Geschichte und Volkskunde; 2005. <https://saebi.isgv.de/biografie/18385>. Accessed 5 May 2024.
15. Hehl Uv. "Hoffmann, Friedrich Albin". In: *Catalogus professorum lipsiensium*. 2024. https://research.uni-leipzig.de/catalogus-professorum-lipsiensium/leipzig/Hoffmann_60. Accessed 3 Jan 2024.
16. Fischer-Homberger E. *Die traumatische Neurose. Vom somatischen Leiden zum sozialen Leiden*. Bern: Psychosozial-Verlag; 1975. pp. 171–84.
17. Hoffmann FA. *Erkrankungen des Mediastinums*. In: *Nothnagel H, editor. Spezielle Pathologie und Therapie*. 13th vol., 3rd part, 2nd section. Wien: Alfred Hölder; 1896. pp. 1–84.
18. Hoffmann FA. *Diätetische Kuren*. In: *Leyden Ev, editor. Handbuch der Ernährungstherapie und Diätetik*. 1st vol., 1st section, 5th chapter. Leipzig: Thieme; 1897. pp. 519–622.
19. Hoffmann FA. *Die Reichsversicherungsordnung nach der Vorlesung über soziale Medizin für Juristen und Ärzte*. Leipzig: F. C. W. Vogel; 1921.
20. Winter A, editor. *Tageblatt der 45. Versammlung Deutscher Naturforscher und Aerzte in Leipzig vom 12. bis 18. August 1872*. Leipzig: G. Reusche; 1872.
21. Behn WFG, editor. *Kurzer Bericht über "Eb. Richter"*. *Leopoldina (amtliches Organ)* 1872;8(2+3):24.
22. Fröhlich H. *Richter, Hermann Eberhard Friedrich*. *Allg Dtsch Biogr.* 1889;28:465.
23. Aubert H, Flemming W. *Tageblatt der 44. Versammlung Deutscher Naturforscher und Aerzte in Rostock vom 18. bis 24. September 1871*. Rostock: Universitäts-Buchdruckerei von Adler's Erben; 1871.
24. Bock C, Hoffmann FA. *Experimental-Studien über Diabetes*. Berlin: H. E. Oliven; 1874.
25. Hirsch A, Lebert, Hermann. *Allg Dtsch Biogr.* 1883;18:94–7.
26. Portmann-Tinguely A. "Lebert, Hermann". In: *Historisches Lexikon der Schweiz (HLS)*, version from November 27, 2008. <https://hls-dhs-dss.ch/de/articles/014448/2008-11-27>. Accessed 5 May 2024.
27. Wyss O, Bock C. *Studien über Febris recurrens nach Beobachtungen der Epidemie im Jahre 1868 zu Breslau*. Berlin: August Hirschwald; 1869.
28. Feiner E, Bartels, Karl Heinrich Christian. In: *Biographisches Lexikon für Schleswig-Holstein und Lübeck*. 1st vol. *BioLex Digital* 2020; 1970. pp. 169–70.
29. Voswinkel P. *Panum, Peter Ludvig*. *Neue Dtsch Biogr.* 2001;20:40.
30. Mörgeli C. "Wyss, Oskar". In: *Historisches Lexikon der Schweiz (HLS)*, version from June 5, 2013. <https://hls-dhs-dss.ch/de/articles/014699/2013-06-05>. Accessed 5 May 2024.
31. Fournier P-E, Ndihokubwayo J-B, Guidran J, Kelly PJ, Raoult D. *Human Pathogenes in Body and Head Lice*. *Emerg Infect Dis.* 2002;8:1515–8.
32. Rupprecht TA, Koedel U, Fingerle V, Pfister H-W. *The Pathogenesis of Lyme Neuroborreliosis: From Infection to Inflammation*. *Mol Med.* 2007;14:205–12.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.