History Corner
An approach to the history of Otology in Italy. From the beginning to the nineteenth century. *Part one.*

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Abstract: Interest in the ear and hearing has been present since the dawn of humanity, as evidenced by references in Mesopotamian, Egyptian, Hellenistic, and Roman cultures. A significant impetus was provided by the development of anatomical and physiological knowledge, particularly in Italy during the 15th and 16th centuries. But it was only in the nineteenth century that Otology was recognised as an autonomous discipline, with a rich cultural background and highly developed disciplinary content. In this paper, the first part of a more complex project, we focus on the development of Otology in Italy up to the nineteenth century.

Keywords: *Otology, Otology development in Italy, Camillo Poli, Vincenzo Cozzolino, Giuseppe Gradenigo, Wilhelm Kramer, William Wilde.*

Introduction

Perhaps the "official" date of Otology as a separate medical speciality can be considered 25 March 1805, when the first "dispensary for Curing Diseases of the Eye and Ear" was opened at number 40, Charterhouse Square in West Smithfield in London, by John Cunningham Saunders. In 1822 the Hospital was moved to a purpose-built building in Lower Moorfields, near today's Liverpool Street station, like the London Ophthalmic Infirmary.

From that moment onward, numerous dedicated enthusiast physicians fully committed themselves to the emerging discipline. A clear testament to this is the widespread success of foundational texts by Wilhelm Kramer (Kramer 1936, 1937, 1938) and William Wilde (Wilde 1853a, 1853b, 1855). Kramer's work, first published in Berlin in 1836, was translated into English the following year and into French by Prosper Ménière in 1848. Wilde's treatise was simultaneously published in Dublin and Philadelphia in 1853, and subsequently in Berlin in 1855. It is worth noting that these were not only translations but rather critically annotated versions, with the translators often being renowned clinicians. In addition to the proliferation of texts—particularly in Germany, the United Kingdom, and France—numerous diagnostic and surgical instruments were developed specifically for otology. Among these were enhanced otoscopes with magnification and tools for quantifying hearing capacity, such as the "*akumeters*" designed by Wolke (1802), Itard (1821), and Politzer (1877).

In this short note, we would like to try to trace what happened in Italy regarding the treatment of ear diseases, particularly in the nineteenth century.

The Past

However, we cannot ignore what happened in ancient Rome. Giacomo Cacciapuoti, in his valuable contribution (Cacciapuoti 2016), de-

scribes with great accuracy the development of "medical specialisations" in republican and then imperial Rome, as well as the figure of the *medicus auricularius*. The doctor in ancient Rome was usually a general practitioner and a jack of all trades. However, starting from the 1st century AD, three specialisations began to assert themselves in the cities: *chirurgus, ocularius, and auricularius*.

The "Italic medicine" relied primarily on dietary correction, thermal baths, herbal remedies, and the guidance of the *pater familias*. In contrast, Hippocratic medicine—when unable to prevent disease—employed more invasive interventions such as incisions, evacuative drugs, and purgation to expel humours, often abruptly and aggressively (Fig. 1).

Classical and Hellenistic Greece institutionalised the "*δημόσιος ἰατρός*" *(dêmósios iatrós*), or public physician, appointed by contract to reside in the city for a fixed term in exchange for a guaranteed minimum wage. The adoption of specialised practice in Roman medicine appears to be influenced by traditions already established in Egypt.

