

Sketches of Othistory

Part 7: The Nineteenth-Century Rise of Laryngology

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The Very Beginnings

Ailments of the upper and lower airways must have plagued humankind from the very beginnings of our species. This is probably a major reason why the nose and throat received much earlier and more thorough medical attention than the well-concealed and usually less susceptible organs of hearing [Guerrier and Mounier-Kuhn, 1980]. A frequently cited example of the earliest laryngological concerns is a drawing in the Doctor's Tomb among the pyramids of Saqqara in Egypt, dating back to approximately 3600 BC and apparently depicting a primitive tracheotomy. The ancient practitioners, however, lacked any deeper anatomical or physiological knowledge beyond the obvious functions of those organs in breathing and speech.

Written descriptions of cures and surgical procedures for the larynx and pharynx go back at least to the ancient Greek physicians. They are preserved in Byzantine texts (from approx. 300 to 1400 AD) [Lascartos and Assimakopoulos, 2000; Lascartos et al., 2000] and in Latin translations that formed the bases of medieval European medicine (fig. 1). Rhinological treatments likewise included traditional ointments or herbal remedies and surgery, especially for nasal fractures and for the removal of polyps. Such surgeries were available to the Byzantine physicians and were still performed in Europe into the 19th century (fig. 2).

Laryngology and rhinology finally made their appearance as scientific clinical specialties in the latter half of the

19th century. Although the British aurist James Yearsley had published a book *Deafness, cured by clearing out the passages from the throat to the ear* as early as 1839 and a treatise *On throat deafness and the pathological connections of the throat, nose and ear* in 1853, the specialties were developed quite separately – otology mainly by surgeons, laryngology largely by physicians trained in internal medicine. Their academic and clinical union was not consummated until the beginning of the 20th century and then not without vigorous professional protests from traditionalists on both sides.

Manuel Garcia and the Viennese School

The advent of clinical laryngology and rhinology was made possible by a series of favorable developments, in both technology and medical practice: improved means of illumination and observation with the use of the laryngeal mirror and the technique of laryngoscopy; the discovery of local anesthesia with cocaine; the practice of antiseptic, and later aseptic, surgery, and the increased knowledge of cellular pathology. Rhinology followed closely in the wake of laryngology [Lesky, 1965; Majer and Skopec, 1985].

The first successful use of a small dental mirror to examine the larynx was not by a physician but by a Spanish teacher of singing, Manuel Garcia (fig. 3), who had become exiled from Paris in the Revolution of 1848 and had settled in London. He was eager to put vocal instruction on a scientific basis through new knowledge of the



Fig. 1. Tracheotomy. From 'Tabulae Anatomicae' of Julius Casserius, 1627; as reproduced in Stevenson and Guthrie [1949]. Reprinted with permission.



Fig. 2. Operation for nasal polyps. From Strutt J: 'Horda Angel-Cynnann', Pl. XXXIII, 1775 (original in MS. Harleian No. 1585, fol. 186); as reproduced in Stevenson and Guthrie [1949]. Reprinted with permission.

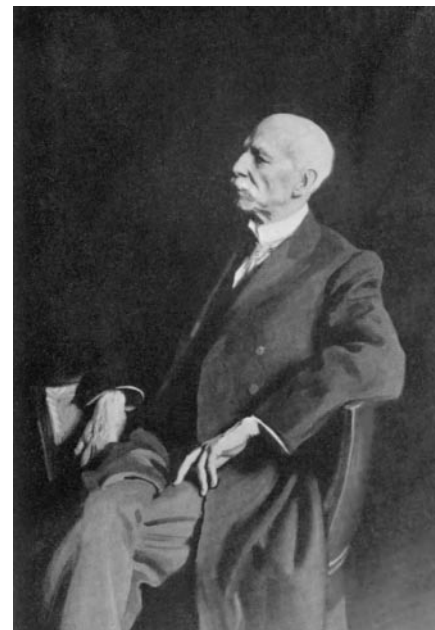


Fig. 3. Manuel Garcia, 100 years old, 1905. Portrait by the American painter John S. Sargent. Museum of Art, Rhode Island School of Design, Museum Appropriation Fund.

mechanics of voice production. With his little mirror and adequate illumination, Garcia was able to watch the functioning of his own vocal cords in respiration and in vocalization. He published several books on voice [Garcia, 1840, 1894], further developed his laryngoscopic technique (fig. 4) and communicated an account of his observations of laryngeal physiology in action to the Royal Society in 1855. Prior to Garcia's use of the small mirror, attempts at laryngoscopy had been imaginative but ill-fated. Mackenzie [1865] writes about one such contraption, Avery's laryngoscope (fig. 5), in his *The Use of the Laryngoscope in Diseases of the Throat*: 'It was difficult, indeed almost impossible, to introduce Avery's speculum, without irritating the base of the tongue and other contiguous parts, and thus causing a disposition to vomit. This feature alone would have been sufficient to insure the failure of Mr. Avery's attempts at laryngoscopy, had not the cumbersome reflecting apparatus combined to produce the same result.'

