



Textbooks and Methods of Note-Taking in Early Modern Europe

Citation

Blair, Ann. 2008. "Textbooks and Methods of Note-Taking in Early Modern Europe." In *Scholarly Knowledge: Textbooks in Early Modern Europe*. Edited by Emidio Campi, Simone De Angelis, Anja-Silvia Goening, and Anthony Grafton: 39-73. Geneva: Droz.

Link

<http://nrs.harvard.edu/urn-3:HUL.InstRepos:29674920>

Terms of use

This article was downloaded from Harvard University's DASH repository, and is made available under the terms and conditions applicable to Open Access Policy Articles (OAP), as set forth at

<https://harvardwiki.atlassian.net/wiki/external/NGY5NDE4ZjgzNTc5NDQzMGIzZWZhMGFIOWI2M2EwYTg>

Accessibility

<https://accessibility.huit.harvard.edu/digital-accessibility-policy>

Share Your Story

The Harvard community has made this article openly available.
Please share how this access benefits you. [Submit a story](#)

manuscript for

Ann Blair, "Textbooks and Methods of Note-Taking in Early Modern Europe," in Scholarly Knowledge: Textbooks in Early Modern Europe, ed. Emidio Campi, Simone de Angelis, Anja-Silvia Goeing and Anthony Grafton (Geneva: Droz, 2008), pp. 39-73.

Student manuscripts and the textbook

The practice of taking notes from oral pedagogical experiences has a long history, which can be traced back at least to 4th-century Athens and which extends down the present where it persists in both paper and new media. Student notes have played a significant role in the transmission and publication of pedagogical texts from the lectures of Aristotle to those of Ferdinand de Saussure, among many others. Note-taking during oral events has been studied in most detail for medieval sermons, where reportationes taken by listeners often formed the principal basis for the written versions that circulated (with the speaker's revisions and authorization, or not). Similarly, in medieval and early modern classrooms notes were taken during lectures and disputations and could be circulated or printed afterward more or less legitimately. Textbooks printed from student notes and student manuscripts, which survive in great numbers from the early modern period, offer special insight to one kind of "textbook"--the text generated during the classroom experience. Different pedagogical contexts generated different kinds of student manuscripts, ranging from the more or less spotty notes taken from regular rates of speech to full-text manuscripts taken under dictation in many early modern classrooms.¹ The latter exercises especially were based on the widespread pedagogical principle that writing aided retention. In this brief entry into a large topic, I will consider some early modern examples of full-text manuscripts taken under dictation and sometimes published as textbooks, textbooks which circulated in manuscript by student copying and students who used team-work to record and circulate courses given at lecture rather than dictation speed.

Note-taking from oral events was usually a multi-stage process.² First-order notes taken during the actual event in haste, being messy and incomplete, were typically copied over in a neater

hand, with a more careful layout and supplemented from direct memory of the event or from other

aids, such as the notes of another listener who was present at the same event or the speaker's own set of notes. The German language conveniently offers separate terms for these two kinds of notes: Mitschriften for the former and Rein- or Nachschriften for the latter. First-order notes rarely survive. They were often taken on a temporary writing surface like the wax tablet common in antiquity and the middle ages. Even when they were taken on a more durable surface, such as odd (and thus cheap) bits of parchment (schedulae) or paper, the Mitschriften were typically discarded as useless once the clean copies were made. Given that most surviving sources, whether manuscript or printed, consist of Nachschriften, we should not see in them a transparent record of the oral experience itself. While early studies of reportationes sought to evaluate the authenticity of the notes in rendering the thoughts and words of the speaker,³ more recent approaches have focused on the practices themselves which produced the texts we have. This will be my concern as well, by attending to the notes we have as well as to allusions to note-taking and other indirect evidence. Early modern student note-taking, which has not yet been studied systematically, descends to a large extent, despite changes in the media involved and in historical circumstances, from medieval antecedents, themselves indebted to ancient ones. I will therefore begin with a brief overview of what we know about ancient and medieval note-taking from oral events thanks to the valuable work of a number of scholars.

Student note-taking in antiquity and middle ages

For student note-taking in antiquity we are particularly dependent on indirect evidence, since virtually no texts have come down to us labeled as student notes.⁴ Even Reinschriften made to be kept in antiquity do not survive, because of the poor preservation of papyrus under ordinary circumstances.⁵ Only those ancient texts deemed worthy of being copied onto parchment in the late antique and early Christian periods have come down to us. Not surprisingly, these did not include texts which advertised themselves as notes, but were instead those considered most authoritative at the time. However, some of the most authoritative texts in antiquity likely originated in student notes, as Werner Jaeger argued decades ago from a close analysis of Aristotle's texts and ancient

commentaries on them. For example, the Metaphysics and the Physics, Jaeger explains, are best understood as an arrangement of student notes taken on a series of lectures or on isolated lectures, and arranged together as sensibly as possible after the fact by ancient editors.⁶ Other texts, like the problemata with their multiple answers to questions, may have resulted from a discussion-based kind of teaching, in which the master posed a question and the students suggested answers.⁷ The remarkable level of agreement among the Aristotle manuscripts we have (especially given that the earliest of these date from more than 1000 years after Aristotle lived) suggests that Aristotle or Aristotle's editors soon after his death controlled the written version of these oral events before they circulated widely.

Arguments from internal textual evidence offer little insight into the practical and social aspects of student note-taking in Aristotle's time, but we can catch a glimpse of some of these in late republican Rome. For example in a letter to Cicero his son requested the help of a librarius (a scribe or secretary) to transcribe the notes he had taken on wax tablets during lecture onto papyrus.⁸ Shorthand, or "tironian notes," were also in use during this period, by scribes taking dictation from authors as they composed, and by those charged with recording political speeches in the Senate. In the latter, more difficult task of recording speech at normal rates of delivery, multiple scribes likely worked together to reconstruct the speech by pooling their notes and relying on short-term recall.⁹ Although a few tironian symbols passed into the repertory of standard medieval abbreviations, the use of tironian notes was gradually abandoned and was unknown by the 12th century.¹⁰

With Christianity the sermon developed as a prime locus for note-taking from oral events. Augustine for example occasionally asked a notarius to take notes from sermons.¹¹ Gregory the Great observed that some preachers used notes taken during their sermons to reconstruct them in writing after the fact.¹² The practice was likely never forgotten in the early middle ages, though the surviving evidence for note-taking is sparse. Pupils at Cluny are reported as taking notes on wax tablets from both sermons and lectures.¹³ During the 12th century Cistercians also recorded on tablets and schedulae the teachings of their abbots. Indeed Bernard of Clairvaux (1090-1153), whose 377 extant sermons constitute a corpus 5 to 8 times larger than those of other contemporary

preachers, relied on this practice to produce his sermons. Bernard's secretaries took notes from his oral delivery of sermons, which Bernard then revised and made public. Meanwhile other listeners of Bernard's sermons took notes too, from which some circulated unauthorized versions of the sermons.¹⁴ With the explosion of preaching in the 13th century, among Benedictines and in the newly founded mendicant orders and universities, the surviving evidence becomes abundant. In this period too "reportatio" and related terms started to designate precisely the taking of notes from oral events delivered at regular rates of speech, whether sermons or debates or lectures.¹⁵

From the surviving evidence (notably multiple reportationes extant from the same sermon) we know that the reportators could not take down a sermon word for word.¹⁶ Many used a faster, smaller hand and supplemented standard abbreviations with their own personal ones.¹⁷ Reportators did not try to record the full text of a sermon; they identified the gist of the argument and its divisions, leaving quotations, exempla and explanations to be filled in later. They also typically recorded in Latin sermons delivered in the vernacular.¹⁸ Different reportationes of the same sermon therefore often highlight different aspects of the sermon, some of which (e.g. an exemplum, or statements about current affairs) might not be included in the written version circulated by the sermon-writer himself.¹⁹ Finally, reportators could help one another after the fact by sharing notes, or, in the case of a 15th-century Florentine confraternity, by taking notes as a team; perhaps such methods were behind the one set of reportationes which claimed to offer a word-for-word account of a sermon.²⁰

Students at universities attended vast numbers of sermons.²¹ Techniques of reportatio developed first for recording sermons transferred readily to university exercises like disputations and lectures. Similar methods were probably also used in courtrooms in which the "very words" of parties to a legal case were recorded.²² Like preachers, masters could ask an assistant (socius) to take notes from their teaching, in order to vet and circulate them. Students in the room could also take notes and circulate them. Unvetted notes risked containing distortions both intentional (when the reportator disagreed with the speaker) and unintentional (due to the difficulties inherent in the task and the less than optimal working conditions). Reportationes occasionally featured in

accusations that a master had taught erroneous doctrine, but were also adduced to counter such accusations. To avoid the problem of a master's words being misrepresented in student notes, Dominicans required their masters to verify reportationes before letting them circulate.²³ In practice this rule would have been hard to enforce.

