

Josef Gruber (1827-1900) An underestimated Viennese otologist in the shadow of Adam Politzer

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Abstract :

In the second part of the 19th century Viennese otology experienced a very particular and unique situation with two co-directors, Adam Politzer and Joseph Gruber, for the University otological clinic from 1873 to 1898. Politzer rapidly became very famous and internationally recognized as one of the greatest otologists of his time. Such was not the case for Gruber, who remained known only within German speaking countries. The aim of this study is firstly, to present a biography of Gruber through the compilation of documents held in the archives of Vienna University and in the Vienna Institute for History of Medicine completed by a review of the biographical literature. Secondly, to discuss some practical points of his rivalry with Politzer in studying some representative otological instruments developed and proposed by both. This study will demonstrate that Gruber's life and work is very similar and nearly as productive in terms of publications and new otological instruments as that of Politzer. This similarity is certainly in correlation with their rivalry. On the other hand, it also allows one to demonstrate that Gruber remained in the shadow of Politzer his whole working life at least outside Vienna. Politzer has gone to posterity and Gruber not.

Key words : *Gruber, Politzer, history, otology, instruments*

In the second part of the 19th century Viennese otology experienced a very particular and unique situation with two co-directors, Adam Politzer (1835-1920) and

1867, the American John Orne Green wrote: "Although differing somewhat in the minutiae of examination and treatment, the general teaching of each is the same."⁽¹⁾ The, at

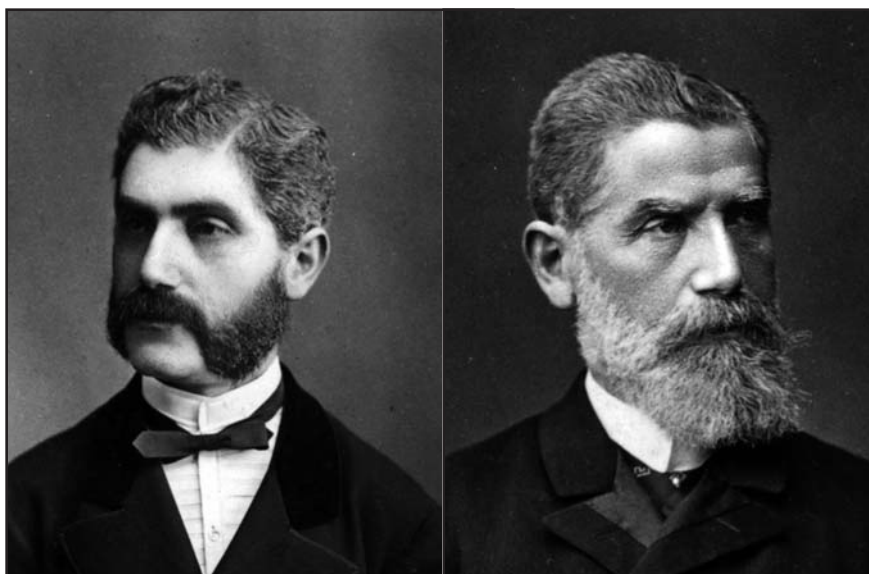


Fig. 1 Portraits of Gruber

(Austrian National Library)

Joseph Gruber (1827-1900) (Figure 1), for the otological clinic in the General Hospital from 1873 to 1898. Both were active, renowned teachers and writers but also great rivals. In

first sleeping, rivalry officially began in 1872 with the nomination of the two as co-heads of the newly founded otological clinic opened in 1873. In this new arrangement Gruber was certainly the one who suffered most⁽²⁾. From 1862, he had been the exclusive head of a small otological out-patient clinic in the right corner of the first courtyard, later named the "historical corner"⁽³⁾, of the General Hospi-

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tal. With this common nomination, Gruber had to share his two rooms with Politzer, one for him and one for Politzer. Also, since 1862 Politzer had examined his patients in a small room in the University medicine department.