Shortly afterward, a Viennese physician and neurologist, Ludwig Türck, who claimed to have been unaware of

Garcia's report, made laryngeal mirrors of his own and used them not only for self-examination of the larynx but also to observe laryngeal pathology in his patients. Without rushing his findings into print, he lent one to a colleague, Johann Nepomuk Czermak of Budapest. Czermak soon published an extensive account of its use with artificial illumination to examine patients with diseases of the larynx. Thus began a long-drawn-out battle of claims, counter-claims, polemics and threats of legal action between two bitter rivals for priority. This strife came to be known as 'Der Türckenkrieg', a Viennese pun recalling the Turkish wars which had repeatedly ravaged Austria. Although Czermak jeered 'Der Herr Türck kam immer zu spät' ('... Türck has always come late'; in part because Türck's description of nerve degeneration had been anticipated by Waller's), the Académie Impériale des Sciences in Paris decided to award them equal credit and equal prizes, amounting to 1200 francs.

Rivalry between the two pioneer laryngoscopists led to rapid advances in their craft, as well as to initial steps in rhinoscopy by Czermak. Each of them had followers who

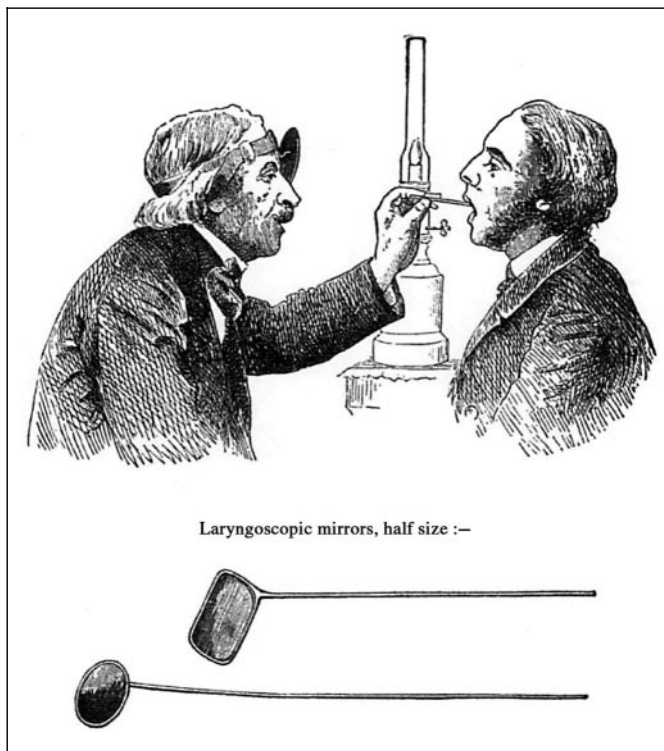


Fig. 4. Garcia's laryngoscopy. Note the oil lamp as the light source. From Garcia [1894].

also became famous. One of Czermak's pupils was Friedrich Semeleder who further developed rhinoscopy. He went to Mexico with Maximilian von Habsburg in 1864 as that Emperor's personal physician and stayed on after being dismissed from his services in 1866, becoming an influential member of the Academia Nacional de Medicina. Türck had among his pupils Karl Stoerk, Leopold Schrötter von Kristelli and Johann Schnitzler. Stoerk claimed to be the first ever to devote his full time to lecturing, research and practice in laryngology. He was a skilled surgeon who devised many new surgical instruments. Schrötter made several significant contributions to endoscopy and was renowned as a teacher of foreign students, who flocked to Vienna for training in laryngology.

Schnitzler not only founded a new laryngological clinic and prepared a highly regarded atlas of laryngology [Schnitzler et al., 1895], but he also trained his two sons as laryngologists. Son Julius followed faithfully in his father's footsteps, but Arthur gave up medical practice at once upon the death of his father in 1895, to devote himself to a literary career. He lived to become Austria's most prolific (as well as most scandalous) author. Among his best-