Reportationes also survive from teaching in the higher faculties, though most attention has been devoted to reportationes in the arts faculty where the evidence is more abundant. E.M. Meijers was one of the first to call attention to reportationes in his study of the faculty of law at Orléans.²⁴ In theology student reportationes certainly circulated but survive only rarely. Lecturers usually prepared their own definitive versions of their lectures ("lectura edita") from their own lecture notes (often prepared during the year before the lectures were delivered), supplemented with the reportationes of students or an assistant and with further annotations and revisions made after the lecture. Student reportationes were used instead of these official versions of lectures only in a few cases, notably for a handful of Franciscan authors between 1300 and 1330 who delivered lectures at different institutions and did not prepare definitive versions of each lecture series.²⁵ Medical teaching also generated the same range of records, from the master's lecture notes to reportationes, vetted and not, probably with fewer fully edited commentaries and more various unauthorized copies in circulation than in theology.²⁶

Teaching in medieval universities involved different oral exercises and associated writing. Surviving student manuscripts do not always indicate the passage from one exercise to another, creating further problems for their interpretation.²⁷ Disputations and advanced lectures occurred at the rate of regular speech and generated reportationes of a kind similar to those made during sermons "modo notabiliorum"--i.e. sketchy notes to be filled in later from memory and other aids.²⁸ But the pace of less advanced lectures varied. Dictation ("legere ad pennam" or "modo pronuntiantium") was both forbidden and practiced in many 14th-century universities.²⁹ At the University of Paris for example the 1355 statutes of the Arts Faculty forbade masters from dictating; masters were allowed to repeat important theses, but only twice. But the regularity with which the bans on dictation were repeated suggests that dictation remained a common practice. Indeed the

statutes of 1355 anticipated vehement student resistance to the ban. By 1452 further statutes at Paris explicitly disregarded the earlier bans on dictation. Dictation was especially common for younger, less well-prepared students and the ban on dictation was likely an attempt to boost the status of the Arts Faculty relative to the higher faculties where dictation was less common (though dictation is documented for example in law teaching, notably for important passages). Dictation was also the norm in extracurricular instruction in the colleges as opposed to the larger, more formal lectures of the university proper.

Dictation served practical purposes as an effective means to produce multiple copies of a text. In Paris the ban on dictation of 1355 coincided with the development of commercial stationers who rented out exemplars of texts for classroom use and thus offered a reasonably priced alternative to taking down a text under dictation.³⁰ Nonetheless dictation continued to be a cheaper way of procuring oneself a classroom text. For example, a Paris master accused of dictating his course in 1386 defended himself by maintaining that he covered as much material as his colleagues and that he helped the poorer students who needed to take notes, presumably because they could not afford to buy the text or rent it for copying.³¹ The correlation between note-taking and low economic status is also visible in an illustration of a 14th-century German university lecture where only one listener is depicted taking notes, sitting near the back of a room in which social standing was measured by one's proximity to the speaker.³² In addition to getting a text for just the cost of the materials involved, a poor student might be able to recover the expense of attending lectures by selling or renting out a copy of his notes. Masters also profited financially from encouraging poor students to attend since their revenue consisted in the fees paid directly to them by all students in attendance.³³

In addition to the practical advantages it offered masters and students, dictation was generally presumed to have pedagogical merits. Regulations tried to curtail abuses of dictation, notably in those of Paris, 1452 which forbade masters from repeating word for word courses given by others and from delegating the dictation of their courses to an advanced student. Dictation was supposed to be the work of a qualified teacher, not a merely mechanical transmission of a text. The act of copying out a text was often considered an essential part of mastering it, as one can gather

from the indignation expressed by some 13th-century students at the practice of purchasing rather than copying out one's textbooks.³⁴ But a critique of classroom note-taking is also visible in one college regulation of 1337 which deplored note-taking as detrimental to the students' attention in class and called for students to note only corrections or small adjustments to texts which they were expected to bring to class with them.³⁵

Although medieval pedagogical practices varied by time and place and our knowledge of them remains piecemeal, medieval students engaged in various kinds of note-taking from oral teaching, including making minor changes to a ready-made text brought into class, taking more or less sketchy reportationes of oral teaching delivered at higher than dictation speed, and copying out under dictation the full text of a course. Early modern classrooms no doubt offered a similar range of practices, but large numbers of surviving manuscripts attest to the prevalence of full-text notes taken by students from dictation, but also in particular settings from manuscript copying and (in the 18th century) from note-taking in teams.

Student manuscripts from the early modern classroom (16th-17th centuries)

One scholar has noted that the term "reportationes" fell out of use after the 15th century.³⁶ But the practice of the reportatio or taking notes from normal rates of speech continued in many contexts. Sermons continued to be a principal object of these practices, now also among Protestants who often applied special zeal to recording sermons. Protestant preachers also relied on assistants, or, in a new development, on their wives to record their sermons.³⁷ Listeners could keep notes of sermons for their personal use, or try to profit from them by printing them illegitimately.³⁸ In courtrooms, especially in England, stenographers recorded political speeches, debates and trials for printers who profited from publishing them.³⁹ Some playwrights worried that listeners would transcribe plays they heard in order to publish the text illegitimately, just as others stole sermons.⁴⁰ Oral conversation was also recorded, typically without the explicit consent of the speakers involved but more legitimately, when admiring followers or family members of famous individuals collected and printed their "table-talk" or -ana, presumably relying at least some times on notes, as well as

memory and no doubt a little invention too.⁴¹ Printing certainly raised the level of the rewards, both to finances and to reputation, that one could hope to reap from printing a set of notes, with or without the speaker's tacit or explicit consent. Printing may have amplified, or simply made more visible to historians, the unauthorized circulation of notes relative to medieval antecedents.

Similarly student notes circulated in manuscript and were often published, whether by the professor himself, by loyal students after his death, or illegitimately and even under someone else's name. In late 15th-century Rome professors complained, for example, of the speed with which "every word one utters is taken down and ... published with unconsidered haste" and of being forced to publish their lectures prematurely to forestall others from doing so.⁴² Pomponio Leto discovered that lectures on Virgil he had delivered in Rome were published in Brescia with so many mistakes that he disowned that edition and published his own.⁴³ Authors may also have relied at some points on student notes, in addition to their own, in publishing the many early modern texts which began as inaugural or other public lectures.⁴⁴ A professor in 15th-century Rome, Paolo Marsi, indicates that in "borrowing back from students" a professor's principal concern was to rearrange the student notes and "publish them in the same order in which [he] first put them forth."⁴⁵ Some medieval evidence suggests that students worked to fit course materials into pre-established outlines shared by courses of the same type, which professors have ignored in their oral teaching.⁴⁶

In addition to this indirect evidence, we can study for the early modern period an abundance of surviving student manuscripts, most of them clean copies of notes taken under dictation. Although printing made printed school texts more cheaply and readily available, these did not undermine the use of dictation in the classroom. On the contrary dictation became the accepted norm for teaching in the arts faculties, particularly as students entered in greater numbers and at younger ages starting in the sixteenth century.⁴⁷ Even in the higher faculties students complained about teachers who spoke too fast to record their every word.⁴⁸ Dictation seems to have fallen out of use in certain fields, like mathematics, in the 18th century, but dictation remained a staple of French education until the Revolution, when students demanded that dictation be abolished.⁴⁹ Dictation persisted at lower levels in any case. Regulations forbidding dictation in high school teaching can be found in French

university regulations as late as 1973, indicating, as they did in the 13th century, that dictation was still in use.⁵⁰ Whether or not French practice is representative of broader European trends in the modern period, and pending further attention to the use of dictation in many different time-place contexts, it seems likely that dictation was dominant in arts faculties and in college teaching in most parts of Europe in the 16th and 17th centuries.

Early modern student notes taken under dictation are found in two main forms: as annotations in the margins and interleaved blank pages of classical texts printed for classroom use, and as free-standing manuscripts containing a series of lectures, which will be my focus here. Working among the thousands of annotated Sammelbände from Leipzig ca. 1500, Jürgen Leonhardt shows (in his paper in this volume) that the student annotations keyed to words and passages in the printed text were written under dictation, notably from the survival of multiple sets of identical notes from the same classroom. The careful script and often elaborate layout of these volumes also indicates that these annotations were usually Reinschriften rather than Mitschriften.⁵¹ In some cases pedagogical marginal annotations may have been copied from an exemplar rather than dictated. This is the likely mode of diffusion for two sets of marginal annotations designed to aid the understanding of difficult technical aspects of Copernicus' De revolutionibus. One family of annotations was formed by copying from the annotations of Erasmus Reinhold, and another set of nine identical annotations were produced by the students of Jofrancus Offusius in Paris.⁵²

Many early modern student manuscripts contained the full text of a course of lectures. Among the examples of this type which I will examine from early 17th-century Paris, the existence of identical sets of notes indicates that these lecture notes too were taken under dictation. Although some of these courses were entitled "commentaries" they were taught not as commentaries keyed to a primary text (as in the case of the annotations to printed texts) but as independent discussions of topics both traditional (i.e. Aristotelian) and not. The commentary format already gave teachers a wide berth in the treatment of new material in the Renaissance,⁵³ but François Dainville has commented that the departure in Jesuit and other Paris colleges in the early 17th century from commentary on assigned texts to free-standing courses dictated by the master encouraged much

greater latitude and "was the pedagogical expression of a serious revolution, that which gave birth to Descartes."⁵⁴ This method of teaching generated many works in manuscript and in print containing the full text of lectures delivered to students. These certainly should count as one subgenre within the broad category of "textbook."

