Empiricism in Sixteenth-Century Medical Practice: The Notebooks of Georg Handsch

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Abstract
Based on an analysis of some 4,000 pages of manuscript notes on ordinary medical practice which the little-known Bohemian physician Georg Handsch (1529–1578?) wrote from the late 1540s, this article traces the central place which empiricist attitudes and approaches held in mid-sixteenth-century learned medical practice. While explicit epistemological statements are rare, the very effort which Handsch put into recording thousands of observations he and other physicians around him had made, and the value they attributed to the experiences of ordinary lay persons and even “empirics” reflects a profound belief in the value of sensory experience and personal observation. The paper traces the uses of empiricist key terms like “experientia,” “historia” and “observatio,” it highlights the epistemic effects of personal observation, from confirming and challenging established notions to the creation of new general knowledge from particulars, and it suggests, in conclusion, that such brief notes on ordinary medical practice played an important role in the history of “facts.”

Keywords
empiricism, medical observations, medical practice, empirics, note-taking, Georg Handsch

Recent historical scholarship has highlighted the growing appreciation for empirical observation and sensory experience in late medieval and Renaissance writing on practica medica. Academically trained physicians remained firmly attached to Aristotelian logic and continued to attribute superior status to causal, deductive and demonstrative knowledge. They came to acknowledge, however, that certain phenomena and powers in

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nature, such as the effects of different healing waters, drugs, or poisons, could not be predicted or accounted for by reasoning from first principles but only through empirical study. In doing so, they participated in a wider epistemological shift, in contemporary natural philosophy, from universals to particulars, and they found additional support in the empiricist elements articulated in the works of Hippocrates and Galen.1

From the mid-sixteenth-century onwards, this epistemological shift found expression in the publication of a growing number of *curationes* and *observationes*, of accounts of individual cases and other occurrences of medical interest.2 As Gianna Pomata has shown, they can be fruitfully studied as “epistemic genres,” as literary forms which reflected prevailing—and changing—epistemological outlooks. In fact, their rise was

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“an important sign of the new significance of observation itself in medical culture.” They indicate the place which learned physicians were by then willing or indeed keen to attribute, in public, to empirical observations, to the stories of individual patients, to the knowledge of particulars rather than universal theories.

Published *curationes* and *observationes* differed from casebooks, practice journals, diaries and similar records of ordinary medical practice, however. They usually offered structured narratives, which were presumably elaborated from previous notes. What is more, they presented only a selection from the cases the physician had dealt with, and sometimes only fractions thereof. This was inevitably true for those collections of *observationes* that explicitly focused on rare and wondrous cases. Even those authors and editors who marketed their *observationes* as examples on which readers could model their own diagnostic and therapeutic approach in similar cases, were likely to focus on variety, however, and to choose more difficult, complex or unusual cases from which the reader might learn something new. Furthermore, following the model of self-aggrandizement set by Galen’s casuistic accounts, publishing cases offered famous medical practitioners a welcome opportunity to highlight their outstanding expertise, their superior diagnostic acumen and therapeutic skills. This resulted in the virtual absence of any errors, therapeutic failures and fatal outcomes—except if they could be attributed to the author’s competitors on the medical market-place or to the ignorance or disobedience of patients and bystanders.

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3) Pomata, “Sharing Cases,” 199; some authors, including those of the earliest works which carried the term “observationes” in the title, used it in the sense of “observations on” for collections of short treatises about different topics (see e.g. Josse van Lom (aka Jodocus Lommius), *Medicinalium observationum libri tres* (Antwerp, 1560); Johannes Weyer, *Medicarum observationum rararum liber I* (Basel, 1567)).

4) While Pieter van Foreest (Foreest, *Observationum*) seems to have published at least a substantial number of the cases he treated, François Valleriola, for example, claimed that he had assembled another 600 histories of “more serious” cases in his own practice, apart from the 60 he published in 1573, implying that the number would have been even much higher, if he had also added the many less serious cases he had seen (Valleriola, *Observationum*, 263).

5) It is telling that, by contrast, among the—relatively few—published histories of cases which Da Monte treated personally (rather than just pronouncing his opinion in a *consilium* or a public *collegium*), fatal outcomes are quite frequent: these histories were
Unfortunately, physicians’ personal notebooks and similar unpublished sources that were closer to ordinary, everyday practice and its epistemological conundrums have rarely survived from the sixteenth century, and the few we know of, such as the practice journals of the Nuremberg physicians Georg Palma and Johann Magenbuch, offer very limited information.6 The body of sources on which this paper will primarily draw, appears to be quite unique in this light. It consists of a series of volumes with manuscript notes on medical practice, which the Bohemian physician Georg Handsch (1529–1578?) wrote from the late 1540s onwards. Born in the town of Leipa (today Česka Lipa), on an old trade route north of Prague, Handsch was not a famous man in his times and is all but forgotten today.7 A graduate from the renowned schola in the Silesian town of Goldberg, he went to Prague in the late 1540s and became increasingly interested in medicine. He began to accompany a local physician, Ulrich Lehner, on his visits to patients. From 1550 to 1553, he studied medicine in Padua and received a medical doctorate in Ferrara, in 1553. After his return to Prague, he acted as a kind of apprentice physician to Andreas Gallus and Pietro Andrea Mattioli, both personal physicians to Archduke Ferdinand of Habsburg, and went to see patients with them, in and around Prague. In the 1560s, he was eventually also appointed to the position of a personal physician of the Archduke and

published after his death by his students based on the notes they had taken when they visited these patients with him.


7) For biographical information see Rudolf Wolkan, Geschichte der deutschen Litteratur in Bochmen bis zum Ausgange des XVI. Jahrhunderts (Prague, 1894), 124-33; Leopold Senfelder, “Georg Handsch von Limus. Lebensbild eines Arztes aus dem XVI. Jahrhundert,” Wiener klinische Rundschau (1901), 495-99, 514-16 and 533-35; Josef Smolka and Marta Vaculinová, “Renesanční lékař Georg Handsch (1529–1578),” DVT–Dějiny věd a techniky, 43 (2010), 1-26. The precise date of Handsch’s death is uncertain. We know, however, from a request for financial support by his sister Anna, in June 1579, that he was dead by then (Tiroler Landesarchiv, Innsbruck, Kammer, Entbieten und Befelch, vol. 386, foll. 169r-v).
later moved with him to Innsbruck, where he took care of the ducal family and of patients in the town and the surrounding villages.8

Apart from a translation of Mattioli’s commentary on Dioscorides,9 Handsch only published and/or edited various poems10 and a “rhythmic calendar,” which he contributed to a Latin textbook.11 A five-volume natural history, which included an original account of fish-breeding techniques in Bohemia, did not make it into the press;12 neither did a carefully composed collection of popular common places13 and a selection of his letters14 which he seems to have prepared for publication. Handsch was an extremely prolific note-taker, however. In addition to various volumes with lecture notes and excerpts, he filled about 4,000 pages with notes on his experiences and observations with patients he treated personally or whom he saw together with other physicians and, to a more limited degree, on what he had heard from others in Prague, in Leipa and later in Innsbruck.15