As stated in the Ministry of Education decree in 1872, "In view of the fact that the professors Dr. Gruber and Dr. Politzer have both been equally successful in the development of otology at the University of Vienna it is decreed that both be entrusted with the direction of the clinic."⁽⁴⁾ In 1879, the American Laurence Turnbull, essentially presented the works of Gruber⁽⁵⁾. In 1883, the American Alexander Randall recalled: "Politzer spoke rather contemptuously of a certain Josef Gruber and the latter in the like manner of Politzer."⁽⁶⁾ The Frenchman Marcel Lermoyez related in 1894 that "They live side by side, condemned to meet each other every day, sharing the same department, the same assistant; all that separates them is a relentless rivalry. But this seeming equality is only on the surface; in Vienna they may be considered equals, for entirely personal reasons; abroad they definitively do not share the same reputation."⁽⁷⁾ In 1896, another Frenchman Paul Raugé wrote that "the competitiveness can be felt from afar; the decision to remain apart."⁽⁸⁾ Politzer rapidly became very famous and internationally recognized as one of the greatest otologists of his time⁽⁹⁾. It was not the case for Gruber, who remained renowned within German speaking countries. It certainly explains why so few documents exist concerning Gruber in contrast to Politzer. In 1888 the Frenchman Emile Ménière visited the Viennese otological clinic without mentioning Gruber⁽¹⁰⁾, as did the Frenchman Frédéric-Justin Collet in 1893⁽¹¹⁾. Politzer said in 1907: "If this division, unique in the history of clinical professorships, somewhat hindered freedom of teaching, it must be acknowledged that the work, which was contiguous so to speak, was the origin of competitiveness which lasted a quarter of a century, a struggle which produced a few victories for science."⁽¹²⁾ This rivalry was particularly noticeable in their respective publications. At the beginning of the 21st century, Politzer's name remained linked with the International Society of Otological Surgery founded in 1978⁽¹³⁾, with the unique history of otology he wrote in 1907⁽¹⁴⁾, with the insufflation air bag, and with an ear funnel-

shaped speculum. Gruber's name, however, is only associated to an ear funnel shaped speculum.

The aim of this study is firstly, to present a biography of Gruber through the compilation of documents held in the archives of Vienna University and in the Vienna Institute for History of Medicine completed by a review of the biographical literature. Secondly, to discuss some practical points of his rivalry with Politzer in studying some representative instruments developed and proposed by both. An extensive review of most of their publications, and comments published at the same time was conducted, with special attention for otological instruments. It was completed by a review of the usual otological instruments catalogues from the end of 19th to 21st century referring to instruments eponymically named after Gruber and Politzer.

Gruber's biography

Gruber was born in Kosolup, Bohemia, August 4th 1827. Beginning his medical studies in Pest, he then moved to Vienna in 1851 to finish them. On February 13th, 1855 he received his doctorate in medicine at Vienna University⁽¹⁵⁾, followed by his doctorate in surgery on March 3rd, and his diploma in obstetrics on July 30th. After his studies and until 1860, he was "secondary physician" at the Vienna General Hospital. At the end of the 1850's Gruber began to be interested in otology. Contrary to Politzer who spent two years abroad, Gruber taught himself by notably studying the works of Joseph Toynbee of London and Anton von Tröltzsch of Würzburg (both were visited by Politzer). He was particularly interested in the anatomo-pathology of the hearing organ. This self-training was essentially possible due to access to the anatomo-pathological material of the anatomo-pathologist Carl von Rokitansky and the regular presence alongside of the histo-pathologist Carl Wedl for the microscopical study of this material⁽¹⁶⁾.

In 1860, Gruber published his first otological article, more specifically about pathology and therapy of otitis interna⁽¹⁷⁾. In 1862, he became aural surgeon at the Viennese General Hospital, and was consequently

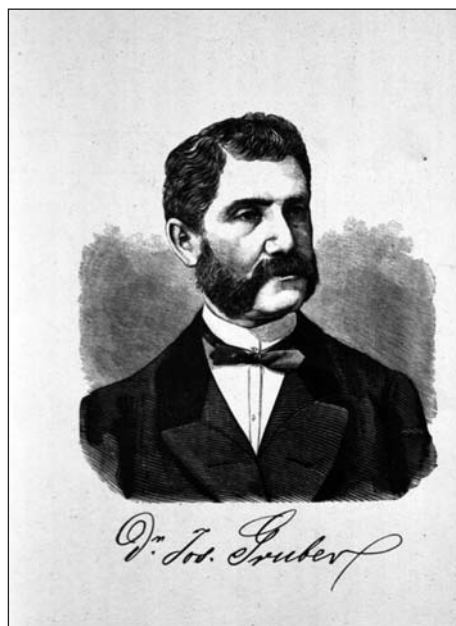


Fig. 2 Portrait of Gruber in 1877

(Author's collection)