Examples from early 17th-century Paris

The teaching of a cluster of professors of philosophy in early 17th-century Paris can be studied from the posthumous publication of their courses and some surviving manuscripts. When course notes were printed, printers and former students worked together for a variety of purposes: to enhance the reputation of a recently deceased teacher and his institution, but also to advance each their own reputation and to make some money--the editors were presumably paid for their work and the printers could hope to make a profit from textbooks which might become bestsellers. When manuscripts are also available, as in one case I will consider below, they shed light on the process of posthumous publication as well as on the classroom note-taking on which these kinds of publications relied.

From Jean Crassot (active 1587-1616), called "the prince of philosophers" by his publishers and students, we have six published courses of varying lengths and levels. Although I have found no surviving manuscripts, the front matter of the publications offers insight into the people involved--three different printers, who may have worked in concert with one another, and four men, likely former students, who served as editors and correctors. Rémy Dallin was the first to print a short work, the Elementa politicae peripateticae (157pp) in 1616, followed by La science morale d'Aristote reduite en abrégé fort méthodiquement expliquée (183pp) in 1617. This, the only vernacular work attributed to Crassot, was either a French translation of a course delivered in Latin or may have resulted from private instruction which Crassot offered in French; unfortunately in the front matter Pierre Boulanger, author of the dedication and presumed editor, offers no details. In 1617 a second printer, Jean Libert, explains that the much regretted death of Crassot was an opportunity for him to combine private utility with the public good of the Academy. He published

two longer works, literally "taking the risk" ("facere periculum") first on Crassot's Logica (425pp),⁵⁵ then (though he expressed disappointment with the sales of the Logica) with Crassot's Physica (650pp), faithfully published from "exemplars" (presumably student notes) and corrected by P. R. Merigon.⁵⁶ A third printer, François Huby, published two books by Crassot that spanned all of Aristotle's philosophy, starting with an introductory work, the Institutiones absolutissimae in universam Aristotelis philosophiam (1617) of 670 pages. Presumably encouraged by its success (the Institutiones was the only one of Crassot's books to be reprinted, in 1630), two years later Huby published a massive two-volume quarto totalling 2800 pages--Crassot's Totius philosophiae peripateticae corpus absolutissimum (1619).

The Institutiones were edited by Prudent Constant who praises Crassot as a teacher and distinguishes the bulk of the work from an appendix on how to study which "was written by the author himself"--all clues to the likely origins of the work in student notes.⁵⁷ For the massive Totius philosophiae corpus more people are named in the front matter: Pierre Boullanger (who had edited the Science morale) wrote the dedication, and the preface (likely by the printer) thanks two others for their help--Prudent Constant who had just edited the Institutiones and especially Joannes Udinetus, "a most learned man," with whose help "I read the books necessary for this task and arranged and interpolated them among themselves."⁵⁸ The privilege also praises the great care and expense which the printer Huby devoted "to recovering and putting in good order the course of philosophy made by the late Jean Crassot."⁵⁹ These various phrases suggest that the process involved working from multiple sets of student notes and rearranging the material as needed (as the humanist professor Paolo Marsi indicated would be necessary if he were to publish his lectures using student notes).

In the 1640s two of Crassot's students who went on to become professors of philosophy experienced the same phenomenon of posthumous publication of their courses. In both cases the publications were clearly credited to students. The death of François Le Rées, bachelor of theology at the Sorbonne and professor of philosophy at the Collège de la Marche, prompted his student Malachia Keey, of Ireland, to publish his 870-page Cursus philosophicus (1642).⁶⁰ The case I can

discuss in more detail, from surviving manuscripts as well as printed editions, is that of another student of Crassot's, Jean-Cecile Frey (active 1607-31), born in Aargau (Switzerland) but who spent his career teaching philosophy in Paris.⁶¹ He obtained a medical doctorate but never seemed to practice as a doctor, ostensibly because he failed to pay all the requisite fees. Aside from a number of neo-Latin poems, we have some twenty pedagogical works from Frey's philosophy teaching in various Paris colleges. Seven were printed during his life and reprinted in a posthumous Opera (1645).⁶² Others were never printed, but survive in student manuscripts, one survives in an autograph professorial manuscript and six others were printed after Frey's death from student notes, in a volume entitled Opuscula varia (1646).⁶³

These student manuscripts reveal the range of Frey's teaching, from standard philosophy courses to an unusual array of shorter, extracurricular courses on medicine, physiognomy, geography, or the wonders of France. In two beautiful folio volumes from 1618-19 we have Frey's "commentaries" on the four parts of the philosophy curriculum--Aristotle's logic, ethics, physics and metaphysics.⁶⁴ Frey discusses various works of Aristotle in each of these four areas. He does not comment directly on Aristotle's text, but summarizes each work and offers an expanded discussion on a number points, including many not found in Aristotle, such as geography or the Copernican hypothesis.⁶⁵ This course totalling over 800 leaves would have amounted to hundreds of pages of print, like the thick volumes of Crassot's courses, but it was never printed. The manuscript, made by one François Jutet, bears the later ex-libris of Jean Ballesdens who masterminded the posthumous publication of Frey's courses and presumably procured it for himself with a view to using it in his publication, but this large and more standard course was in the end omitted for publication in favor of a variety of shorter extracurricular courses.

Frey's extracurricular teaching ranged widely. He published himself some of these courses, including advice on how to study, short introductions to philosophy, to the arts and sciences and a collection of the wonders of Gaul, from its rivers and mountains, remarkable animals and agricultural qualities to the accomplishments of its people--bridges, amphitheatres and stained-glass windows but also great printers, writers and university professors.⁶⁶ In courses published

posthumously Frey hailed the philosophy and religion of the druids of ancient Gaul as most wise and descended directly from Adamic origins,⁶⁷ and gathered cosmographical wonders, from monstrous peoples to sinking islands. He also offered a point-by-point response to recent criticisms of Aristotle in his Cribrum philosophicum. The extracurricular courses which remain unpublished included a fairly standard treatment of difficulties in metaphysics on the one hand,⁶⁸ and on the other hand topics of which many disapproved, such as physiognomy, Lullian art of memory and Paracelsian theories.⁶⁹

The case of Frey's teaching is a useful reminder of the significance and range of extracurricular instruction which was likely present at most universities although it leaves no trace in official statutes and has rarely been studied. Private instruction has been documented in Italy for example where complaints about it signal a likely increase in the late 16th century. In most Italian cases the professor covered the same material as in his public lectures, but with a single student or a small group. As early as the 14th century some Italian professors operated boarding schools in which they also offered instruction.⁷⁰ By contrast at the University of Helmstedt in the late 17th century Paul Nelles has shown that professors taught for extra pay in their homes on topics not in the curriculum but which were fashionable (including natural curiosities and local antiquities) or of special practical interest to students (study methods and early *historia litteraria*).⁷¹ Some fifty years before this German case Frey was offering very similar kinds of extra-curricular instruction in Paris. Frey's clientele was most likely young nobles of the robe or the sword headed for leadership positions, a number of whom are identified in the front matter of the posthumous publications. Though the Jesuits have primarily been the ones credited with catering to these men with their greater openness to such useful topics as geography, university masters like Frey also responded to these same interests.⁷²

A case of duplication amid this rich trove of material shows clearly that Frey's students wrote under dictation. The posthumous edition of Frey's course on cosmography ("*Selectiora cosmographiae*" in 190 printed pages) indicates that it was printed from the notes of Antoine de Rocbine and Antoine Morand taken in a class of Frey's in 1629. But another manuscript taken in the

same course in the same year by a third student, Charles Trainquard, survives at the Bibliothèque Municipale de Bourges. The differences between the manuscript and the printed version are minimal, on points of punctuation and spelling. They include for example an aural misunderstanding in which the manuscript reads "Labius" while the printed version reads "Clavius"--either the two who printed their notes got it right the first time or the error was corrected later.⁷³ [See FIGURE from Bourges mss] Frey presumably dictated the course from full-text notes of his own. One surviving autograph manuscript (unfortunately with no corresponding student version) contains full-text lectures on geography, politics and miscellaneous topics. The manuscript is marked up in many places, perhaps in view of a publication (either posthumous or by Frey himself) which never happened.⁷⁴

Dictated student manuscripts could circulate to others much more effectively than more personal reportationes-style notes. Gabriel Naudé reports having copied out Frey's philosophical dissertations in Greek (which I have not been able to find), and Frey's "geography and chorography," though he was never a student of Frey's.⁷⁵ Naudé must have made a copy from notes taken by other students. The famous doctor Guy Patin owned a copy of Frey's "Compendium medicinae," but it is not clear whether he was a student of Frey's or copied the text from another student.⁷⁶ Similarly students could delegate the note-taking to another in case of need. Michel de Marolles, a young nobleman destined for the clergy, who was a student of Frey's, reports having "someone take down the courses that [Frey] dictated in public" while he was sick and bedridden.⁷⁷