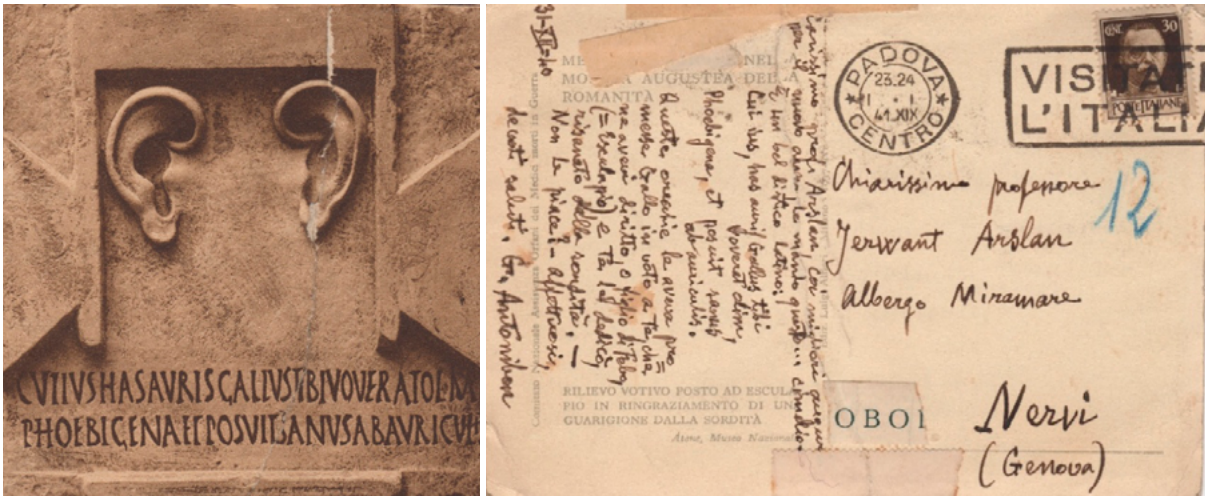


Figure 1. Votive relief dedicated to Asclepius in gratitude for a healing from deafness; Athens National Museum; postcard sent to prof. Jerwant Arslan from a patient, 1941.

During the early Imperial era, roles such as *medicus*, *chirurgus*, and other emerging organ- or disease-specific specialities began to diverge. In non-military contexts, these included:

- *medicus ocularius* (ophthalmologist)
- *medicus chirurgus* (surgeon)
- *medicus auricularius* (otologist)
- *valetudinarius* and *cubicularius* (hospital-based practitioners)
- *iatralipta* (massage therapist)
- *archiater* (chief physician)
- In military settings:
- *medicus duplicarius* (military physician)
- *medicus clinicus* (military physician)

For veterinary practice:

- *medicus veterinarius* (animal specialist)
- *medicus equarius (horse specialist)*
- *medicus iumentarius* (cattle specialist)

The establishment of *archiatri* in the later Empire—resembling today's general practitioners or public health doctors—marked a significant institutional step.

Celsus emphasised the importance and visibility of surgical outcomes, asserting in *De Medicina* that surgical practice yields the most observable results: *It is a well-known fact, which I have already expressed to be the case, that the third part of medicine works with the hand. It does not, for this reason, neglect medicaments and the government of life; but it does most of it with the hand, and this is its most evident effect on all parts of the medical art*[1]. He outlined

[1] Quae marni curet, et vulgo notum, et a me propositum est. Ea non quidem medicamenta atque victus rationem omittit; sed manu tamen plurimum praestat: estque ejus effectus inter omnes medicinae partes evidentissimus. (Celso, De medicina, liber septem).

the ideal surgeon as youthful or middle-aged, with steady hands, keen eyesight, courage, and compassion. The surgeon must remain unaffected by the patient's cries, maintaining focus and precision: "*The surgeon must be young, or at least not far from youth; his hand must be strong, steady and never trembling, and his left hand no less quick than his right; his sight must be sharp and clear; his mind must be intrepid and compassionate, so that he heals those he has taken away, so that, moved by his cries, he neither hastens more than he asks for, nor does he cut less than is necessary; but he must carry out everything as if no effect were born of the complaints of others*"[2]. *Hippocrates, similarly, argued that not all physicians are fit to be surgeons, as operative competence demands experience and habit, stating habit is the best master for the hands.*

In his work "*De Medicina*", **Aulus Cornelius Celsus** described several ear conditions and their treatments, including those involving the ear canal. He addressed issues such as ear infestations caused by maggots and the use of ear syringes for cleansing and removing foreign bodies. Celsus's writings provide valuable insights into early surgical practices related to the ear canal, although it's essential to note that modern surgical techniques have advanced significantly (Marmelzat 1982).

From a legal and social standpoint, almost 43% of physicians in Rome and the Regio I between the 1st century BCE and the 3rd century CE were imperial freedmen, often of Greek origin. Among the rarest specialisations was that of *auricularius*, with documented individuals such as Titus Aelius Aminias and Tiberius Julius Secundus (Fig. 2).

***CIL* VI, 8908 = EDR143301**[24]

D(is) M(anibus) / T(itus) Aelius Aminias / Aug(usti) lib(ertus) medicus / auricularius fe/cit sibi Aeli/ae Lexi coniugi / et fi(liis) l(iberti)s li(berta)busque / posterisque / eorum.