allowed two small rooms for his practice. On March 26th 1863, he finally received his Privat Docent (lecturer) in otology, two years after the deposit of his first demand (Politzer received it in 1861). On November 30th 1864, he married Hermine Schäffer (1845-1921). In 1867, Gruber published his *Anatomical and physiological studies about the tympanic membrane and the ossicles* ⁽¹⁶⁾ which was very successful ⁽¹⁸⁾. Two years later, Hermann von Helmholtz notably referred to Gruber in his work ⁽¹⁹⁾. Also in 1867 and in collaboration with the otologists Friedrich Eduard Voltolini of Breslau, Friedrich Eugen Weber-Liel of Jena and the anatomist Nicolaus Rüdinger of Berlin, Gruber founded *Monatsschrift für Ohrenheilkunde* (Monthly journal of otology) the second specialised otological journal, three years after Politzer founded *Archiv für Ohrenheilkunde* (Archives of otology) in collaboration with Anton von Tröltzsch and Hermann Schwarze of Halle ⁽²⁰⁾. In the first numbers, Gruber wrote a “retrospective of the scientific achievements in otology” in five parts ⁽²¹⁾. In this article, he reproduced the great lines of a previous historical presentation published in

1864 ⁽²²⁾. In 1877, the journal became an otorhinolaryngology journal with a new title *Monatsschrift für Ohrenheilkunde sowie für Nasen-, Rachen-, Kehlkopf- und Luftröhren-Krankheiten*, (Monthly journal of otology and of diseases of the nose, throat, larynx, and airways) the first journal containing in its title ear, nose and throat. Gruber remained on the editorial board until his death. It still exists today as *Laryngologie, Rhinologie, Otologie*.

In 1870, Gruber published the first edition of his *Lehrbuch der Ohrenheilkunde* (Textbook of otology) ⁽²³⁾, 8 years before Politzer's one. He explained why: “After more than 10 years activity in otology, with the experience that I got during my 6 years service as secondary physician in various departments of the General Hospital and later as ear specialist in this large hospital on thousands ears, I went on to the preparation of this work.” This book was very well received: “The provision of the work is magnificent” ⁽²⁴⁾. On May 6th 1871, he was nominated extraordinary professor of otology at the same time as Politzer, and finally co-head of the new Vien-

Table 1: Gruber and Politzer's main dates (timetable)

	Josef Gruber	Adam Politzer
Birth	1827 Kosolup (CZ)	1935 Albertirsa (H)
Medical studies		
- Pest	1850-1851	1854-1855
- Vienna	1851-1855	1855-1859
MD (Vienna University)	1855	1859
Training in otology	Vienna	abroad
First otological publication	1860	1861
Privat-Docent Vienna	1863	1861
Otological practice		1862
Prof. Extraordinarius		1871
Head otological Clinic		1873
Foundation otological journal	1867	1864
1st edition of their textbook	1870	1878-1882
2nd edition of their textbook	1888	1887
Others editions	no	four more
Prof. Ordinarius		1894
Publications	150	180
Retirement	1898	1907
Death	1900	1920

nese otological clinic in 1873, also with Politzer. This nomination was disputed ⁽²⁵⁾ and greatly accentuated the rivalry between the two men. Gruber was allowed the 12 bed room for men and Politzer the 8 bed room for women. In 1877, the first official biography of Gruber was published together with Politzer's one (Figure 2) ⁽²⁶⁾. In 1888, Gruber published the second edition of his textbook ⁽²⁷⁾ (one

year after the second edition of Politzer's textbook), which was translated into English⁽²⁸⁾. On April 16th 1894, he became ordinary professor of otology, also with Politzer. With Politzer and another Viennese otologist Viktor Urbantschitsch, Gruber founded the Austrian Otological Society on January 18th 1895 and became the first president.