Student manuscripts should thus be added to the lengthening list of genres that circulated in manuscript in the 16th and 17th centuries.⁷⁸ I expect that more attention to them will turn up many more examples from all over Europe of students manuscripts and pedagogical texts printed from student notes.⁷⁹

Student manuscripts at Harvard 1680-1730

It is worth straying briefly from the time-place focus of this volume to mention another context in which student manuscripts served an essential role in the circulation of textbooks. Harvard

College, founded in 1636 in Cambridge, Massachusetts, by a handful of English Puritans, borrowed its pedagogical practices and texts from England, with a considerable time lag and some adjustments due to the straitened circumstances of a small colonial community. A recent study has brought to light dozens of manuscript textbooks which students copied from exemplars supplied by their tutors or older students.⁸⁰ Students would purchase a blank book of some 500 pages in which they would copy out assigned texts, notably a "Compendium physicae" by Charles Morton (1627-98), a "Compendium logicae" by William Brattle (1662-1717) and a Hebrew grammar by Judah Monis (1683-1764)--despite their Latin titles these texts were in English. The Morton compendium survives in 28 copies, showing steady use at Harvard from 1686 to at least 1729; it was never printed. Brattle's compendium and Monis' Hebrew grammar were finally printed in 1735 and at that point the practice of transcribing seems to have stopped.

The student manuscripts could include many of the trappings of a printed text, with title page, systematic page layouts, diagrams and indexes.⁸¹ They were neat and orderly, in many cases handsomely bound and often passed on to the next generation. Transcriptions were typically made in sections, as in *pecia* copying, intermittently over a period of weeks or months.⁸² The tutors oversaw corrections, which were entered in the text or in a list of errata. [FIGURE from Houghton Ms Am 1353--a student copy with later corrections]

Manuscript transcription presented clear practical advantages in a place where there were few students (22 students in the class of 1690, 37 in that of 1721) whose purchasing power could not support the expense of publishing a book for classroom use.⁸³ These texts were finally printed when enrollments had risen and there were also more potential buyers outside the college in the growing communities of Cambridge and Boston. Judah Monis' Hebrew grammar was still prohibitively expensive to print because of the Hebrew font, but the expense was borne by the College, which then required every student to buy a new copy (rather than a used one from another student).⁸⁴

Manuscript copying offered a further practical advantage in allowing for adjustments to the texts copied to suit particular needs and strengths (as in a "coursepack" today custom-made for a particular course). Some manuscripts were condensed versions of longer treatises designed by tutors

for easier memorization. In practice, though, Harvard tutors did not use the flexibility to stray from tradition. On the contrary, the Knoles's conclude: "this tightly managed process also enabled the faculty to enforce a conservative curriculum over a long period of time."⁸⁵ In this case manuscript transcription facilitated the perpetuation of texts which would likely not have attracted a printer in London and obviated the use of recently printed books by more recent authors. Whereas dictation was the only effective way of transmitting a text to dozens of students, as in the case of Frey's classes, individual, silent transcription was feasible given the much smaller numbers at Harvard. In each case the production of a full-text coursebook in student manuscript was a principal goal of education, for both practical and pedagogical reasons.

Full-text notes without dictation or transcription

The quest for accurate full-text notes took an elaborate form in some 18th-century cases of oral delivery at rates of regular speech. A method for coordinating note-taking in teams was devised in Halle by the pietist educator August Hermann Francke (1663-1727) to record his own sermons, then also used in university lectures, notably in Kant's Königsberg in the late 18th century. Given the detail with which he described his method Francke clearly perceived his invention to be new, though it is possible that note-taking in teams had existed in other earlier contexts.

In a report to a visitation of 1700 Francke described the procedure by which he collected written versions of his sermons in order to print them "so that they stay longer in the memory of our listeners." Since Francke spoke without relying on notes of his own, he relied on note-taking by listeners, as Bernard of Clairvaux or Huldrych Zwingli had in earlier generations. Ostensibly unhappy with the results of note-taking by one person Francke described how he relied on a team of 8-10, or even better 16 "studiosi" to take down his words accurately and fully. The note-takers would sit together in a section of the church and each take down in turn as many words as they could without straining their memory, before signaling to the next member of the team to pick up where he left off. Each note-taker would write down text fragments, usually not a complete sentence but 8-10 words, on narrow half-sheets of paper written.⁸⁶ The text fragments were each numbered 1-10 and

the sheets were labelled with letters A,B,C and so on. The resulting Mitschriften could thus span many sheets kept by each writer whose turn, Francke estimates, would come up 60 or 70 times in the course of a sermon. To make a coherent clean copy would require careful coordination of all the items on each of the writers' sheets of notes.

In the archives of the Franckesche Stiftungen in Halle two such sheets of Mitschriften are preserved in a volume of otherwise successfully transcribed Reinschriften of sermons. These two sheets alone among the hundreds that must have been generated were not discarded and were left in the final volume only because at this particular point the process of coordinated transcription had failed. An extra inserted note explains two problems that occurred in making the Reinschrift of the Francke's sermon for Ascension 1698 [FIGURE Halle-1--the inserted note].⁸⁷ In section ("decas") 8 sheet L was missing and gaps of about one line have been left throughout the section as appropriate in order to enter the missing material in case it were to be found. [FIGURE Halle-2--a page from section 8 with blank space left to be filled in later from the missing sheet of notes] Secondly, all of the Mitschriften for section 9 had been lost, except for sheets A and L, which were left in their original form in the volume in case they could enable someone to reconstruct the argument despite massive gaps. In the Reinschrift a note at the bottom of section 8 marks the absence of section 9 and the transcription simply moved on to section 10. [FIGURE Halle-3--the indication that section 9 is missing] Of section 9 we are left then with just two sheets, A and L. At least ten sheets B-K and likely more sheets (labelled M and later) were lost already at the time. [FIGURE Halle-4--sheet A for the second festive sermon of Pentecost "Fer. 2. Pent. Dec[as] 9" Compare with the reverse side, A for "F. Ascens" reproduced in Menck, Die Erziehung der Jugend, p. 139] [FIGURE Halle-5: L for "F. Ascens. d[ecas] 9"]

The surviving sheets confirm Francke's description. They each comprise sentence fragments numbered 1-10 and are labelled with a letter of the alphabet. But the sheets are also written on both sides, which Francke had not described. The front of the sheet pertains to the Ascension sermon, and the back to another sermon, for the second festive day of Pentecost. Back and front both correspond to the same part of each sermon, decade 9, and bear the same letter (A and L respectively), but the

handwriting is different between front and back. This suggests that blank sides of previously used sheets were reused to avoid wasting paper. Since the Mitschriften sheets are not dated it is not clear in what year the Pentecost notes were taken: most likely in 1697 in which case the relevant Reinschriften had long since been completed and the sheets saved for use almost a full year later. If the Pentecost notes were also from 1698, this would indicate that a clean copy of the Ascension sermon was attempted more than a month later, after the Pentecost sermon.

Although we cannot reconstruct the process entirely from these exceptional slips (the only known Mitschriften from the Francke archives), it is clear that the scale of the operation is remarkable. The Reinschrift of the Ascension sermon spans 133 manuscript pages in 12 sections or "decades," with one decade (the ninth) missing, as we know. Each section of Reinschrift was penned in a different hand; with the exception of one section in which the writing is less dense, most pages hold 18-20 lines. The blank space left for the missing contributions in decade 8 reveals that each numbered item was expected to span roughly one and a half lines in clean copy; therefore one sheet of Mitschriften with ten such items would not even account for one page of Reinschrift. My rough calculations suggest that it would have taken 160 sheets of the kind that survive (used on one side only) to provide for the Reinschrift of this sermon of 1698.⁸⁸ Given the quantities of sheets to manage and the coordination required, the surprise is that the system failed for only one section of one sermon, yielding a rare glimpse of preserved Mitschriften. It is likely that the daily copying required of pupils in Francke's orphanage and school produced much of this work.⁸⁹ The cumulative effect of this collective work is staggering: the Franckesche Stiftungen currently hold 103 volumes of Francke's sermons, each containing on average 25 sermons, in addition to 16 volumes of Francke's speeches and lectures.⁹⁰

This elaborate technique has been called a "Schreibechor" ("writing chorus"). Though Francke invented it for his Stiftungen, the practice can also be documented later elsewhere, whether it was developed separately or spread from Halle. For example Francke described witnessing in 1718 twelve students recording a sermon at the cathedral of Ulm which lasted 118 minutes.⁹¹ Furthermore, just as medieval reportationes spread from sermons to university lectures, so too in

18th-century Germany the Schreibechor technique spread to some university contexts. In particular team note-taking yielded full-text notes of Kant's lectures on anthropology which Kant first delivered at the University of Königsberg in 1772 but which were only published in 1798. In the intervening years student manuscripts of the course circulated and were available for sale.⁹² Although no Mitschriften are preserved from these lectures, the manuscripts indicate that they were "written by a society of listeners" or "gathered by" one person from the notes of multiple students.⁹³ Only further research will tell whether this case was a rare occurrence, for example due to the presence of a pietist student who was able to transmit the Halle technique to the classroom, or indicative of a more widespread practice, for example in Prussian universities.