***CIL* VI, 37752 = EDR072361**[25]

Ti(berio) Claudio Aug(usti) l(iberto) Euno / Neronis Aug(usti) cunario / Ti(berio) Iulio Aug(usti) l(iberto) Secundo / medico auriculario / Claudiae Aug(usti) l(ibertae) Cedne mammae / Claudiae Hermione vernae suae / Ti(berius) Iulius Eunus Ti(berius) Claudius / Deuter fecerunt parentibus suis / Ti(berio) Claudio Felici vernae suo / libertis libertabusque posteris suis.

Figure 2. Stelae dedicated to Titus Aelius Aminias and Tiberius Julius Secundus, freedmen who worked as medici auricularii (ear doctors) between the 1st and 3rd centuries AD.

[2] Esse autem chirurgus debet adolescens, aut certe adolesceuliae propior: maanu strenua, stabili, nec unquam intremiscente, exque non minus sinistra, quam dextra promptus; acie oculorum acri, claraque; animo intrepidus, misericors sie, ut sanari velit eum, quem accepit, non ut clamore ejus motus, vel magis quam rea desiderat, properet, vel minus, quam necesse est, secet; sed perinde faciat omnia, ac si nullus ex vagitibus alterius affectus oriatur. (Celso, De medicina, liber septem).

Ear disease treatments in antiquity, as described by Celsus (Celsus, 1 century AD), were diverse. It was known how the diseases affecting this organ could cause dementia or death. Minor pain could be treated with rest and dietary regulation ("*abstinere et continere*"). Persistent or worsening symptoms called for shaving the scalp and applying iris-based ointments. If ineffective, phlebotomy was indicated. Hot cataplasms made with fenugreek, flaxseed, or wine-cooked flour were recommended, as were thermal therapies involving hot water sponges. Ointments were also introduced into the auditory canal using syringes or probes such as the *auricularium specillum*—a thin, slightly curved rod ending in a spoon-shaped tip—suggesting an awareness of otologic pathology. (Fig. 3)


DELLA
MEDICINA
DI AURELIO CORNELIO
CELSO
LIBRI OTTO.
Portati nella Lingua Italiana, secondo l' Esemplare Latino dato al Pubblico, da Teodoro Janfenio d' ALMELOVEEN, Dottore, e Professore di Medicina, in Olanda.
Achilles FATICA
DELL' ABATE CHIARI DA PISA
TOMO PRIMO.
IN VENEZIA, MDCCXLVII.
Appresso Domenico Occhi.
Con licenza de' Superiori, e Privilegio.

Figure 3. Frontispiece of De Medicina by Aurelio Cornelio Celso and portrait of Aurelio Cornelio Celso.

During the Arab period of medicine, otology too came under the influence of the therapeutic methods of that era. Thus, Rhazes recommended the use of hot iron to relieve earaches and cauterise aural polyps, while shortly afterwards, William of Saliceto suggested strangling the polyps with horsehair, followed by cauterisation. Girolamo Mercuriale or Mercuriali (1530-1606) was born in Forlì and educated at Bologna, then he graduated in 1555 at the University of Padua. He gave lessons as a professor in Padua and published 12 books, contributing significantly to otologic literature. His *De Compositione Medicamentorum* (Mercuriale, 1591) is considered the first clinical manual on otology. Mercuriale addressed auditory diseases based on empirical, Arab-influenced medicine rather than Renaissance physiology. He classified hearing loss as congenital or acquired, caused by cerebral or auricular pathology. He noted extrinsic causes—loud noise, foreign bodies, cold water, noxious fumes—and recognised intrinsic, systemic conditions leading to bilateral deafness.

The revolutions of the XIX century

The nineteenth century witnessed revolutionary changes with the introduction of magnifying otoscopes and hearing assessments. These advances, combined with evolving pathological understanding, diagnostic accuracy, and surgical innovation, gave rise to the modern otologic specialist and led to the foundation of dedicated institutions ("Disease of the Eye and Ear"). As Albert Mudry noted, "Until the beginning of the 19th century, there were almost no measuring tools to determine and quantify the degree of hearing disability" (Mudry 2015).

Christian Heinrich Wolke (1741–1825), and French pioneers Jean Marie Gaspard Itard (1755–1838), Antonine Saissy (1756–1822), and Nicolas Deleau (1799–1862), contributed substantially to early otologic procedures such as Eustachian catheterisation, myringotomy, and the management of otitis externa and deaf-mutism—establishing otology as both a clinical and surgical specialty.

Figure 4. Portrait of John Cunningham Saunders (1773 – 1810).