Handsch did not explicitly state what prompted his copious note-taking, but there can be little doubt that he hoped above all that it would

10) Prima farrago sacri argumenti poematum ab aliquot studiosis poeticae bohemis scriptorum diversis temporibus ad nobilem et clarissimum virum D. Ioannem Seniorem Hoddieovinum ad Hoddeiova (Prag, [1561]); three further volumes which all contained, amongst others, poems by Handsch, followed with slightly varying titles; Handsch curated the whole collection but explicitly figured as the editor only in the second volume.
13) ÖNB, Cod. 9550.
14) ÖNB, Cod. 9650.
15) ÖNB, Cod. 11106, Cod. 11183, Cod. 11200, Cod. 11205, Cod. 11206, Cod. 11207, Cod. 11238, Cod. 11240, Cod. 11247 and Cod. 11251.
help him become a more successful practitioner. Though he continued to take notes throughout his life, the bulk of his notes stem from his early professional years, and they overwhelmingly deal with very concrete aspects of medical practice. They range from all kinds of observations on the diagnosis and treatment of different diseases to vernacular expressions, which could be used to explain the nature of the disease and the necessary treatment to patients and families,16 to his repeated resolution to refrain from ever putting his reputation at risk again by accepting patients with an incurable disease.17

Handscher clearly had no intention to publish his notebooks.18 He admitted, amongst others, that he found it difficult to see blood, he repeatedly listed the “errors” he had made in dealing with certain patients, he hinted at some of his sexual activities, and he even revealed that he had received his doctorate by pretending that he had obtained a master’s degree in Prague.19 This very personal, private quality makes these notebooks a uniquely valuable source for many aspects of mid-sixteenth-century medical practice and, in particular, as I hope to show in this paper, for the study of empiricist approaches. In what follows, I will first present some evidence for the importance that Handsch and other mid-sixteenth-century Galenist physicians in his circle attributed to empirical observation and sensory experience in general and will trace the uses of key terms like “experimentum,” “historia” and “observatio.” I will then describe the different kinds of empirical observations which Handsch

17) ÖNB, Cod. 11200, fol. 126r; ÖNB, Cod. 11205, fol. 691r; ÖNB, Cod. 11240, fol. 42r.
18) By contrast, the cases collected by what seems to have been a student of Antonio Musa Brasavola in Ferrara, in the 1540s, were by all appearances elaborated from previous notes and presumably meant to be read by others or indeed published (Biblioteca Ariostea, Ferrara, Collezione Antonelli, ms. 531; cf. Cesare Menini, “Curationes A.M. Brasavoli,” Contributo alla conoscenza delle opere di Antonio Musa Brasavola come medico pratico,” Rivista della storia delle scienze mediche e naturali, 43 (1952), 255-61, and Pomata, “Sharing Cases,” 208-11). Bartholomäus von Reckingen in his manuscript collection of cases, which he had successfully diagnosed and treated in the early 1560s, certainly made no secret of his intention to showcase his extraordinary uroscopic skills (National Library of Medicine, Bethesda, Ms. E63, Liber judiciorum urinarum variorum hominum).
19) ÖNB, Cod. 11240, foll. 151r.
recorded and will highlight their epistemic functions. In the last part of my paper, I will present evidence for the considerable appreciation also for the empirical observations and knowledge of patients and other lay people, including unlicensed “empirics” and “old women,” whom the physicians in their published writings almost routinely accused of ignorance and fraud. In conclusion, I will sketch out the differences between the more detailed and structured accounts we find in published observationes and the predominantly very brief entries in Handsch’s notebooks and place them in the context of the rise of “factual” knowledge.

Empiricist Convictions

In some of his notes, Handsch explicitly discussed the value of personal observation and experience. They offer clear evidence that, in an era that was still under the pervasive influence of medical humanism, doctors learnt to appreciate personal observation and sensory experience as an important source of knowledge from the early days of their careers. In Padua, Handsch was made familiar with Galen’s account of the “empirics” as those among the three major medical “sects” who relied on experience alone.20 The use of reason was essential, he learnt, but experience had its legitimate place as well. “When experience seems to contradict reason,” he quoted Aristotle in one of the very first entries into the notebook he kept as a new student in Padua, in 1550, “one has to stay on the side of experience.”21 “Ratione duce, comite experientia” (“with reason as guide [and] experience as companion”): this was the characteristic Galenist motto Handsch chose as a young physician in Prague, in 1555.22

The value of sensory experience and empirical observation was also powerfully conveyed by a thorough training in practical medicine. As a student, Handsch not only witnessed several public and private anatomies and acquainted himself with dozens of plants in the newly estab-

20) ÖNB, Cod. 11240, fol. 3r, notes on Andreas Appellatus’ lectures on Rhazes’ ninth book Ad Almansorem.
21) ÖNB, Cod. 11240, fol. 2v.
22) ÖNB, Cod. 11207, fol. 1r.
lished botanical garden in Padua. As I have recently shown elsewhere, Handsch like other medical students at the time also received extensive instruction in using his senses at the bedside. Following a well-established practice in Padua and other northern Italian universities, he accompanied his professors when they visited patients in their private homes and in the Ospedale di San Francesco. On these occasions, he not only learnt how to assess the patient’s general appearance. He was also taught how to feel the pulse. He learnt how to examine and interpret the urine of dozens of patients at different stages of their disease. And he was introduced into the uses of manual palpation, especially of the patient’s abdomen, as a routine measure by which hardening, tension, enlarged livers and spleens, tumours, dropsy and other pathological changes could be identified.

Together with a positive attitude towards sensory experience, Handsch’s teachers and mentors instilled a certain measure of distrust in bookish knowledge. There were many things in patients, which could not be found in the medical works, Handsch noted. “Mattioli said that argument from authority is very weak,” he quoted the famous botanist in a summary of “what I learnt from Mattioli” with whom he began seeing patients at the time. “The obvious needs no proof,” he remembered Mattioli saying, for example, about the case of a boy who was shot in the head and died 18 days later. Mattioli scolded those as ignorant who claimed that the brain could not be damaged because, in that case, according to Hippocrates, the boy would have died after four days already.

A physician who had his knowledge only from books, another entry

23) ÖNB, Cod. 11210.
25) ÖNB, Cod. 11183, fol. 409v, “ideo multa fiunt in aegris, quae non scripta sunt,” on the case of an injured man who was only found in autopsy to have suffered a massive laceration of the stomach. Before his death, he had not vomited and not exhibited any of the other typical signs of a stomach injury described in the medical literature.
26) ÖNB, Cod. 11207, foll. iv-5v, cit. fol. 4v: “Dixit Matthiolus infirmissimum esse argumentum ab authoritate.”
27) ÖNB, Cod. 11207, fol. 219r.
reads, was like someone who wanted to recognize a coin just from reading about it: seeing it once was ten times more valuable, however. Under the heading “Many physicians are ignorant in herbal matters,” Handsch was critical of those who believed that a physician did not need to know the various plants by their names, and in another entry he recorded the advice of his teacher Gallus that it was not sufficient to know the names of different plants but that he should also know what they looked like.