One work of Hegel's is also known primarily through student notes--his Lectures on the philosophy of religion delivered at the University of Berlin in the 1820s.⁹⁴ Scholars have considered whether students worked in teams or individually using stenography (which was developed for German ca. 1834). The surviving Mitschriften of Hegel's lectures present many incomplete sentences and the Reinschriften include free reformulations of the lectures, made with the help of the notes of more than one student working individually. The team-work, if any, was apparently not successful in capturing the complete text and was probably limited to pooling notes after they had been taken rather than taking them in a "Schreibechor." Hegel reportedly used one set of Reinschriften (likely based on the notes of more than one listener) from his lectures of 1824 as the basis from which he prepared his own notes for the lectures of 1827. Others who have edited professorial courses from student notes similarly describe the challenges of coping with the variations and gaps that resulted from note-taking "modo notabiliorum"--that practice still familiar today at lectures and conferences which can be traced back to reportationes of the middle ages and its ancient antecedents.⁹⁵

Student manuscripts and early modern pedagogy

These scattered examples of student manuscripts from early modern universities suggest the value of a more sustained study of such practices in different contexts. With more evidence we

might develop a map of the variations and paths of transmission of different methods of recording oral teaching across time and space, and within and across confessional, linguistic and regional boundaries. Such a map could also help us correlate pedagogical practices to methods of note-taking in sermons or courtrooms among other places.

In the meantime, however, these cases invite some observations about the early modern classroom experience. First, philosophy teaching though mostly verbal and aural also included graphic elements, especially diagrams and branching charts. When an exemplar was simply copied, as at Harvard, it is easy to understand how a complex diagram could be transmitted effectively. But the printed and manuscript versions of a number of the Paris courses raise the question of how a professor would convey to students taking dictation the nature of a Ramist chart (as in Crassot) or a diagram of the Copernican system (present in student manuscripts made under Frey). Most likely the teacher would have used a visual display of some kind. One possibility was to circulate among the students during the lecture a sheet containing the visual material so that each could copy it out in turn. Another was to use large-format illustrations printed on broadsheets or in books that were presumably meant for display to a group.⁹⁶ Blackboards made of wood or stone treated so as to be erasable, both portable and fixed to the wall, were used in music instruction in the 16th and 17th centuries but have not so far been documented in teaching in the arts or sciences before the 18th century.⁹⁷ Certainly there is much more to learn about the visual aids in use in the classroom in different early modern contexts.

Most importantly, these early modern methods for generating a complete course text, whether dictation, copying from a manuscript exemplar or taking full-text notes in teams, were all deeply indebted to the pedagogical assumption that writing plays a key role in retention. Student note-taking was thought to aid the memory in two different ways: not only by creating a written record to return to, but also by forcing the mind to dwell on the material and to retain better what was read or heard by writing it down. Francesco Sacchini and Jeremias Drexel, the Jesuit authors of the two most reprinted manuals on note-taking, made this point repeatedly.⁹⁸ In support of the pedagogical virtues of writing Sacchini cited the model of ancients who copied texts not in order to

have copies of them, but in order to retain them better. He reports that Demosthenes copied Thucydides eight times, and Saint Jerome wrote many volumes in his own hand, "not due to the weakness of his library but out of desire to profit from the exercise."⁹⁹ The sentiment was widely shared by other pedagogues, from Juan Luis Vives (1492-1540) who also praised the act of copying for keeping light or scabrous thoughts at bay¹⁰⁰ to New England preacher Richard Steele who wrote in 1682: "the very writing of any thing fixes it deeper in the mind."¹⁰¹

The kind of retention that a number of instructors in 17th-century Paris and 18th-century Harvard had in mind was apparently actual memorization. One can surmise from their format that certain textbooks were meant to be memorized: for example those which offered a numbered list of axiomatic propositions or definitions, or those structured by questions and short answers, as in a catechism, the early modern archetype of the text to be memorized by children. But even a long textbook like Crassot's Logica boasted of being "clear to the memory." The preface of Crassot's 670-page Institutiones (by Prudent Constant) explained that (Ramist) tables were provided "for the aid of the memory" and concluded with this advice: "Learn by memorizing, even if you do not understand. For memory must precede judgment and the treasure chest must be filled with treasures before you can use and arrange them."¹⁰² At Harvard too students were required to memorize complete works, such as Increase Mather's much shorter "Catechismus logicus," which circulated in manuscript. Increase's own son Cotton Mather complained soon after graduation that the tutors often "make their pupil get by heart a deal of insipid stuff and such trash that they bid them at the same time to believe nothing of it."¹⁰³ If a course was meant to be memorized, then dictation and copying from an exemplar were particularly useful in ensuring that students learned the material from a (mostly) correct full text, rather than from fragmentary notes. The insistence on memorization likely resulted from many factors, including anxiety about the risk of erroneous understanding or transmission, but also the long traditional association of a good memory with moral virtue.¹⁰⁴

When lectures were delivered at rates above dictation speed, as in late 18th-century Königsberg, presumably the teacher could no longer expect memorization. In any case students may never have been as enthusiastic about memorization as their teachers, as the critical remarks of the

Harvard alumni ca. 1700 suggest and it is unclear how firmly memorization assignments were enforced. Yet even in contexts where memorization was not required, students like those in Kant's lectures still went to great lengths to procure a complete text of a lecture. Similarly today students pine for the reassurance that they have access to a complete text of a lecture, though it would now be more likely available on audiotape or in streaming video than in written form. In explaining the remarkable longevity of many a pedagogical practice, such as the full text notes on oral teaching favored in many early modern European contexts, we should attend to the conservative impulses of students as well as to those of professors and institutions.

FIGURE CAPTIONS

FIGURE from Bourges Ms 343 [in process]

FIGURE from Houghton Library Ms Am 1353. [in process] This manuscript is signed Charles Frost, 1729.

All images from Halle are reproduced by kind permission of the Archiv der Franckeschen Stiftungen, Halle, Germany. From the volume of Francke sermons AFSt/ H L 9a

FIGURE Halle-1

Inserted note in which one J. Crusius explains difficulties encountered in the making of the clean copy of Francke's sermon for Ascension 1698: one sheet of Mitschriften are missing for section 8 and all but two sheets of notes are missing for section 9. Archiv der Franckeschen Stiftungen AFSt/ H L 9a, note inserted at p. 1420.

FIGURE Halle-2

A page from section 8 of Francke's sermon for Ascension 1698 in which blank space has been left to accommodate the text from a missing sheet of notes. Archiv der Franckeschen Stiftungen AFSt/ H L 9a, pp. 1411-12.

FIGURE Halle-3

End of the 8th decade and beginning of the 10th decade of Francke's sermon for Ascension 1698; a note in the lower left explains the absence of decade 9, given that only sheets A and L were available. Archiv der Franckeschen Stiftungen AFSt/ H L 9a, pp. 1420-21.

FIGURE Halle-4

Mitschrift sheet A containing notes for a Pentecost sermon (side shown) and on the other side, in a different hand, notes for the problematic Ascension sermon (as reproduced in Peter Menck, Die Erziehung der Jugend zur Ehre Gottes und zum Nutzen des Nächsten. Die Pädagogik August Hermann Franckes [Tübingen: Verlag der Franckeschen Stiftungen Halle im Max Niemeyer Verlag, 2001], p. 139.) Archiv der Franckeschen Stiftungen AFSt/ H L 9a, note inserted at p. 1420.

FIGURE Halle-5

Mitschrift sheet L containing notes for Francke's 1698 Ascension sermon (side shown) and on the other side, in a different hand, notes for the same Pentecost sermon as on sheet A. Archiv der Franckeschen Stiftungen AFSt/ H L 9a, note inserted at p. 1420.

NOTES

Warm thanks to Joseph Freedman, Anthony Grafton, Beverly Kienzle, Nancy Siraisi and Françoise Waquet for helpful suggestions on earlier versions of this paper, and to John Gagné for verifications in the holdings of the BNF. For the Halle material I am grateful to Martin Mulsow for pursuing my query and especially to Dr. Jürgen Gröschl of the Franckesche Stiftungen for his help in procuring copies of and in interpreting these sources.

1. It is reasonable to make a sharp distinction, as some scholars do, between notes taken from regular rates of speech and those taken under dictation--certainly the former are much more difficult sources from which to hope to reconstruct what might have been said. See Jacqueline Hamesse, "Reportatio et transmission de textes," in The editing of theological and philosophical texts from the MA (Stockholm: Almqvist and Wiksell International, 1986), pp. 11-34, p. 12. Since my purpose is not to reconstruct oral content as much as to examine student practices, I also see a continuum and similarities between these two poles; for example, teachers without dictating might nonetheless repeat certain important passages and surviving dictated texts were often clean copies rather than first-order notes. As a result I discuss both kinds of note-taking in this paper with careful attention to the differences involved.