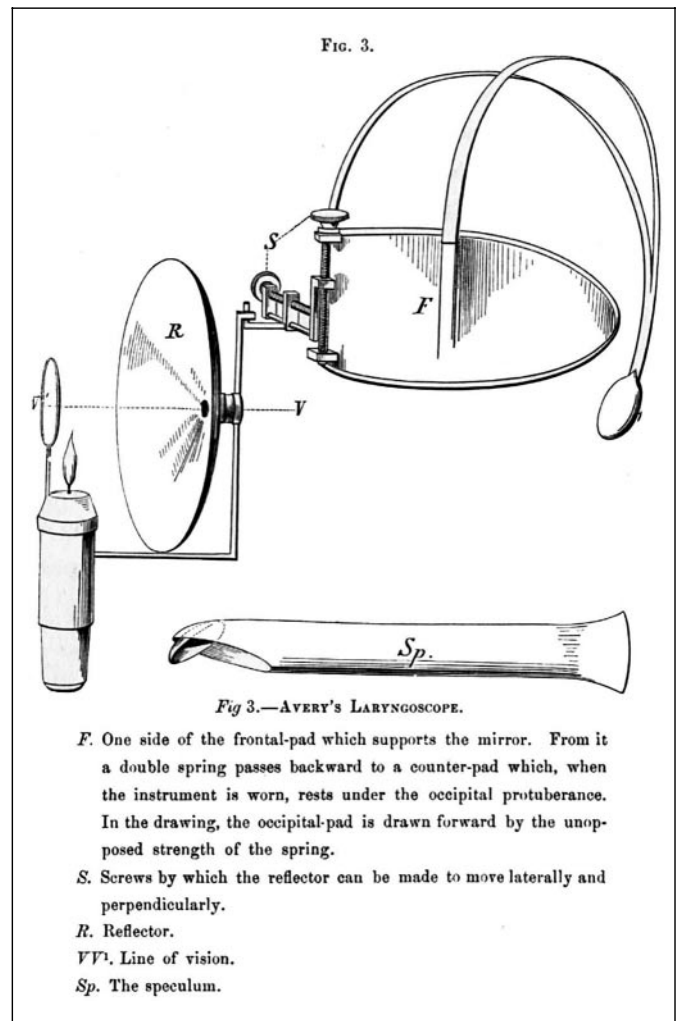


Fig. 3. Avery's laryngoscope: physician's head gear and speculum. From Mackenzie [1865].

known dramas, novels and short stories were *Reigen*, *Professor Bernhardt* and *Liebelei*. With the many works that issued from his pen, he fascinated audiences and readers in Berlin as well as in Vienna and managed to keep the imperial censors busy. He also showed himself a better writer, and arguably a better psychologist, than his contemporary and colleague Sigmund Freud, who was an acquaintance if not a friend.

A major contribution of the Vienna school was the discovery and first use of cocaine for local anesthesia. This stellar advance was initiated by an ophthalmologist, Karl Koller, who first operated on a patient's eye anesthetized with cocaine, and by a surgeon, Edmund Jelinek, who was enabled to remove a laryngeal polyp in one patient and to

ease another's pain from tuberculous laryngitis. Credit belongs also to Sigmund Freud, who called the attention of the European medical profession to the beneficent anesthetic property of the Andean alkaloid in his monograph in 1885, *Über Coca*.

In 1873, the first total removal of a human larynx was performed in Vienna's Allgemeines Krankenhaus by the surgeon Theodor Billroth, on a 35-year-old man with carcinoma. Ottokar von Chiari, who followed Stoerk as head of the laryngological clinic, was able to convert laryngology from a primarily medical to a surgical specialty and to have it recognized as another major component of the medical curriculum. Johann Schnitzler's son-in-law, Markus Hajek, has been called the 'father of endonasal surgery' who improved the instrumentation for ethmoidal operations. A famous patient of his 'Neue Klinik' was Franz Kafka, whose tuberculous larynx could not be cured and soon brought on his death. Hajek, at the age of 77, was forced to flee to London in 1938, when Hitler's Nazis took over Austria.

France and Britain

Space does not suffice to permit an account of the development of laryngology in France and Britain, but the name of J.E. Moure should be mentioned. He was appointed in Bordeaux to be the first professor of laryngology in France. He introduced his operation of lateral rhinotomy and promoted that of laryngofissure in the early stages of laryngeal cancer. In 1880, he founded the *Revue de Laryngologie*. As father-in-law of the Sénateur Georges Portmann, he was also the founder of the Moure-Portmann dynasty, which for generations has dominated otolaryngology not only in the Bordeaux region, but in all of France.

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Professional interest in the diseases of the throat developed slowly in Britain, according to Stevenson and Guthrie's *History of Otolaryngology* [1949]. Among the important specialists was a German, Felix Semon, who settled in London in 1874 and became chief of the laryngological department at St. Thomas's Hospital in 1883. He founded the London Laryngological Society in 1893. His younger contemporary was St. Clair Thomson, a London-born Scot who was trained in surgery by Lister at King's College Hospital and by Hajek and others in Vienna. A few years earlier, Morell Mackenzie, with his *Diseases of the Throat and Nose* and his *Journal of Laryngology*, had been the dominant figure of British laryngology, at least until he played such a prominent and controversial role in connection with the illness and death of the German Crown Prince and all-too-short-lived Emperor, Frederick III. In 1887, the middle-aged Prince, liberal and modern-minded son of the aged German Kaiser Wilhelm I and husband of Queen Victoria's daughter Victoria, had developed a stubborn throat complaint, so his anxious wife asked her mother to send Mackenzie to assist the German doctors in diagnosis and treatment. Their professional resentment of his presence, together with their visitor's inadequate biopsies performed with borrowed forceps, caused diagnostic confusion even for Rudolph Virchow. Surgery was delayed for so long that the patient died in 1888, just a few weeks after he had succeeded to the imperial throne upon the death of his father. The resulting international medical and political brouhaha cost Mackenzie public and professional respect even in Britain; his little book of blame-sharing explanation did little to restore it. The miserable affair seems to have hastened Mackenzie's own death. Far worse, the admirable Frederick was followed by his autocratic son, Wilhelm II [Rohdich, 1987], whose imperial ambitions managed only to plunge Europe into its disastrous 'War to end wars' and the horrors that have ever since swarmed in its train.