The major authority for this positive attitude towards empirical approaches was Galen, but Handsch’s notebooks also offer evidence of an early impact of Paracelsian ideas in this respect. Around 1570, Handsch transcribed passages from Michael Toxites’ passionate defence of antimony, a highly controversial drug, which was widely associated with Paracelsus at the time and used quite generously by Handsch and his mentors Mattioli and Gallus. In this particular controversy, Toxites attacked the trust of his opponent in Galenic medicine and the common medicines, which all too often had no effect. Experience was always better, Handsch’s excerpt reads, than what the “reason of a learned man” concluded from his art.

Handsch’s notes also bear witness to the degree to which the stories of individual cases had already come to be recognized as a valuable source of practical knowledge in their own right. Hippocrates was an important model who, as Handsch noted on the first page of one of his notebooks, already described his patients in the Epidemics. So was Galen, whose observations on individual patients Handsch repeatedly

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28) ÖNB, Cod. 11205, fol. 124r.
29) ÖNB, Cod. 11207, fol. 28r.
30) ÖNB, Cod. 11207, fol. 77r.
31) 11183, foll. 291r-293r, cit. fol. 291r; cf. Michael Toxites, Spongia stibii adversus Lucae Stenglini medicinae doctoris et physici augustani aspergines (Strasbourg, 1567).
32) ÖNB, Cod. 11183, 1r: “Etiam Hippocrates in Epidemis descriptis suos patientes”; cf. ÖNB, Cod. 11207, fol. 84v, for a reference to Hippocrates’ story of Silenos and G.B. da Monte’s annotations to it.
33) Humanist physicians had systematically extracted these cases from Galen’s works; cf. Symphorien Champier, Claudii Galeni Pergameni historiales campi [...] in quatuor libros congesti et commentariis non poenitendis illustrati (Basel, 1532); see also Aloysius Mundella, Theatrum Galeni, hoc est, universae medicinae a medicorum princepe Galeno diffuse sparsimque traditae promptuarium (Basel, 1568).
Among the leading medieval authorities, Rhazes, the author of a standard textbook on practical medicine, also offered various case histories, which Handsch collected under the title “Ex casibus, qui Rasi acciderunt.” As Handsch’s notes show, sixteenth-century physicians looked at such stories for guidance in their own practice. He described various occasions on which his teachers or he himself resorted to printed consilia and collections of reports on individual patients in order to decide on how to proceed with a patient. For example, before his teacher Gallus travelled to the Duchess of Plauen who, he suspected, suffered from a hardened spleen, he looked up what Bartolommeo Montagnana had written in one of his consilia on the means to decrease the size of the spleen, and Handsch pointed out to him, amongst others, a case described in Antonio Benivieni’s collection of case histories. On another occasion, Gallus, in turn, showed him a consilium by Montagnana which suggested that a 13-year old girl with scabies and loss of hair might be suffering from leprosy rather than from the French disease. Amatus Lusitanus and his curationes—the first centuria appeared in 1551—are quoted at least a dozen times in Handsch’s notebooks. Some of these entries are critical, but Handsch also referred, for example, to Amatus’ account of two patients with quartan fever to support his own observation that a substantial meal could free a patient from fever rather than doing harm.

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34) ÖNB, Cod. 11183, fol. 159v; another story from this work, about the feverish Eudemos, is mentioned in ÖNB, Cod. 11240, fol. 147v; in another notebook, Handsch referred to Galen’s story of a young man with a synochus non putrida ex ira in Galen’s De methodo medendi (ÖNB, Cod. 11238, fol. 3v); idem., fol. 120r, he also recalled Galen’s story of a drop-sical man to show that patients sometimes sought treatment for minor ailments rather than their principal disease; see also ÖNB, Cod. 11240, fol. 40r, for a reference to Galen’s story in De locis affectis of the praise he got for being able to name, to a patient with an inflamed liver, the various symptoms he was suffering from. He even recorded Dryander’s reference to a “hystoria” from Galen (ibid., fol. 74r).

35) ÖNB, Cod. 11240, fol. 148v.

36) ÖNB, Cod. 11207, foll. 223v-224r; cf. Bartholomaeus Montagnana, Consilia (Lyon, 1525), 395 (consilium 270).

37) ÖNB, Cod. 11207, foll. 223v-224r; see also ibid., fol. 98r, with a reference to another “hystoria” in Benivieni, De abditis.

38) ÖNB, Cod. 11207, fol. 154v.

39) ÖNB, Cod. 11238, fol. 135r; this finding was in contrast to the old adage “Starve a fever, feed a cold.”
stomach pain cease immediately\textsuperscript{40} and to his attribution of the headaches of patients with the French disease to a corruption of the skull bone.\textsuperscript{41} For a former Paduan student, the \textit{consilia} of Giovanni Battista da Monte were, later in his career, another obvious source for individual case histories, which offered guidance in similar cases.\textsuperscript{42} General textbooks, too, contained case histories that Handsch considered worthy of note, e.g., Antonio Guainerio’s account of a companion who suffered from quartan fever.\textsuperscript{43}

Note Taking

The best and most direct evidence for the crucial place which sensory experience and personal observation held for Handsch—and already for the generation of physicians who taught him, for that matter—comes from the many thousands of entries in his notebooks where he recorded what he observed and learnt. The effort which Handsch put into assembling these notes is \textit{per se} an impressive document of an empiricist attitude, of a profound belief in the intrinsic value of assembling countless observations on individual cases, diseases and medicines.\textsuperscript{44} Many entries carry no date but frequent changes of feather and ink and the interruption of chronological sequences of notes on one patient by notes on another suggest that he made his entries on a fairly regular and sometimes

\textsuperscript{40} ÖNB, Cod. 11240, fol. 92v.

\textsuperscript{41} ÖNB, Cod. 11183, fol. 35v.

\textsuperscript{42} E.g. ÖNB, Cod. 11183, fol. 8v and fol. 39ov; Da Monte’s \textit{Consilia} were published in various editions by his students, from 1554 onwards; see e.g. Giovanni Battista da Monte, \textit{Consultationum medicinalium centuria prima, a Valentino Lublino Polono quam accurate collecta} (Venice, 1554); Handsch also quoted the \textit{consilia} of Matthaeus de Gradibus (ÖNB, Cod. 11207, fol. 144r).

\textsuperscript{43} ÖNB, Cod. 11183, fol. 1v; the patient’s fever attacks were milder when he took a girl into his bed and embraced her.

\textsuperscript{44} Early modern note-taking, in general, and that of early modern natural philosophers (many of whom were physicians), in particular, have attracted considerable interest in recent years; cf. Ann Blair, “Humanist Methods in Natural Philosophy. The Commonplace Book,” \textit{Journal of the History of Ideas}, 53 (1992), 541-51, eadem, \textit{Too Much to Know. Managing Scholarly Information Before the Modern Age} (New Haven and London, 2010), and the contributions to a special issue on the topic in the \textit{Intellectual History Review}, 20 (2010).
daily basis. Many entries are highlighted in the margins with a flower or with an explicit “nota.” Numerous additions in different ink, between the lines or in the margins, and cross-references to similar earlier or later cases or to the use of certain recipes on other patients show that his notebooks served as working tools to which he frequently returned.