2. For a general introduction to note-taking in early modern Europe see my "Note-Taking as an Art of Transmission," Critical Inquiry 31 (2004), pp. 85-107.

3. See for example Auguste Pelzer, "Le premier livre des Reportata parisiensia de Jean Duns Scot," Annales de l'Institut Supérieur de Philosophie (Louvain) (1924), pp. 447-92, available in Pelzer, Etudes d'histoire littéraire sur la scolastique médiévale (Louvain: Publications universitaires and Paris: Béatrice-Nauwelaerts, 1964), pp. 422-67; also Ludger Meier, "Über den Zeugniswert der Reportatio in der Scholastik," Archiv für Kulturgeschichte 36 (1954), pp. 1-8.

4. Exceptions include rudimentary writing exercises preserved on wax tablets. See for example Horst Blanck, Das Buch in der Antike (Munich: C. H. Beck, 1992), p. 34.

5. For a full discussion of ancient note-taking and surviving evidence (from Toura, Herculaneum and Vindolanda, for example) see Tiziano Dorandi, Le stylet et la tablette. Dans le secret des auteurs antiques (Paris: Les Belles Lettres, 2000).

6. Werner Jaeger, Aristotle: Fundamentals of the History of his Development, tr. Richard Robinson, 2nd ed. (Oxford: Clarendon Press, 1948), pp. 169-70 among other passages.

7. Later problemata like those of Alexander of Aphrodisias presented a different format, with a question (as if posed by a student) eliciting an authoritative answer (as if by the master). See Ann

Blair, "The problemata as a natural philosophical genre," in Natural Particulars: Nature and the Disciplines in Early Modern Europe, ed. Anthony Grafton and Nancy Siraisi (Cambridge, Mass. and London: the MIT Press, 1999), pp. 171-204, pp. 173-77.

8. Cicero, Ad Familiares XVI, 21 as quoted and discussed in Jens Erik Skydsgaard, Varro the scholar: studies in the first book of Varro's de re rustica (Copenhagen: Einar Munksgaard, 1968), pp. 107-9.

9. See Herbert Boge, Griechische Tachygraphie und Tironische Noten (Berlin: Akademie Verlag, 1973), p. 61ff, discussing a description of how political speeches were recorded in Plutarch's Lives (Cato Minor 23,3). More generally see David Ganz, "On the History of Tironian Notes," in Tironische Noten, ed. Peter Ganz (Wiesbaden: Harrassowitz, 1990), pp. 35-51, who documents the use of Tironian notes as late as the 9th century.

10. M. B. Parkes, "Tachygraphy in the Middle Ages. Writing techniques employed for 'reportationes' of lectures and sermons," in Medioevo e Rinascimento. Annuario del Dipartimento di Studi sul Medioevo e il Rinascimento dell'Università di Firenze 3 (1989), pp. 159-69.

11. See P. Giovanni Müller, OSB "La 'reportatio,'" Salesianum 21:4 (1959), pp. 647-59, p. 650.

12. As discussed in J. Hamesse, "Reportatio et transmission de textes," in The editing of theological and philosophical texts from the MA (Stockholm: Almqvist and Wiksell International, 1986), pp. 11-34, p. 12. For a comprehensive treatment of the sermon, see Beverly Mayne Kienzle ed., The Sermon, Typologie des sources du moyen âge occidental, fasc. 81-83 (Turnhout-Belgium: Brepols, 2000) and in particular here Thomas Hall, "The early medieval sermon," pp. 203-47.

13. Michelle P. Brown, "The role of the wax tablet in medieval literacy: a reconsideration in light of a recent find from York," The British Library Journal 20:1 (1994), pp. 1-16, p. 8.

14. See J. Leclercq, Etudes sur S. Bernard et le texte de ses écrits (Rome: apud Curiam Generalem Sacri Ordinis Cisterciensis, 1953), Analecta Cisterciensia 9 (1953), pp. 45-67; and Nicole Bériou, "Les sermons latins après 1200," in The Sermon, ed. Kienzle, pp. 363-448, p. 365.

15. Hamesse, "Reportatio et transmission de textes," pp. 13-14.

16. Bériou is able in one case to compare a copy of notes taken in haste during the event with the fuller reportatio, in "La réportation des sermons parisiens à la fin du XIII^e siècle," Medioevo e Rinascimento (1989), pp. 87-123, pp. 93-96. See also D. L. D'Avray, The preaching of the friars. Sermons diffused from Paris before 1300 (Oxford: Clarendon Press, 1985), p. 98.

17. Parkes, "Tachygraphy in the Middle Ages."

18. Nicole Bériou, "La réportation des sermons parisiens," pp. 95, 97. On the long survival of Latin in the written records of sermons, see Bériou, "Sermons latins," pp. 382ff.

19. Nicole Bériou, "Les sermons latins," pp. 425-26. For a case of vernacular and Latin reportationes

from a sermon of San Bernardino, see C. Delcorno, "Medieval preaching in Italy (1200-1500)," in The sermon, pp. 449-560, pp. 497-501. For different versions of a sermon of St Bernard reported by two of his secretaries, see Leclercq, Etudes sur St Bernard, p. 67.

20. Bériou, "Réportation," p. 95; Delcorno, pp. 499-500.

21. Phyllis B. Roberts, "Medieval University Preaching: the evidence in the statutes," in Medieval sermons and society: cloister, city, university, ed. Jacqueline Hamesse et al. (Louvain la Neuve: Fédération Internationale des Instituts d'Etudes Médiévales, 1998), pp. 317-28.

22. Parkes, "Tachygraphy," p. 169.

23. Jacqueline Hamesse, "La technique de la réportation," in L'enseignement des disciplines à la Faculté des arts, Paris et Oxford, XIIIe-XVe siècles: actes du colloque international, ed. Olga Weijers and Louis Holtz (Turnhout: Brepols, 1997) pp. 405-21, pp. 408-9.

24. E.M. Meijers, "De universiteit van Orléans in de XIIIe eeuw," in Tijdschrift voor Rechtsgeschiedenis 1 (1918-19), pp. 108-92, 431-88; 2 (1920-21), pp. 460-518, as cited in Hamesse, "Technique de la réportation," p. 406.

25. William J. Courtenay, "Programs of study and genres of scholastic theology production in the 14th century," in Manuels, programmes de cours dans les universités médiévales, Actes du colloque de Louvain la Neuve, 1993, ed. J. Hamesse (Louvain: Institut d'Etudes Médiévales de l'Université Catholique de Louvain, 1994), pp. 325-350, pp. 342-4.

26. Cornelius O'Boyle, The Art of Medicine. Medical Teaching at the University of Paris, 1250-1400 (Leiden: Brill, 1998), pp. 195-201, esp. p. 197.

27. Jacqueline Hamesse, "La technique de la réportation," p. 418.

28. For a fine articulation of the difficulties of the task see the inscription in a manuscript of "Quaestiones in quartum sententiarum" by Heinrich von Friemar: "Explicunt quaestiones quarti libri sententiarum reportatae a lectore secundario fratrum minorum. Et istae quaestiones sunt reportatae per modum notabiliorum, et non sunt positi tituli questionum in principio, quia reportans adhuc non habuit modum et non potuit ita velociter scribere, quia lector non legebat ad pennam, sed cursorie et ergo si aliquid fuisset obmissum, quod non digne videatur, istud non est imponendum legenti, sed reportanti." As quoted in Ludger Meier, "Über den Zeugniswert der Reportatio in der Scholastik," p. 4. For some discussion of reportationes from disputations, see Palémon Glorieux, "L'enseignement au moyen âge. Techniques et méthodes," in Archives d'histoire doctrinale et littéraire du moyen âge (1968), pp. 65-186, p. 176 and A. M. Landgraf, "Zur Technik und Überlieferung der Disputation," in Collectanea franciscana 20 (1950), pp. 173-88.

29. This paragraph and my discussion of dictation in the middle ages more generally relies on István Hajnal, L'enseignement de l'écriture aux universités médiévales (Budapest: Maison d'édition de l'Académie des Sciences de Hongrie, 1959), pp. 117-23. See also Alfonso Maierù, "Les cours: lectio et lectio cursoria (d'après les statuts de Paris et d'Oxford)," in L'enseignement des disciplines à la

Faculté des arts, Paris et Oxford, XIIIe-XVe siècles, pp. 372-91, who emphasizes the regulations forbidding dictation.

30. Mary Rouse and Richard Rouse, Authentic Witnesses: approaches to medieval texts and manuscripts (Notre Dame: University of Indiana Press, 1991), ch. 8.

31. Hajnal, L'enseignement de l'écriture, p. 121.

32. William Clark, Academic Charisma and the Origins of the Research University (Chicago: University of Chicago Press, 2006), pp. 70-71.

33. Hajnal, L'enseignement de l'écriture, p. 118.

34. Hajnal, p. 127.

35. Hajnal, p. 118-19, citing the 1337 charter of the Collège Verdale, Toulouse. Hajnal also cites regulations specifying that students had to bring their own copies of the text to class or share a copy among at most three students.