Saunders, the first British surgeon to focus exclusively on ophthalmic and otologic conditions, represents the modern dawn of otology ("*Was the first regularly trained surgeon in Britain to devote himself exclusively to diseases of the eye and ear*"). He opened the first "Dispensary for Curing Diseases of the Eye and Ear" on 25 March 1805, Charterhouse Square in West Smithfield, London. It was later moved to Lower Moorfields, next to Liverpool Street Station, as "London Ophthalmic Infirmary" (Fig. 4).

Otology in Italy

But a major revival in otological studies one that would lay our science on solid foundations-came with the remarkable anatomical research initiated in the 16th century. This glory belongs especially to a distinguished line of Italian anatomists, from Berengario da Carpi to Antonio Scarpa, nearly uninterrupted up to the dawn of the 19th century.

Speaking to Italians, it is hardly necessary to recall how Fallopius, Eustachius, Andreas Vesalius, Fabricius of Acquapendente, Valvalva, Cotugno, Scarpa and Corti. However, we refer to what has been reported in other papers regarding the fundamental contribution to the knowledge of the anatomy and function of the ear, particularly by the *Studium Patavinum* (Cozza 2025).

We agree with Camillo Poli's statement *Faced with such a rich body of fundamental research on the auditory organ by a succession of Italian scientists, it is not an idle boast to claim that scientific otology was born in Italy.*

In the nineteenth century, Otology was already an autonomous discipline, with a rich cultural background and a highly developed disciplinary content, also in Italy. Of particular interest in this regard is the *Introductory Lecture to the Free Course in Otology and Rhinolaryngology: The Progress of Otology*, delivered by Dr. Camillo Poli[3] in the academic year 1900–1901, at the Royal University of Genoa, in which Poli, with passionate tones, situates the development of otology in Italy within the broader European context (Fig. 6). Poli writes: "*If, in beginning this year's course, I have chosen to direct our attention to the path that Otology has followed in its progressive development, it is because I believed it would not be entirely fruitless for our science to reflect with you on the harmonious set of scientific and practical knowledge that this branch of medical learning has acquired—through intensive and, one might say, steadily accelerating work—especially during the final decades of the 19th century, a branch that only a few years ago barely dared to assert itself among us*" (Poli 1901).

One of the critical points addressed by Poli is the reason for Italy's delay compared to other nations, despite having been the cradle of otological knowledge:" *But a major revival in otological studies one that would lay our science on solid foundations—came with the remarkable anatomical research initiated in the 16th century. This glory belongs especially to a distinguished line of Italian anatomists, from Berengario da Carpi to Antonio Scarpa, nearly uninterrupted up to the dawn of the 19th century. Speaking to Italians, it is hardly necessary to recall Fallopius, Eustachius, Andreas Vesalius, Fabricus of Acqapendente, Valvalva…Cotugno… Scarpa.* E poco dopo: *I do not know whether this should be attributed to that natural phenomenon by which even intellectual energies are fated to periodically exhaust themselves, or rather*

[3] Camillo Poli, born in Arona on November 28, 1865 – died in Lemano on July 24, 1923; degree in Medicine and Surgery in Pavia in 1890; on July 2, 1890, Libera Docenza (habilitation) in Genoa, President of SILOR (Italian Society of OtoRhinoLaryngology) in 1911–12. He dedicated his efforts in the fight against tuberculosis.