The bulk of Handsch’s entries refer to individual cases, and they vary considerably in length and focus. Sometimes he carefully recorded the changing complaints of a patient and the effects of the treatment over several pages, on a day-by-day basis, as in a diary, in this case often with
the date of each visit or the number of days since the beginning of the disease. When patients were treated over an extended period of time or later returned to seek advice again he cross-referenced to previous entries and occasionally even to previous notebooks. Sometimes Handsch also later added a little remark about the eventual fate of the patient—e.g., that he had seen him or her months or years later, apparently healthy, in the streets or at the court, or that the patient had ultimately succumbed or had fallen victim to another disease. Much more commonly, Handsch only very briefly summarized a patient’s disease in retrospect.
and highlighted certain remarkable aspects. Or he just mentioned the diagnosis or the principal complaints, and focused entirely on a specific observation, which he himself or others had made on certain patients, e.g., on the effect of a certain drug or the diagnostic validity of a certain diagnostic or prognostic sign. Sometimes, finally, he noted general findings or diagnostic or prognostic rules gained from different patients or, indeed, without a reference to any specific patient at all.

This difference between entries with a fairly complete account of an individual patient’s disease, entries which were limited to specific pieces of evidence gained from one (or several) patient(s) and entries which recorded findings or statements of a general nature, corresponded to some degree, but not consistently, to his choice of key words or “headings.” Following a well-established type of common-placing, Handsch placed headings prominently in the margins of his notebooks for easier retrieval and indexing of the individual entries. Many of these “headings” carry only the patient’s name, such as “famulus Holzer” or “Martinus nobilium praeceptor.” Others add a diagnostic or medicinal term, such as “calculus Eberspachin.” Others again refer only to a general topic, such as “de praeparatis ad febres,” “de Rheubarbo,” “tinctura antimonii,” “pro stomacho,” or “circulus urinae.”

Empiricist Terminology

In recent years, scholars like Katharine Park, Chiara Crisciani, Nancy Siraisi, Gianna Pomata and Lorraine Daston have considerably advanced our understanding of the meanings of terms like “experientia,” “experimentum,” “historia,” and “observatio,” which medieval and early modern natural philosophers and physicians used in order to describe approaches to the knowledge of contingent, particular phenomena in nature and in the human body. Handsch frequently resorted to these terms and

46) ÖNB, Cod. 11205, foll. 110v-111r, fol. 130r and foll. 150v-151r; ÖNB, Cod. 11207, fol. 98r and foll. 150v-151r.
47) See the following footnotes for bibliographical details.
the meanings with which he endowed them largely conformed with established usage. In this manner, his notebooks show the remarkable degree to which, by the mid-sixteenth century, an empiricist language had already come to shape the thinking and writing of ordinary physicians.

Following contemporary usage, “experientia,” in Handsch’s notebooks, indicated quite consistently well-established knowledge derived from repeated observation.48 “Experience” showed for certain (“certum est experientia”), for example, that finger wounds did not ulcerate when a piece of finger-nail was cut off.49 “Daily experience” (“quotidiana experientia”) convinced his colleague Tremenus of the value of his secret against stomach ailments.50

“Experimentum” could occasionally have the same meaning but it usually referred to a specific remedy or “secret” which experience had proven to be efficacious.51 In this sense, Handsch called two manuscripts which he devoted almost exclusively to recording all kinds of recipes his “libellum experimentorum” or “experimentarium parvum,” viz. his “magnus liber experimentorum.”52 In his own notes, Handsch used the term “experimentum” very frequently, noting for example an “experimentum certissimum” for the digestion of milk,53 an “infallible experimentum” against any type of quotidian, tertian or quartan fever,54 a “wonderful”

49) ÖNB, Cod. 11183, fol. 457r.
50) ÖNB, Cod. 11006, fol. 3r.
52) ÖNB, Cod. 11183, fol. 2r; ibid., fol. 461r; ÖNB, Cod. 11205, fol. 117r; ÖNB, Cod. 11207, fol. 15r. Presumably these references indicated ÖNB, Cod. 11251, which, on fol. 1r, carries the title “Experimenta quaedam brevia comparatui facilia vulgaria probata excerpta passim ab authoribus et secretis aliorum medicorum,” and ÖNB, Cod. 11200, which contains sections with the “experimenta” of other physicians (ibid., fol. 142r, “Experimenta et secreta Doct. Gerhardi medici Archiducis Ferdinandi”; ibid., fol. 144r, “Experimenta D.V. Fabri”; ibid., fol. 151r, “Experimenta Doct. Zoppelii”).
53) ÖNB, Cod. 11200, fol. 25v.
54) ÖNB, Cod. 11206, fol. 182v.
one against poor appetite or, exceptionally, an “experimentum Vari-gnanae falsum” against epilepsy—the son of one of his colleagues had almost died after its administration. Correspondingly, he described Eugubius as the “primus experimentator,” because he had treated eye diseases with cassia.

When he was writing about some test or trial, by contrast, which served to ascertain the nature or power of certain substances, he preferred the less familiar term “proba.” For example, he referred to a “proba lactis” in an entry that described how the quality of a wet-nurse’s milk could be assessed by seeing whether fat collected on the surface when it was left standing for a while. Repeatedly, Handsch also noted how one could make sure that a medicine sold as “unicorn,” one of the most valued and expensive antidotes of the time, was not merely something like powdered horse bone. One such “proba” involved giving sublimate of mercury (mercuric chloride) to two pigeons and to one of them, in addition, some powdered unicorn. True unicorn would make that second pigeon survive. Other “probae” relied on the observation that bubbles started rising if true “unicorn” was put into water or wine.

The term “historiae” or “hystoriae,” by contrast, indicated predominantly the stories of patients or other events which he had not witnessed personally but had heard from others or found described somewhere.

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55) ÖNB, Cod. 11206, fol. 183r.
56) ÖNB, Cod. 11207, fol. 57v.
57) ÖNB, Cod. 11240, fol. 5v.
58) ÖNB, Cod. 11183, fol. 387r.
59) ÖNB, Cod. 11183, fol. 243r. In a similar manner, Handsch learnt already from his first medical teacher, Ulrich Lehner, other antidotes could be tested (ÖNB, Cod. 11207, fol. 3v).
60) As Handsch learnt from a pharmacist, they were not reliable, however, because the same phenomenon occurred with simple bone-powder (ÖNB, Cod. 11205, foll. 113r-v and fol. 147v).
61) On the central place and the different meanings of “historia” in early modern Europe, see the contributions to Pomata and Siraisi, *Historia*. In one instance, Handsch also referred, less conventionally, to the patients’ own oral narrations as “historiae medicinales” (ÖNB, Cod. 11206, fol. 121v). In a similar context, Johann Brünsterer, by contrast, in his accounts of different patients he saw with his professors in the late 1540s, quite consistently wrote of “cases” which were “recited” or “told” (“Alium casum recitavit”; “Narravit etiam nobis casum”) rather than “historiae” when he related stories of patients he had not seen personally (Universitätsbibliothek, Erlangen, Ms. 91. 3, 16 and 33).
More specifically, his medical “historiae” were with few exceptions\textsuperscript{62} devoted to somewhat unusual or surprising phenomena, more along the lines of the burgeoning genre of *observationes rarae*, which privileged the extraordinary and monstrous. Examples are the *historia* of a six-year old girl who had turned into a boy and became a scholar,\textsuperscript{63} or the *historia* of a poor woman who let her children be nursed by a goat and a pig,\textsuperscript{64} or that of the Bohemian King’s daughter Barbara who got the measles twice.\textsuperscript{65}