36. Müller, "La 'reportatio,'" p. 647.

37. Most of Zwingli's sermons are known through reportationes; see Ulrich Gaebler, Huldrych Zwingli. His Life and Work (Philadelphia: Fortress Press, 1986), pp. 101-2. I am grateful to Emidio Campo for this reference. Sibylla, the wife of the Lutheran preacher Johann Mathesius, transcribed several of her husband's sermons for the use of their children. Christopher Brown, Singing the Gospel: Lutheran hymns and the success of the Reformation (Cambridge, Mass.: Harvard University Press, 2005), p. 114. On the new married condition of Protestant clerics, see Gadi Algazi, "Scholars in household: refiguring the learned habitus, 1480-1550," Science in context 16 (2003), pp. 9-42.

38. For example the Puritan artisan Nehemiah Wallington left four volumes of notes on sermons amid thousands of pages of surviving personal papers. See Paul S. Seaver, Wallington's World. A Puritan Artisan in 17th-century London (Stanford: Stanford University Press 1985), e.g. p. 37.

39. See Michael Mendle's forthcoming history of stenography.

40. Adele Davidson, "'Some by Stenography'? Stationers, shorthand and the early Shakespearean quartos," Papers of the Bibliographical Society of America 90 (1996), pp. 417-50.

41. See Francine Wild, La naissance du genre des -ana, 1574-1712 (Paris: Champion, 2001) and Bernard Beugnot, "Forme et histoire: le statut des ana," in Mélanges offerts à Georges Couton (Lyon: Presses Universitaires de Lyon, 1981), pp. 85-101. Luther's Table-talk is an early example of such collections from conversation, first published by the Wittenberg student Johannes Aurifaber. See Martin Luther, Tischreden oder Colloquia (Eisleben: Urban Gaubish, 1566; facsimile Leipzig: Edition Leipzig, 1981), preface p. [2].

42. For some examples (Paolo Marsi, Antonius Parthenius and Pomponio Leto), see Anthony

Grafton and Lisa Jardine, From Humanism to the Humanities. Education and the Liberal Arts in Fifteenth- and Sixteenth-Century Europe (Cambridge, Mass: Harvard University Press, 1986), pp. 64-65.

43. For details see Maurizio Campanelli and Maria Agata Pincelli, "La lettura dei classici nello 'Studium Urbis' tra Umanesimo e Rinascimento," in Storia della Facoltà di lettere e Filosofia de 'La Sapienza'," ed Lidia Capo and Maria Rosa di Simone (Rome: Viella, 2000), pp. 93-195, especially section IX pp. 128-31. I am grateful to David Lines for this reference.

44. Including for example Angelo Poliziano's Panepistemon (1489) which was an inaugural lecture delivered in Florence; or Francesco Sacchini, "De vitanda moribus noxia lectione, oratio," published with his De ratione libros legendi (1614); or Daniel Georg Morhof, De legendis, imitandis et excerptendis auctoribus. Libellus posthumus, (Hamburg: Christian Wilhelm Brandt, 1731) which was published from a listener's manuscript, according to the preface.

45. "If I am to publish anything, I shall borrow my efforts back from my students and publish them in the same order in which I first put them forth." Paolo Marsi, ed. of Ovid's Fasti (Venice, 1482), "Praefatio in II librum Fastorum," as quoted in Grafton and Jardine, p. 65; also cited in Campanelli and Pincelli, p. 129.

46. On the presence of pre-established outlines, often with elaborate subdivisions, in medieval courses, and an example of a professor rearranging for circulation the order of material contained in student reportationes, see Hamesse, "La technique de la réportation," pp. 416-17.

47. Richard Tuck, "The institutional setting," in The Cambridge History of Seventeenth-Century Philosophy, ed. Daniel Garber and Michael Ayers (Cambridge: Cambridge University Press, 1998), I, 9-32, pp. 17-19.

48. See for example the letter by medical students at the University of Basel to Theodor Zwinger (1533-88) asking him to speak more slowly so that they could keep up while taking notes (undated). See Martin Steinmann, nach Vorarbeiten von Studentinnen und Studenten, "Sieben Briefe aus der Korrespondenz von Theodor Zwinger," in Im Spannungsfeld von Gott und Welt. Beiträge zu Geschichte und Gegenwart des Frey-Grynaeischen Instituts in Basel 1747-1997, ed. Andreas Urs Sommer (Basel: Schwabe, 1997), pp. 181-209, pp. 186-8.

49. L.W.B. Brockliss, French Higher Education in the Seventeenth and Eighteenth Centuries: a Cultural History (Oxford: Clarendon Press, 1987), pp. 383 (on mathematics), 192 (Revolution).

50. Françoise Waquet, Parler comme un livre. L'oralité et le savoir XVIe-XXe siècle (Paris: Albin Michel, 2003), p. 75.

51. See my "Lectures on Ovid's Metamorphoses: The Class Notes of a 16th-Century Paris Schoolboy," Princeton University Library Chronicle 50 (1989), 117-44 for some illustrations of notes copied so as to taper neatly at the end of a paragraph.

52. Owen Gingerich, An annotated census of Copernicus' De revolutionibus (Nuremberg, 1543) and

(Basel, 1566) (Leiden: Brill, 2002), pp. xix-xxi.

53. See for example on this point Nancy Siraisi, Avicenna in the Renaissance (Princeton: Princeton University Press, 1987).

54. François Dainville, La géographie des humanistes (Paris: Beauchesne, 1940), pp. 222-23.

55. "Ego, qui unum id meditor atque curo, ut in publicis Academiae commodis honestam quoque rationem inveniam privatae utilitati consulendi, cum exaratas abs illo homine summa diligentia de ratione disserendi, de vita et moribus, de naturae obscuritate, deque prima philosophia institutiones, quae absoluta brevitate laborem discentium non sine ingenti fructu sublevarent, comperissem: cum eas mihi comparavi sedulo, tum excudendas protinus tuo, Lector, et reip. bono, existimavi. Qua in re quid profecerim in compendiarium Logica facere periculum, atque hoc totius operis dare specimen constitui." Jean Crassot, Logica ... brevis et memoriae clara (Paris: Jean Libert, 1617), preface, pp. 4-5.

56. "Cum anno superiore I. Crassot, cuius in Academicorum animis tamdiu felix memoria vivet, quamdiu sapientiae studia vigeant, compendiarium Logicam edidissem: animadverti, editionis illius fructum non satis vel authoris gloriae respondisse, vel expectationi meae: quod patrocinio destitutus, alioquin perutilis foetus, iusta debitaque commendatione caruisset." Jean Crassot, Physica visa iuxta fidem exemplarium et post a mendis expurgata opera et diligentia P.B. Merigon (Paris: Ioann. Libert, 1618), p. 3.

57. Ioannis Crassotii praestantissimi Philosophi Institutiones absolutissimae, in universam Aristotelis Philosophiam, hoc est, Dialecticam, Moralem, Familiarem, Civilem, Physiologiam, Mathematicam et Metaphysicam. Cum indice Rerum et Verborum, celebriorumque doctrinae Aristotelicae Positionum copiosissimo: accessit praeterea iuventutis ergo, modus studij Philosophici recte instituendi, ab Authore ipso olim conscriptus (Paris: François Huby, 1617).

58. "Dum tamen his in angustiis versarer, paene animum abiecissem nisi mihi perclitanti suppetias tulisset, suiue copiam fecisset Ioannes Udinetus, quem honoris causa nomino, vir utriusque literaturae scientissimus, assiduus antiquae doctrinae pervestigator, et quod caput est in eo studiorum omnium culmen antevenit, quod habet huic eminenti scientiae conscientiam superiorem, vir inquam, cui omnia mea me debere profiteor, et sine quo forsitan (absit invidia verbo) nunquam de Ioanne Crassotio ab inferis revocando et in lucem rursum reponendo cogitasset. Huius igitur praesidiis refocillatus animus incredibile quanta cum alacritate et ardore pensum poene desperatum repetii, omnes forulos excussi, libros huic rei necessarios evolui, et inter se composui, interpolavi. Memorque huius proverbij, plus oculi quam oculus, Prudentium Constant Lingonensem adolescentem prudentia quam aetate grandiore mihi socium ascivi, qui et mutuas traderet opera, et qualicunque moli sustinendae sufficeret; ut totum opus diu multumque ante praemeditatum maturius ac limatius posteritatis manibus teratur." Jean Crassot, Totius philosophiae peripateticae corpus absolutissimum (Paris: François Huby, 1619), vol. 1, sig. eijv.

59. One privilege for both the Institutiones and the longer Totius philosophiae ... corpus, dated 27 September 1617, appears at the back of the Institutiones: "Notre cher et bien amé François Huby,

Maistre Imprimeur et Marchand Libraire en l'Université de Paris: nous a fait dire et remontrer, qu'ayant avecques tout le soing et la despence qui luy a esté possible, recouper et fait rediger en bon ordre le cours de toute la Philosophie faicte par deffunct Iean Crassot, Professeur en l'Université de Paris, avec quelques Institutions." Signed by Goislard and Huraut.