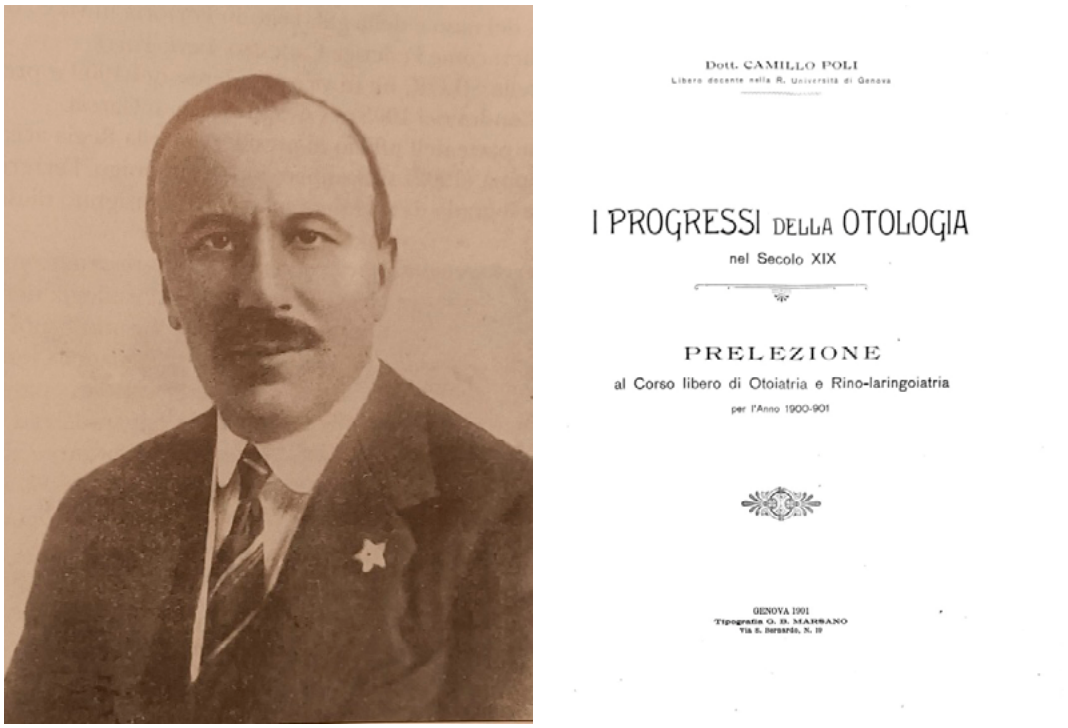
to the sad political circumstances that plagued our country in the first h The fact remains that, after Scarpa, we must cross a long period without finding any sign of a scientific revival in otology. Thus, it is understandable that Petrequin, returning from a trip to Italy around 1840, could state that ear diseases were not studied in our country."

And he concludes: *"Gentlemen, however great the work accomplished by otologists in the 19th century, a vast harvest still awaits to be gathered in the field. By engaging in this task with honest and sincere intentions, you will be doing something useful for yourselves and preparing—here in the ancient homeland of otology—a fortunate period of renewal rebirth during which every form of scientific organization seemed to be distracted or hindered."*

Poli also reports on the widespread teaching of otology in Europe and Italy:" *otology was being taught in 19 German universities, two in France, six in Austria-Hungary, five in Italy, two in Russia and Switzerland, and one each in the Netherlands, Denmark, Norway, and Japan.*"

But we will return to this point later, also to address the other very important contribution of Professor Cozzolino (Fig. 7) (Cozzolino 1984).

Poli cites several particularly significant contributions in the field of Otology in Italy: Luigi Calori, with a study "on the chorda tympani" and another "on the course and distribution of arteries in the tympanic cavity of certain mammals"; Giovan Battista Mazzoni (who apparently performed, with good functional success and using the method recommended by Celsus, the opening of a congenitally closed auditory canal in an 18-year-old deaf-mute woman); Paolo Fabrizi in Modena; his mentor in Pavia, Giovanni Zoja; Demetrio Bargellini in Florence (who, in 1861, published a paper in the Gazzetta Medica Toscana titled On the Differential Diagnosis and Therapy of Disorders of the Auditory Organ); Giovanni Cerutti in Turin (who in 1857 published an excellent study on the catheterisation of the Eustachian tube); Luigi Calori in Bologna; Eugenio Morpurgo in Trieste; Giacomo Filippo Novaro in Turin; Emilio De Rossi (holder of the first chair in Otology in Italy, Rome, 1871); Giuseppe Sapolini and Giovanni Longhi in Milan; Origene Masini in Genoa; Felici in Rome; Corrado Corradi in Verona.


Dott. CAMILLO POLI

I PROGRESSI DELLA OTOLOGIA

nel Secolo XIX

PRELEZIONE

al Corso libero di Otoiatria e Rino-laringoiatria

per l'Anno 1900-901

GENOVA 1901

Figure 6. Portrait of Camillo Poli and his "I Progressi dell'Otologia", Genova 1901.