While “experientia,” “experimentum” and “historia” were each endowed with a fairly precise meaning, the term “observatio” and the corresponding verb forms like “observavi,” “observatum” covered a range of meanings in Handsch’s notes. As a student in Padua, Handsch assembled several “observationes” consisting of fairly detailed case histories of individual patients, i.e. in the sense we later find in published collections of *observationes*. Under the heading “Observationes ex praxi doctorum Patavinorum” he filled about 40 pages with various accounts of cases, such as “Pro fluxu intestinali in puerō” or “Lethargicus iuvenis,” which he had witnessed Trincavelli and other physicians treat in 1551 and 1552.\textsuperscript{66} In the same notebook, he recorded, in considerable detail, the cases of seven patients he had seen with Comes de Monte, in the late summer of 1552, in Vicenza, under headings like “Tercia observatio de hydrops ex retentis menstruis,” about a dropsical woman from the country-side, or “Quinta observatio de febre interpollata remedioque post purgationem febrem fugante,” about the successful cure of a young nobleman’s lover

\textsuperscript{62} See e.g. Dr Merla’s “historia” of his successful treatment of a patient who could not let water (\textsc{ÖNB}, Cod. 11183, fol. 618r). In his *Historia animalium* (\textsc{ÖNB}, Cod. 11143), Handsch used the term “historia” in the well-established more general sense of a knowledge of particulars; by contrast, the title “Historia medica sive praxis ejusdem” on the back of his notes on medical practice from 1560 to 1575 (\textsc{ÖNB}, Cod. 11183) was apparently not his own but added later by someone else.

\textsuperscript{63} \textsc{ÖNB}, Cod. 9671, fol. 125v; Handsch got the story from a certain Sixtus.

\textsuperscript{64} \textsc{ÖNB}, Cod. 11207, fol. 98r.

\textsuperscript{65} \textsc{ÖNB}, Cod. 11207, fol. 99r.

\textsuperscript{66} \textsc{ÖNB}, Cod. 11238, foll. 95r-114v; it is not clear whether the heading was actually meant to comprise the entries until fol. 114v, but they all refer to individual patients that Handsch saw with Trincavelli, Bellocati and others. The same notebook contains further casuistic accounts under headings like “visitatio.”
or bride. This is, to my knowledge, the first time that usage of the term “observatio” in the sense of a structured narrative of an individual case is documented. Since Handsch was a student at the time, we can safely assume, however, that he had already heard the term used in this sense by others. Around the same time, we encounter a similar title, “Observationes in praxi medica apud Bellicatum, Helidaeum, Montanum et alios,” on the first page of Johannes Brünsterer’s student notebook, which was filled with cases he had seen with different professors in Padua. He had studied there in the late 1540s but the title was probably added after his death, in the early 1550s, by the manuscript’s new owner, Johannes Hes-sus.

In other entries, the term “observatio” and its verb forms such as “observavi” were closer to modern usage. They referred, like “deprehendi” (“I noticed”), “expertus sum” (“I experienced”), or “vidi” (“I saw”) to single instances in which a diagnostic phenomenon or therapeutic effect (or their absence) was witnessed. In this sense, Handsch noted, for example, that he had not “observed” any difficulty in breathing in a certain patient, that another patient suspected of suffering from the French disease, untypically, showed no hair-loss or that he himself had not “observed” the petechiae in a case of fever which the patient’s wife claimed she had seen. In this sense, the same “observatio” could be made in different cases, and sometimes Handsch and the physicians around him summarized what they had “observed” in several patients. According to Handsch, his teacher Gallus, for example, claimed that he had “often observed” that once a dropsical patient no longer improved when he was given iris, there was no more hope. Handsch himself had “often observed” that tiny particles (“atomi”) dispersed in a patient’s

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67) ÖNB, Cod. 11238, fol. 115r-118v, fol. 7or-74v; a further, shorter section of the notebook is entitled ”Ex praxi D. Comitis de Monte observata” (ibid., fol. 124v-125v).
68) Universitätsbibliothek Erlangen, Ms. 911.
69) E.g. ÖNB, Cod. 11006, fol. 105r, “hoc ego vidi Paduae esse verum,” and ÖNB, Cod. 11251, fol. 17r, “Vidi ego Georgius experientia Paduae,” both on Galen’s recommendation to apply the warm blood of living pigeons in certain eye diseases.
70) ÖNB, Cod. 1183, fol. 175v, “Nihil difficultatis in anhelitu observavi.”
71) ÖNB, Cod. 11207, fol. 153r.
72) ÖNB, Cod. 1183, fol. 42or, “Nota quod non observavi petechias in illo.”
73) ÖNB, Cod. 11207, fol. 106v, “se observasse saepe.”
urine indicated mucous matter,⁷⁴ or that, in bloodletting the bowl in which the blood was caught felt hot.⁷⁵

At times, finally, Handsch and his colleagues used “observare” in a very different meaning, one that was closer to the medieval notion of an “observance” of certain precepts or rules.⁷⁶ In this sense, we find phrases like “Astra an observanda in dandis medicinis,” when Handsch noted or discussed that the stars, a counsel, the new and full moon, critical days or circumstances like the patient’s nature and life-style had to be “observed,” i.e., assessed or monitored as well as respected or taken into consideration.⁷⁷

Epistemic Functions

Notebooks are important mnemonic devices. Due to their sheer size and their immediate relevance to medical practice, those of Handsch, in particular, amounted to a veritable treasure store of observations and experiences with individual patients, diseases and drugs, positive and negative ones. However, there was more to this accumulation of individual observations. His notebooks also served as powerful epistemic tools. They enabled him to assemble a series of similar findings on a particular issue and to draw general conclusions from them. For example, having observed a positive outcome in three patients with a chronic or continuous fever, whose urine looked like blood in the lower parts of the urine glass, he concluded: “Therefore I take a corruption of the urine in continuous fevers always for a good sign.”⁷⁸

Handsch very actively used his notebooks for this purpose. Again and again he cross-referenced to entries on comparable findings in other

⁷⁴) ÖNB, Cod. 11205, fol. 123r.
⁷⁵) ÖNB, Cod. 11183, fol. 403r, “Nota hanc observationem.”
⁷⁷) ÖNB, Cod. 11106, fol. 181r, “Circumstantiae observandae in medicinis”; ÖNB, Cod. 11183, fol. 118v, “fortasse hic nulla ratio diei critici est observata”; ibid., fol. 36iv, on Dr Willebroch, who told Handsch that he “observed” only the new and the full moon (but not the quarters) when it came to giving purgatives; ÖNB, Cod. 11206, fol. 118v, “observas naturam, sicut nauta sedens super navi observat cursor navis, et si recte procedit, non admovet manus, sed ubi iam declinat ad scopulos tunc adhibet manus ad remiges.”
⁷⁸) ÖNB, Cod. 11206, fol. 34r.
patients. Frequently he later added further, corroborating observations he had made in the meantime between the lines, in the margins or at the top or bottom of the page. In this manner, he sometimes arrived at a whole list of different patients in which he had made a similar observation supporting the same conclusion. Last but not least, the index he compiled, at least in some of his notebooks, from the headings, which he had added to his individual entries in the margins of the page, permitted quick retrieval of all observations which pertained to the same topic.