Gruber retired in 1898, a few months after his 70th anniversary jubilee on October 16th, 1897⁽²⁹⁾. During this jubilee, Politzer had the honor to make an address about Gruber's work and particularities⁽³⁰⁾. Gruber also received the most sincere acknowledgement

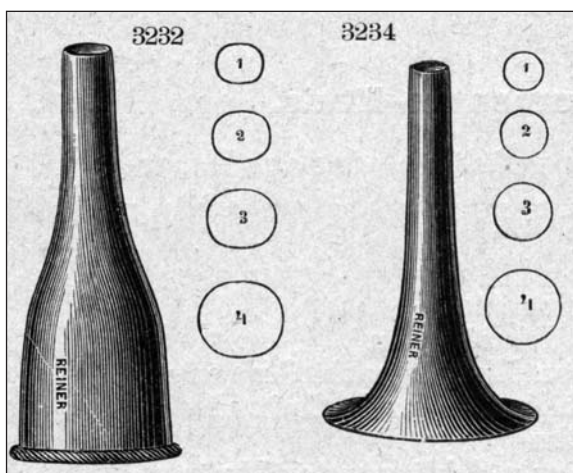


Fig. 3 Gruber's speculum (3232) and Politzer's speculum (3234) from Reiner's catalogue

from the Ministry of Education for his "successful work as a teacher for 35 years without any compensation."⁽³¹⁾ On March 31st, 1900 he died in Vienna⁽³²⁻³⁴⁾ (Table 1, p.23). Gruber was interested in all aspects of otology and examined around 6'000 patients a year (Politzer between 12'000 and 15'000). He wrote more than 150 publications⁽³⁵⁻³⁶⁾, mostly related to anatomy and the practical aspect of otology (Politzer around 180 publications, with a larger place for research studies). Gruber was very practical in the development of ear instruments. In the 1894 Viennese Reiner instruments catalogue, Gruber and Politzer are equally eponymly associated with many otological instruments and operating sets of instruments⁽³⁷⁾. Gruber was considered by some of his colleagues as "an otologist of the old period"⁽³⁸⁾ even if he was fully engaged in promoting otology as a specialty. In 1907, when Politzer retired from the clinic, he said about Gruber: "I have a respectful duty to recall here the fine qualities of my regretted

colleague Professor Gruber which contributed to ensuring the success of our clinic. His remarkable work on the anatomy of the ear, his experience of its affections, his talent as a professor, his devotion to human suffering, his untiring zeal for furthering the progress of our specialty will forever link the name of Gruber with the history of the otological clinic."⁽¹²⁾

Ear funnel-shaped speculum

Both Gruber and Politzer gave their name to an ear funnel-shaped speculum still available at the beginning of the 21st century (Figure 3). In 1863, both introduced for the first time their ear speculum, first Politzer and a few months later Gruber. Politzer simply mentioned "an (optimally black) ear speculum" without describing it⁽³⁹⁾. Two years later, Politzer wrote: "An essential improvement has been introduced at our suggestion by Leiter of Vienna, who employs hard rubber [vulcanite] for this purpose. These rubber specula have the advantage of being much lighter, and are therefore borne in the meatus by the patient [...] The dark ground of the inner surface favors a clear definition of the illuminated parts."⁽⁴⁰⁾ In fact Politzer seems not to have modified the shape of the classical ear speculum but only the used material. On the other hand, Gruber clearly described his ear speculum: "For around 3 years, I have been using an ear speculum for my examinations, which was first made for me by Mister Schleifer, instrument maker in Vienna, following my specifications."⁽⁴¹⁾ The ear speculum, blackened inside, was made up of two segments of different widths, the curvatures of which pass gradually from one into the other. Gruber explained that the advantage of the shape of his ear speculum was firstly that it could be introduced for some distance into the canal and secondly that the light is admitted freely through the wide external opening⁽²⁷⁾. Gruber's ear speculum was quite similar to Erhard's ear speculum already described in 1859⁽⁴²⁾, even if Gruber claimed it was different. Both ear specula are found since 1870 in the Viennese Leiter's catalogue of surgical instruments, in silver or in vulcanite⁽⁴³⁾, such as in the 1894 Viennese Reiner catalogue⁽³⁷⁾. In 1878 Politzer explained that "the shape of the speculum is of little importance"⁽⁴⁴⁾. At the end of the 19th century, Gruber's ear speculum was more popular, at