RELAZIONE
A S. E. III.ma
COMM.re PROF.re GUIDO BACCELLI
MINISTRO DELLA PUBBLICA ISTRUZIONE
DEL REGNO D'ITALIA
SULLE CLINICHE PRIVATE
DI LARINGOJATRIA E DI OTOJATRIA DI PARIGI E DI LONDRA
E QUELLE GOVERNATIVE DELL'UNIVERSITÀ DI VIENNA
PEL DOTTOR
CAV. VINCENZO COZZOLINO
NAPOLI
TIPOGRAFIA DELL'ACCADEMIA REALE DELLE SCIENZE
1883


PROF. VINCENZO COZZOLINO
della R. Università di Napoli
L'OTOJATRIA, LA RINOJATRIA
E
LA LARINGOJATRIA
NELLE UNIVERSITÀ DELLA GERMANIA E DELL'AUSTRIA
RELAZIONE
A S. E.
PROF. GUIDO BACCELLI
MINISTRO DELLA PUBBLICA ISTRUZIONE
NAPOLI
R. TIPOGRAFIA FRANCESCO GIANNINI & FIGLI
1895

Figure 7A. Cozzolino V. Report to His Excellency the Illustrious Commendatore Professor Guido Baccelli, Minister of Public Education of the Kingdom of Italy, on the Private Clinics of Laryngology and Otology in Paris and London and the Governmental Clinics of the University of Vienna. Naples: Royal Academy of Sciences Printing House, 1883. Figure 7B. Cozzolino V. Otology, Rhinology, and Laryngology in the Universities of Germany and Austria. Report to His Excellency the Illustrious Professor Guido Baccelli, Minister of Public Education. Naples: Royal Printing House Francesco Giannini & Sons, 1895.

It is rather surprising that Vittorio Grazzi (Pisa) and Giuseppe Gradenigo (Padua, Turin, and later Naples) are only briefly mentioned, and that the name of Vincenzo Cozzolino (Naples) is entirely absent.

Since we believe that the contributions of these and other Italian otologists were particularly interesting and influential, we will address them in an upcoming article: "The Pioneers of Otology in Italy."

City	Findings
Vienna	Two otological clinics (Politzer, Gruber) both made full chairs in 1894. Each clinic had 8 beds and a shared space for lectures, outpatient and inpatient care. Laryngology (Turck, Störk) had 19 beds. Considered the best-equipped clinic in Europe. Separate sections for otology (Urbantschitsch) and rhino-laryngology (O. Chiari). Excellent equipment, laryngological atlases. Popular with foreign students. Professors earned 12,000–15,000 pounds/year.
Paris	Multiple clinics, public and private. Larriboisière (Proust), Lourcine (Gouguenheim), Bichat. Private practices (Fauvel, Coupard). Bonnafont present. At Pitié: Verneuil specialized in tracheotomy and mastoid procedures.
Graz	Clinic directed by Habermann. 9 beds in 3 rooms, large lecture/outpatient hall, darkroom. 2,085 patients/year (1,250 ear). Budget: 200 florins. Laryngology taught by Karl Emele (private lecturer).
Strasbourg	Clinic (A. Kuhn) with 20 beds (+10 planned), outpatient room, darkroom. Budget: 2,250 marks (600 for outpatient). 2,000 outpatients/year. Laryngology taught by F. Klemperer (private lecturer). Surgical clinic previously led by A. Lücke.

Heidelberg	Otological clinic (S. Moos). Founded journal *Archiv für Ohrenheilkunde*. Well-equipped outpatient dept. Budget: 1,800 marks. Rhino-laryngology (A.S. Jurasz) in shared room. Budget: 1,600 marks. Surgery led by V. Czerny.
Halle	Otology (H. Schwartze) with 3 assistants, 22 beds, OR, histology, and bacteriology depts. Electrified. 3,000 patients/year. Budget: 6,000 marks (1,200 to assistants). Laryngology taught by private lecturer. Surgery (F. V. Bramann).
Berlin	Otology (A. Lucae), 25 beds, outpatient, OR, lecture rooms. 1,200 surgeries (1881–94). 6,000 patients/year. Budget: 5,000 marks. Laryngology (B. Fraenkel), 34 beds, 2 assistants. Other private doctors and Charité clinic active.
Munich	University otology and rhinology (F. Bezold), laryngoscopy (J. Oertel). Sonnenstrasse Polyclinic: R. Haug (otology), Ph. Schech (laryngo-rhinology).
Prague	German Univ.: ORL (E. Zaufal), 24 beds, OR, outpatient dept. 3,000–3,500 patients/year. Laryngology (R. Jaksch). Bohemian Univ.: ORL (E. Kaufmann), 11 beds, 140–150 inpatients, 3,000 outpatients.
Basel	Prof. F. Siebenmann at the Vesalianum, with Dreyfuss.

Table I: ENT activity during the travel of Vincenzo Cozzolino at the end of the XIX century.

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