Sometimes, the various observations he thus accumulated on a particular issue more or less confirmed what the authorities had said and were in line with accepted rules of practice. Handsch listed several patients, for example, who suffered simultaneously from podagra and kidney- or bladder-stones (incidentally a correlation confirmed by modern medicine). This he took to prove Antonio Guainerio’s observation that the “queen” podagra often had the “stone” as her companion. Hippocrates had been right, he found in another entry, in affirming that bloody expectoration was followed by or actually caused consumption. He had heard amongst others of two other patients from the countryside who first coughed blood and then became consumptive. Hence, when one of Handsch’s own patients spat blood he correctly predicted a fatal consumption. To such observations on individual cases, which confirmed well-established conclusions, Handsch occasionally referred as “exempla.” In this sense, he pointed out several “exempla” of people who had fallen victim to apoplexy after great anger.

In other instances, by contrast, personal observations threw considerable doubt on accepted knowledge and on the claims made by ancient and contemporary authorities. A well-established knowledge claim, for example, against which Handsch repeatedly assembled various personal observations, was Hippocrates’ finding that patients with a sandy urinary sediment suffered from bladder stones. One of Handsch’s entries even

79) ÖNB, Cod. 11207, fol. 104r.
80) ÖNB, Cod. 11205, fol. 107v, “Ergo recte Hipp. a sanguinis sputo phtysis.”
81) ÖNB, Cod. 11205, fol. 149r.
82) As Nancy Siraisi has remarked, public criticism of Hippocrates on empirical grounds was quite unusual at the time (Nancy Siraisi, “Theory, Experience, and Customary Practice in the Medical Writings of Francisco Sanches,” in Brian Nance and Florence Eliza
carries the explicit heading “Aphorismus Hipp. falsus.” Both his teacher Gallus and he himself, he noted, had frequently seen patients with sandy sediment, including the Archduke himself, who had no evidence of stones. That urine could contain sand without necessarily implying the presence of a stone was in his view further confirmed by the common experience that in vessels into which healthy people urinated sand started to adhere to the walls, after a while. It therefore clearly was unwise, he concluded, if the physician diagnosed a patient as suffering from the stone just because he saw some sandy sediment. Personal observation also prevailed over the claim in the Hippocratic Epidemics that patients with pleurisy had thin urine. Handsch pointed this passage out to Gallus, when the latter claimed that the urine of pleuritic patients was usually thick and darkish, but Gallus insisted. Hippocrates, he argued, had only described one particular case. In Trent, he had witnessed a hundred times thick urine in pleuritic patients, however, and had come to recognize that sometimes pleurisy could be diagnosed from thick urine.

As some of these examples already indicate, Handsch’s notebooks make it possible, at times, to trace how new general knowledge emerged from different observations, by what modern philosophers would call “inductive reasoning,” and could, in turn, be applied to or tested on other patients. Once Handsch wrongly told a female patient in whose urine he saw some red sediment that she suffered from a retention of the menses: she had her menses, the patient told him, but they were whitish,
like pus. From this, he “learnt” (“ego disco”) that red sediment signified a retention of the menses only most of the time but could also indicate the whites.87 In another entry, he listed almost a dozen patients who all became “contracti,” i.e., limited in their movements or paralytic, after having suffered from colic or epileptic fits. Later he came back to this point and named further patients in whom he had made the same observation.88 He also concluded from his repeated observations on different

87) ÖNB, Cod. 11205, fol. 107r.
88) ÖNB, Cod. 11183, fol. 391v; ibid., fol. 399v.
patients that a convulsive clenching of the jaws in the seriously ill indicated that they were going to die and that tertian fevers could easily lead to colic.

Personal observation had a particularly important place when it came to assessing the effects of different drugs. Even Galen, in spite of his generally critical attitude towards the “empirics,” had conceded that, in this matter, one sometimes had to rely on empirical observation. Drug effects could not always be explained just from their peculiar mixture of different degrees of the primary qualities cold, warm, dry and moist. Just as certain diseases were diseases of the “total substance,” as Galen had called them, certain drugs acted through an occult quality or a specific form or their tota substantia. This was widely accepted among late medieval and early modern physicians. The effects of poisons, as Handsch found in Pietro d’Abano’s work De venenis, for example, could not be deduced from the complexio, the specific mix of the elementary qualities cold, warm, moist and dry but was known from experience only. Likewise, certain herbs like hypericum or vicetoxicum acted as potent antidotes against poisons not by their elementary complexio but thanks to the virtues with which they were endowed by their very nature or thanks to astral influences. As Handsch’s notes show, Mattioli and other physicians also frequently resorted to “quintessences” and sometimes produced them themselves, by distillation. Their effects were by definition supraelementary or indeed supernatural. For “quintessence,” as Handsch learnt from a D. Johannes, was “of a celestial nature, without any qualities.” A more recent source for the belief in specific diseases and the corresponding notion of a specific power of certain drugs was Paracelsus. “He attributes the causes of diseases to the specific substantial properties,” Handsch summarized what he found in Paracelsus’ work on the French disease, “not to the humoral qualities.”

89) ÖNB, Cod. 11183, fol. 18iv.
90) ÖNB, Cod. 11183, fol. 434r.
91) As Handsch took from Galen (ÖNB, Cod. 11239, fol. 29r): “Experientia est certissima iudicatrix facultatum quae medicamentis insunt.”
92) ÖNB, Cod. 11240, fol. 74r-81r, here fol. 76r and fol. 81r.
93) ÖNB, Cod. 11207, fol. 27r and 89v.
94) ÖNB, Cod. 11205, fol. 2v; possibly this was the court physician Johannes Willenbroch.
95) ÖNB, Cod. 11206, fol. 134r-143r, cit. fol. 134r.
The Galenist belief in the specific properties of medicines whose effects on the individual patient could not be predicted from their primary qualities justified the use of drugs that were known only from experience to be effective. When a certain medicine worked in a particular case, it could be tried in other, similar cases. The considerable effort which Handsch and many other early modern physicians—not to mention lay people—put into recording numerous recipes or prescriptions that had supposedly proven effective followed that rationale. Handsch frequently resorted to recipes or proven experimenta which he had learnt from others, such as Johann Neefe’s laxative syrup, or which he himself had found to be effective.96 Handsch and his fellow physicians also had no qualms about resorting to the collection of “empirical” remedies that Benedetto Vettori published in 1551.97 Gallus even took the book with him when we went on a journey to see a noble patient.98