least in America, than Politzer's one and is mentioned in the American catalogues of instruments Hazard⁽⁴⁵⁾, Tiemann⁽⁴⁶⁾, Sharp & Smith⁽⁴⁷⁾, Armstrong⁽⁴⁸⁾, Truax⁽⁴⁹⁾, and Wocher⁽⁵⁰⁾, Politzer's one only in the Truax. It was the same in Great Britain where only Gruber's one is mentioned in the catalogues Down Bros⁽⁵¹⁾, Wolley⁽⁵²⁾, Krohne and Sese-mann⁽⁵³⁾. On the contrary, both are found in various continental European catalogues, the French Galante⁽⁵⁴⁾, the German Windler⁽⁵⁵⁾, the French Lépine⁽⁵⁶⁾, the Belgian Klein⁽⁵⁷⁾, the French Simal⁽⁵⁸⁾, and then in the usual otological instrument catalogues of the 20th

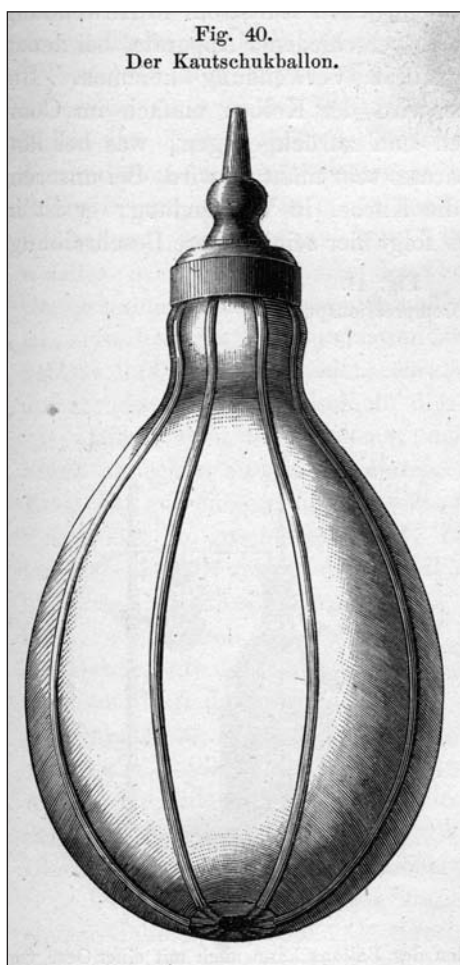


Fig. 40.
Der Kautschukballon.

Fig. 4

Gruber's balloon from Gruber's textbook, 1870

century.

Insufflation air bag

In 1863, Politzer published his first paper about his new method for inflating the middle ear by using a pear-shaped bag placed

at the nostril⁽⁵⁹⁾. It generated the greatest written rivalry with Gruber and enlivened otology in Vienna for almost forty years. In 1870, Gruber wrote: "In 1862, in the local reports on my patients treated at the general hospital, page 257, I wrote of this experiment which I often used when treating a stricture of the Eustachian tube as follows: It was only when the patient swallowed energetically that it was possible to try to force compressed air [...] into the Eustachian tube during swallowing, while I inserted the end of the balloon about half way into the patients nose [...] In Vienna there are several people who are willing to state that I wrote about this system before Politzer."⁽²³⁾ (Figure 4) In 1878, Politzer added "Since Jos. Gruber did not succeed, in spite of persistent efforts, in preventing general acceptance of my procedure in Europe and in America, he later tried (in 1870) to propose the designation Valsalva's passive experiment, instead of Politzer's method which he did not like."⁽⁴⁴⁾ Politzer and Gruber continued their quarrel in the new editions of their respective textbooks until the death of Gruber. In 1870 Leiter's catalogue "a balloon from Politzer", and "a balloon from Gruber" are mentioned⁽⁴³⁾, Gruber's one never to be mentioned again. Politzer's air-bag is mentioned in Galante's catalogue⁽⁵⁴⁾, in Tie-