Handschi recorded many observations and experiences he and his colleagues made with different drugs in different kinds of diseases. They were well aware that a single instance of a seemingly successful use of a certain medicine provided no definitive proof of its value. “Even medicine which has been proven six or seven times, does not make a universal proposition,” Handsch took from his reading of Galen’s commentary on the Hippocratic aphorisms.99 Handsch suggested several reasons for being cautious. Firstly, drugs were known to work differently on different kinds of bodies, at different times of the year, at different stages of a disease and depending on other characteristics of the individual case. Secondly, the patient’s trust in the physician and his medicine could have a great impact.100 Indeed, as Handsch repeatedly noted, it was a major task for the physician to acquire that trust because it would ensure su-

96) E. g. ÖNB, Cod. 1183, fol. 275r and fol. 458v.
97) E. g. ÖNB, Cod. 1183, fol. 314v, on Dr Merla; ibid., fol. 479r, on Mattioli praising Vettori’s pills against paralysis; ÖNB, Cod. 11207, fol. 89v, on Gallus praising Vettori’s oil in cases of dropsy; cf. Benedetto Vettori, Medicatio empirica singulorum morborum (Paris, 1551). Around the same time, Johannes Brünsterer filled some fifteen pages with notes on different medicines under the title “Empirica quaedam” (Universitätsbibliothek, Erlangen, Ms. 911, foll. 307-22).
98) ÖNB, Cod. 11207, fol. 224r.
99) ÖNB, Cod. 11200, fol. 126r, “Medicina etiam sexies vel septies probata non facit universalem propositionem.”
100) ÖNB, Cod. 11207, fol. 154v, discussing, more specifically, the efficacy of amulets.
prior therapeutic results. Thirdly, the common practice of mixing various drugs made it more difficult to establish the effects of individual components with some degree of certainty. Handsch narrated a controversy that had arisen among students in Padua as to whether raisins had laxative properties, which Handsch had found they did. He had argued that “if we want to experience [experiri] the power of a certain simple [i.e., medicinal herb] we have to use it alone.” He, fourthly, warned his fellow students that the amount which the patient drank might make a difference. Last but not least, the effects of a drug could be “accidental.” For example, a medicine that strengthened the stomach might procure copious stools, not because it was a laxative but because a stronger stomach also had a greater expulsive power.101

Another area in which therapeutic efficacy had to be assessed primarily on empirical grounds, though a much less conspicuous one in Handsch’s notes, was magical and sympathetic healing. Like his teachers and other leading scholars of the age,102 Handsch did not outright reject these practices. Gallus had found relief from a toothache, for example, by writing (the) “tetragrammaton” on a piece of paper, with a little space between each letter, and driving a hoof-nail one by one through the individual letters with a stone, until he reached a letter at which his pain decreased. As long as the nail was left stuck in that letter, the pain was said not to come back.103 Handsch also recorded the beneficial effects of amulets that others had observed.104 In this respect, he sometimes expressed reservations, however. One of these amulets, as he had heard from Gallus, just contained a piece of paper with a list of all the whores in town in it.105 In another case, the piece of paper inside the amulet had been destroyed and the physician wrote a new one with arbitrary words—which proved just as effective. Handsch concluded that ulti-

101) ÖNB, Cod. 11240, fol. 99r.
103) ÖNB, Cod. 11207, fol. 83v. “Tetragrammaton” may have referred to the four letters of the Hebrew word for “God.”
104) E.g. ÖNB, Cod. 11207, fol. 154r, on Dr Herdwig, a lawyer from Breslau, who was freed from his quartan fever.
105) ÖNB, Cod. 11207, fol. 154r.
mately not the amulets were responsible for the positive effects but the belief in them.\(^{106}\)

Occasionally, Handsch reported methods of an active, explicit testing of medicines or poisons which came close to what we would call an “experiment” today. In particular, Handsch protocoted in considerable detail several trials, which Mattioli and other physicians performed on young men who had been sentenced to death. They tried antidotes against monkhood (aconite), which was one of the most poisonous plants known at the time and at the centre of a heated controversy between Mattioli and Konrad Gessner.\(^{107}\) Handsch spent hours with these young men, carefully recording the effects of the deadly poison and the antidote. On one occasion, in 1561, Mattioli gave a prisoner monkhood root and later, when the patient did not show any serious symptoms cell, flowers and leaves of the same plant, followed by a dose of “Archducal powder,” a mixture of different plants.\(^{108}\) The antidote failed. The victim’s condition deteriorated rapidly and the next morning he was dead.\(^{109}\) Another young man was more fortunate. He first received monkhood and then, when the first signs of poisoning appeared, Bezoar. He developed severe symptoms, had a rapid, irregular pulse and suffered from paralysis but, in the end, he recovered. The Emperor sent him six taler and new clothes and presumably pardoned him\(^{110}\)—at least, this is what he did, in 1565, in the similar case of another young man who got monkhood and \textit{nux vomica} (which contains strychnine) and later some “Archducal powder” to counteract the poisons. The next day the young lad was already found reading the Bible and a free man.\(^{111}\)

\(^{106}\) ÖNB, Cod. 9671, foll. 122v-123r; Handsch concluded: “fixa fides est quae sanat interdum”; similarly, ÖNB, Cod. 11207, fol. 154v. Astrology which was particularly easy to test empirically is only mentioned in Handsch’s notebooks, mostly in very critical terms.


\(^{108}\) In ÖNB, Cod. 11183, fol. 190r, Handsch listed the various ingredients.

\(^{109}\) ÖNB, Cod. 1183, foll. 125r-127r, December 11, [1561?]; this case is also described in Handsch’s German edition of Mattioli’s herbal (Mattioli, \textit{New Kreutterbuch}, foll. 472r-v). In ÖNB, Cod. 11240, fol. 142r, one of his Padua-notebooks, Handsch mentions \textit{a Hystoriam de duo damnatis}, one of whom got a large dose of monkhood and an antidote, and the other only a small dose but no antidote; the latter is said to have died.

\(^{110}\) ÖNB, Cod. 1183, foll. 127v-128v.

\(^{111}\) ÖNB, Cod. 1183, fol. 128* (an inserted slip of paper); cf. Falloppio’s account of an
Empiricism and the World of ‘Empirics’

Handschi recorded above all what he personally witnessed and experienced and what his teachers or colleagues communicated to him. He accorded a particularly prominent place to what he and other physicians experienced in their own bodies, in their own illnesses. There are dozens of entries of this kind, and sometimes they served to make specific arguments. Handschi recorded Gallus’ criticism of Mattioli, for example, who had diagnosed a fever just from a patient’s red urine (which suggested excessive heat), while his own urine, Gallus declared, had been red also when he had no fever.112 Presumably Handschi perceived physicians’ personal observations on their own bodies—and, most of all, those he made on his own body—as a particularly reliable source of knowledge. Physicians were well trained in carefully observing and describing subtle changes, symptoms, and signs that the untrained layperson might easily miss or disregard as irrelevant. There are also hundreds of entries, however, in which Handschi recorded what he and the physicians around him learnt from medical laypersons, including members of their own families, about the positive or negative effects of medicines or about other observations they made on their own bodies or on those of others. Many of Handschi’s lay informants were women, confirming the well-established finding that women played a particularly important role in early modern domestic medical care.113 To cite just one of many examples, Frau Weitmullerin told him, that chicory flowers were good against icterus and that she had often found (“experta est”) that St Benedict’s thistle worked against cold fevers.114 Later, in Innsbruck, he frequently recorded what the Archduke’s mother-in-law, the “old Welserin,” who was famous for her medical interests, and other noble women at the court experiment he performed in Pisa on a man who had been convicted to death (Gabriele Falloppia, Libelli duo alter de ulceribus, alter de tumoribus (Venice, 1563), 47v-48r): Falloppia wanted to show that fevers counteracted the deadly effects of opium, which was considered a cold poison. The man survived the first dose, which was given at the onset of a fever attack but died from a second dose, given between two attacks.