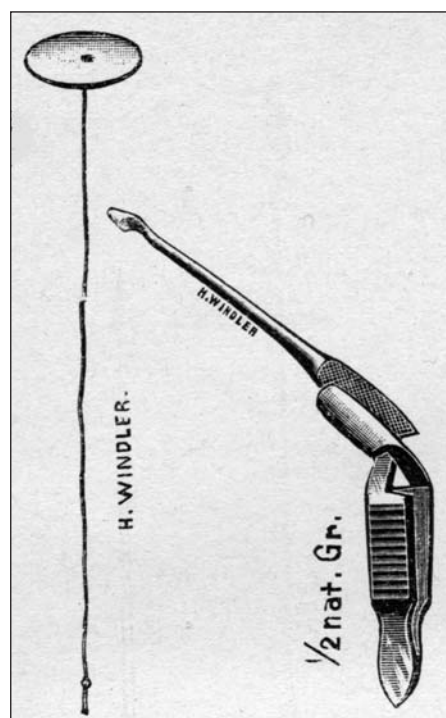


Fig. 5

Gruber's artificial tympanic membrane,
from Windler's catalogue

mann's catalogue ⁽⁴⁶⁾, and remained in most of the usual catalogues until the beginning of the 21st century.

Artificial tympanic membrane

In 1864, Politzer discussed for the first time the artificial tympanic membrane ⁽⁶⁰⁾. He proposed to replace Toynbee's original round india-rubber plate 6 or 7 mm in diameter ⁽⁶¹⁾ by a $\frac{1}{2}$ cm long piece of india-rubber cut from the side of a tube 2-3 mm thick and the lower end being perforated. He cited this new artificial tympanic membrane "for use in practice among the poor" ⁽⁶²⁾. Politzer used it during all his career. None of the usual instrument catalogues of his time mention it. In 1870, Gruber discussed it for the first time, without mentioning Politzer's device

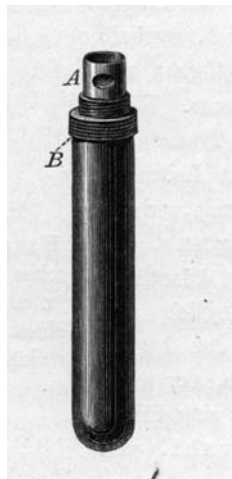


Fig. 6
Gruber's small case for the artificial tympanic membrane, from Gruber's textbook, 1888

for the poor, but in explaining that "until now the most suitable of all known" forms is that of Toynbee ⁽²³⁾. In 1874 Gruber explained his own way to make an inexpensive artificial tympanic membrane which he had been using "for a longer time" ⁽⁶³⁾ (Figure 5, p.25). This artificial tympanic membrane could be made by the patient itself. With a punch the size of a normal tympanic membrane, the patient can punch a disc out of a piece of gutta-percha, and thread it with silk through the center. A small specifically developed pincette is necessary to insert this selfmade device. He then organized a small case made by Leiter containing all the necessary material and instruments for the confection of this artificial tympanic membrane, i.e. needles, silk, thread, and a suitable sheet of gutta-percha tissue ⁽²⁷⁾ (Figure 6). This small case was also available in the Reiner catalogue ⁽³⁷⁾. In 1877, Gruber went a step further in advocating the use of this device to introduce remedies directly into the middle ear to treat acute or chronic inflammation of the mucosa of the middle ear, notably salicylic acid, carbolic

acid, zinc oxyd, cupper oxyd, alumen, borax solution and silver nitrate ⁽⁶⁴⁾. In 1888, Gruber proposed to insert an artificial tympanic membrane "made of emplastrum anglicanum" (court-plaster) to promote the cicatrization of a perforation. "It should extend for a certain distance beyond the border of the perforation. In the course of four-and-twenty