112) ÖNB, Cod. 11207, vol. 15iv.
114) ÖNB, Cod. 11183, fol. 243v.
recommended in various kinds of diseases.\textsuperscript{115} Women, including those of his family, were a particularly valuable source of information when it came to questions of female physiology and pathology. They told him, for example, that a pregnant woman might initially still have her periods,\textsuperscript{116} and that he better touch the breasts rather than the *os vulvae* in a young woman he suspected of being pregnant.\textsuperscript{117}

Last but not least, Handsch frequently recorded what non-academic healers of all sorts told him about their experiences in treating others. One of his most frequently cited interlocutors was the court pharmacist Balthasar Klössl, who figures in dozens of entries and instructed Handsch not only about various drugs but also treated patients on his own. Even more remarkably, however, at a time when orthodox physicians in their published works took an increasingly hostile and polemic position towards the unlearned “empirics,”\textsuperscript{118} their observations and advice, too, appear in Handsch’s notebooks.\textsuperscript{119} Occasionally, Handsch even used the word “teaching” in this context, for example in an account of what the “empiricus” in his hometown Leipa had “taught” him about the use of antimony (“docuit me empiricus Lippensis”). When Handsch found that various patients to whom he had given antimony vomited rather than developing the desired copious stools, the “empiricus” told him to add mastix.\textsuperscript{120} Handsch also repeatedly summarized in considerable detail what he had learnt from Jews. Jewish healers told him, for example, how to prepare and apply mercury ointments or guaiac solutions in the treat-

\textsuperscript{115} E.g. ÖNB, Cod. 11206, on her cordial (“Herzwasser”), which she sent to a cook by the name of Martin; on the Welserin’s medical interests, see Karl Beer, “Philippine Welser als Freundin der Heilkunst,” Gesnerus, 7 (1950), 80-86. For a detailed study of the medical activities of sixteenth-century noblewomen, especially in Saxony, see Alisha Rankin, *Panacea’s Daughters. Noblewomen as Healers in Early Modern Germany* (Chicago and London, 2013).

\textsuperscript{116} ÖNB, Cod. 11183, fol. 10v; ÖNB, Cod. 11205, fol. 89v.

\textsuperscript{117} ÖNB, Cod. 11183, fol. 23r; presumably Handsch was referring to the cervix. “Vulva” was often used for “uterus” at the time.

\textsuperscript{118} See, for example, Johannes Crato’s dedicatory letter to Giovanni Battista da Monte, *Consultationum medicinalium centuria secunda* (Venice, 1559).

\textsuperscript{119} Several entries under the heading “Contra empiricos” show that Handsch was well aware of this negative attitude and, in theory, shared it. “They want to be doctors, like farmers noblemen,” he noted, for example (ÖNB, Cod. 11206, fol. 97r).

\textsuperscript{120} ÖNB, Cod. 11205, fol. 122v-123r.
mentation of the French disease. Handsch was not exceptional in this re-
spect. Other physicians also took “Jews” seriously as a source of empirical
knowledge. Mattioli, for example, learnt from a certain Abraham, as he
told Handsch, that bear’s fat mixed with mallow leaves rendered birth-
giving easier.

Handsch also frequently thought it worthwhile to record how ordinary
“old women” had dealt with certain patients. Sometimes he described
their medicines as “absurd” but at other times, he conceded that their
remedies or judgment had been superior. At one point, he had to accept
that an “antiqua anus” with her “experimentum” (which was probably
based on the root of wild thyme boiled in wine) had been able to cure a
woman with colic, on whom he had tried everything in vain. Or that
a woman with a malignant ulcer, which he had considered cancerous,
successfully cured herself, on the advice of an old woman (“edocta a
vetula”), with some herb, which he then sought to identify. Occasion-
ally, he even found that the diagnosis of a female healer proved to be
more precise than his own. In this sense, he noted with undisguised re-
gret the great error he had made in arguing that the maid of his benefac-
tor Hoddeoinus suffered from a retention of her periods, when her
headaches and the pustules on her skin should have made him suspect
that she suffered from the French disease—as an old woman had, in fact,
told Hoddeoinus.

Conclusion

Handsch’s notebooks offer impressive evidence for the central place,
which empiricist attitudes and personal observation had acquired among
learned physicians by the mid-sixteenth-century. An early example of
this trend, they lend support to Gianna Pomata’s assumption that “in the
second half of the sixteenth century the habit of keeping detailed records
of cases [...] was spreading among European physicians.” Indeed, the

121) ÖNB, Cod. 11183, fol. 117*r; ibid., fol. 177r, on “Esaias Iudeus.”
122) ÖNB, Cod. 11183, fol. 192v.
123) ÖNB, Cod. 11183, fol. 138v.
124) ÖNB, Cod. 11251, fol. 37v.
125) ÖNB, Cod. 11183, fol. 45v.
126) ÖNB, Cod. 11205, fol. 12r, “Nota maximé errorem.”
fact that Handsch assembled several series of case histories under the heading “observationes” before the first collections of case histories had begun to appear under that title suggests that the genre of observationes and the usage of the term in the sense of case histories developed out of personal note-taking practices that physicians already acquired as medical students.

Compared to published curationes and observationes, Handsch’s personal notes offer not only a very early but also a more nuanced picture of the role of empiricist approaches in learned medical practice. His observations and conclusions concern mostly very ordinary, common diseases—and yet they are strikingly tentative and cautious, leaving room for uncertainty and doubts, for admissions of errors and outright failure. The most striking difference, however, regards the form. Handsch recorded some cases in fair detail or indeed on a day-by-day basis, but the large majority of entries, even though they referred to individual patients, were very short, frequently comprising only two or three lines. They did not even provide a rudimentary account of the case in question. Instead, they highlighted one specific aspect or finding, for example, the value of a certain diagnostic sign or the efficacy of a particular drug against certain complaints. In their very brevity, these short entries may reveal even more about the crucial place of empiricist approaches in learned medical practice than the more complete and detailed casuistic accounts that prevailed in published writing. Just like the widespread use of loci communes by physicians and natural philosophers, such brief entries virtually epitomized the growing appreciation for brief empirical “facts” in early modern medicine and natural philosophy. They consisted of small, independent bits of empirically acquired knowledge, which could be ordered and rearranged, grouped, related or opposed to each other, and which could ultimately serve to confirm or reject established knowledge and accepted rules of practice—and offer the raw material for new theories.