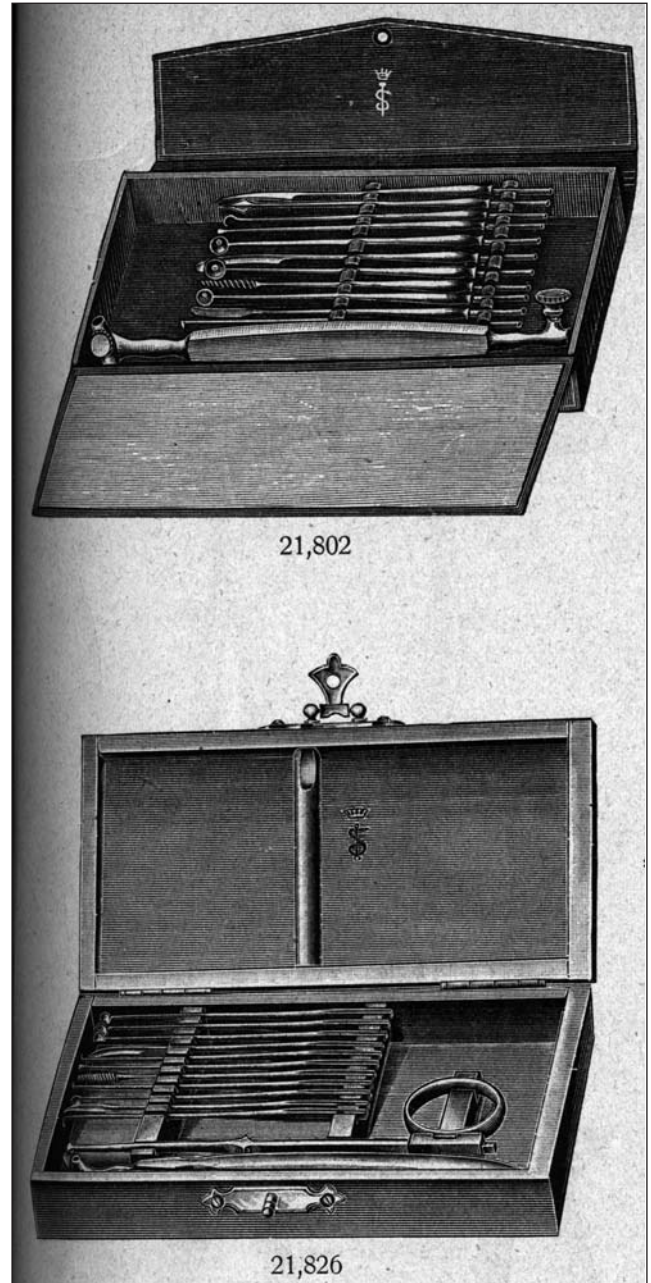


Fig. 7
Set of otological instruments Politzer and Gruber from Jetter & Scheerer, 1905

hours, sometimes later, hyperaemia is set up, which increases until a circumscribed, sometimes even a diffuse, inflammation becomes developed. The epidermis is cast off from the

edges of the perforation, and the process may result in cicatrization of the aperture [...] If the desired process fails, it may be repeated with the addition of some slightly stimulating substance spread on the artificial membrane. For this purpose the author usually employs a linen tympanic membrane with an ointment containing potash or soda (carbonate of soda 1 part, vaseline 50 parts), or nitrate of silver (1 to 100 parts).”⁽²⁷⁾ In the Windler catalogue, Gruber’s artificial tympanic membrane is available^(12, 65), as in Klein’s catalogue Gruber’s forceps to place this artificial tympanic membrane are mentioned⁽⁵⁷⁾.

Set of ear surgical instruments

Gruber and Politzer were very active in developing instruments for ear surgery. In the Leiter catalogue, most of the ear surgery instruments (notably scissors, forceps, polyp forceps, foreign body forceps, ear spoon, curette, mastoid knife, mastoid scoop, and tympanic membrane perforator) are eponymically associated with Politzer or Gruber, as in the Windler and Reiner catalogues. Most of their respective instruments are available in specific sets. In the Jetter and Scheerer catalogue (Figure 7), both sets are found until the 1950’s⁽⁶⁶⁻⁶⁷⁾. This was not the case in catalogues published in other non-German speaking countries where nearly only Politzer’s set of instruments were available with very few exceptions, one being the tensor tympani scissor attributed to Gruber. Progressively, these sets of instruments disappeared from the usual paraphernalia of ear surgery.

Conclusion

This study allows one to demonstrate that Gruber’s life and work is very similar and nearly as productive in terms of publications and new otological instruments as that of Politzer. This similarity is in close correlation with their rivalry which was certainly a healthy one, especially for otology⁽⁶⁸⁾. On the other hand, it also allows one to demonstrate that Gruber remained in the shadow of Politzer all of his life, at least outside Vienna. Politzer has gone to posterity and Gruber not, except for his ear speculum. It could simply be a question of human beings. Nevertheless, it is impossible to give an explanation for the

difference because very few publications at that time gave details about the lingual ability, the personality, the inter human relations, and the spirit of openness of Gruber in comparison to Politzer.

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