60. François Le Rées, Cursus philosophicus ... Nunc primum in lucem editus opera Malachia Keey Hiberni, illius Discipuli. Opus Postumum (Paris: Matthaeus Guillemot, 1642).

61. For a detailed treatment of Frey's teaching in its social and intellectual context see Ann Blair, "The Teaching of Natural Philosophy in Early Seventeenth-Century Paris: the Case of Jean-Cecile Frey," History of Universities 12 (1993), 95-158.

62. Opera quae reperiri potuerunt, in unum corpus collecta, ed. Joannes Ballesdens (Paris: Ioannes Gesselin, 1645) contains these previously published works by Frey: Universae philosophiae compendium (Paris: Denys Langlois, 1633); Mens ... editio quarta (earlier editions of 1628 and 1629 not located; 3rd ed. Paris: Denys Langlois, 1630; 4th ed. Paris: Iacob Villery et Ioannes Guignard, 1636); Definitiones (Paris: Denys Langlois, 1628; Paris: Iacob Villery et Ioannes Guignard, 1636); Admiranda Galliarum (Paris: François Targa, 1628); Via (Paris: Denys Langlois, 1628); Scientiae et artes (which I have not found in a separate edition).

63. Opuscula varia nusquam edita, philosophis, medicis et curiosis omnibus utilissima, ed. Antoine Morand (Paris: Petrus David, 1646) contains previously unpublished courses: "Antiquissimae Gallorum Philosophiae Ecloga" (Boncourt, 1625), "Cribrum philosophorum" (1628), "De universo propositiones curiosiores" (1628), "Cosmographiae selectiora" (1629), "Dialectica veterum, praeceptis ad expeditam rerum notitiam utilissimis instructa" (n.d.), "Compendium medecinae [sic]" (Boncourt, 1622).

64. François Jutet, "Frey ... in universam Aristotelis logicam nec non in ethicam commentarij" and "in totam scientiam Aristotelis nec non in Metaphysicam commentarij", Montaigu, 1618 and 1619. Bibliothèque Nationale de France MS Lat 6434 and Lat 6538a.

65. Frey's teacher Crassot is credited with being the first Paris professor to discuss Copernicanism, though he dismissed it hastily. See Laurence Brockliss, "Aristotle, Descartes and the New Science: Natural Philosophy at the University of Paris, 1600-1740", Annals of Science 38 (1981), 40. In his course of 1618 Frey offered an accurate diagram of the Copernican system, but then raised many objections to it; ten years later in his "Cosmographiae selectiora," Frey responded cogently to the main objections to heliocentrism, but took no final position on the question. See Opuscula, pp. 216-18 in which Frey concludes: "Respondeo ex neutra parte argumenta firma sunt."

66. In his Admiranda Galliarum Frey singles out Robert and Henri Estienne, Pierre de Ronsard and Jean Passerat, Joseph Scaliger and Isaac Casaubon and his teacher Jean Crassot among others. In anticipation of its success, this work included a privilege for a French translation extended to François Targa, publisher of the Latin version, but no French translation was ever published.

67. "Antiquissimae Gallorum philosophiae ecloga", in Opuscula, 3. On the "Celtic renaissance" see

Claude-Gilbert Dubois, Celtas et Gaulois au XVIe siècle: le développement littéraire d'un mythe nationaliste (Paris, 1972) and Donald Kelley, Foundations of Modern Historical Scholarship: Language, Law, and History in the French Renaissance (New York, 1970), 291-93 (on Etienne Pasquier's interest in both the Celtic and Frankish legacies).

68. Ioannes Laupentier (?), "Difficiliora et subtiliora totius metaphysicae controversa et annotationes prolegomena", Frey at Collège de Boncourt, 1627. Bibliothèque Municipale de Louviers MS 35.

69. "Tractatus hos dictavit Vir doctissimus Ianus Caecilius Frey anno 1620 in schola Lexovea" in "Semina et principia prima Artium Physiognomiae, Chiromantiae, Divinationis ex insomnijs, Artis memorandi et Lulianae", Bibliothèque Sainte-Geneviève (Paris) MS 2234, ff. 174-90.

70. See Paul F. Grendler, The Universities of the Italian Renaissance (Baltimore and London: Johns Hopkins University Press, 2002), pp. 486-94. On professors operating boarding schools see R. G. Mercer, The Teaching of Gasparino Barzizza: with special reference to his place in Paduan humanism (London: Modern Humanities Research Association, 1979). I am grateful to Paul Grendler for these references and expert consultations on this topic.

71. Paul Nelles, "Historia litteraria at Helmstedt: books, professors and students in the early Enlightenment university," in Praktiken der Gelehrsamkeit in der frühen Neuzeit, ed. Helmut Zedelmaier and Martin Mulsow (Tübingen: Niemeyer, 2001), pp. 147-76, esp. pp. 159-63.

72. For more details on Frey's students and teaching see Blair, "The Teaching of Natural Philosophy."

73. Charles Trainquard, "Cosmographiae selectiora," Frey's course at the Collège de Montaigu, 1629. Bibliothèque Municipale de Bourges MS 343. Compare BM Bourges MS 343, p. 62 and Frey, Opuscula, p. 185.

74. See Frey, "De geographia tractatus", "In universam politicen praefatio", "Miscellaneorum ex selectis disciplinis aut lectorum aut noviter inventorum libellus", "**Stephanoplokos**, id est, ex diversis politioris litterraturae [sic] floribus corollae contextae". Bibliothèque de l'Arsenal (Paris) MS 1146 [no date]. Drafts of works for publication usually survive from this period only when they were not published. On this point see Archives of the Scientific Revolution. The formation and exchange of ideas in seventeenth-century Europe, ed. Michael Hunter (Woodbridge, Suffolk: the Boydell Press, 1998), p. 7.

75. "Tractatum de Sibyllis descripsi, idem de antiquitatibus feci, idemque postea de Geographia et Horographiae Domini Frey facturum sum, omissis, quos alij tradunt, similibus libris." (to D. Fuzelet, June 1, 1619) Naudé evidently carried out this intention: "Simulque de Geographia, Graecisque dissertationibus Philosophicis Domini Frey hic a me non accipies, cum de ipsis tutius post redditum te nobis ... confabulari possumus." (to D. Fuzelet, July 17, 1619) Gabriel Naudé, Epistolae (Geneva, 1667), 12-3 and 16 (see also 1-2). For further discussion and for the conclusion that Naudé was not a student of Frey's, see René Pintard, Le libertinage érudit dans la première moitié du XVIIe siècle (Paris: Boivin, 1943), p. 599.

76. The manuscript of the "Compendium medicinae" printed in 1645 is indicated as being from the library of Guy Patin: "Finis compendii totius Medicinae dictati a D. Iano Caecilio Frey, doctore medico Parisiensi, in gymnasio Becodiano, anno 1622. Expromptum est hoc Compendium Medic. e Bibliotheca D. Guidonis Patini, Bellovacii, Medici Paris." See Frey, Opuscula, p. 523. Patin started his medical studies four years behind Frey and was likely a friend of his, having composed a liminary ode to Frey's Mens first published in 1628.

77. "[1618] Mais ayant commencé mon cours de Philosophie sous le fameux Ianus Cecilius Frei, qui enseignoit au College de Montaigu, ie tombai malade d'une grosse fièvre continuë. ... Nostre Professeur me donnoit des leçons en particulier pour le temps que j'avois perdu et ie faisois escrire sous luy celles qu'il dictoit en public, où il méloit beaucoup de questions et recherches curieuses, tant de l'Astronomie, que du Systeme du monde et de la Geographie, dont j'avois acquis desia quelque connoissance." Michel de Marolles, Mémoires ... contenant ce qu'il a vu de plus remarquable en sa vie, depuis l'année 1600 (Paris, 1656), pp. 35-6.

78. Studies of manuscript circulation have so far focused mostly on political newsheets, poetry and chamber music. For recent work in this area, see Harold Love, Culture and the Commerce of Texts: Scribal Publication in Seventeenth-Century England (Amherst: University of Massachusetts Press, 1998), including p. 219-20 on student manuscripts; Peter Beal, In praise of scribes: manuscripts and their makes in 17th-century England (Oxford: Clarendon Press, 1998); David D. Hall, "Scribal publication in seventeenth-century New England: an introduction and checklist," Proceedings of the American Antiquarian Society 115:1 (2005), pp. 29-80.

79. See for example Keckermann's lectures on history which circulated first as student notes; see Nelles, "Historia litteraria at Helmstedt," p. 154. Similarly Caspar Bauhin published lectures on the diseases of women which Girolamo Mercuriale had delivered fourteen years earlier, by editing his own notes without Mercuriale's knowledge: De morbis muliebribus ex ore Hieronymi Mercurialis iam dudum a Gaspare Bauhino exceptae ac paulo antea inscio autore edite (Venice: apud Felicem Galgrisium, 1587). Many of the lectures of Herman Boerhaave (1668-1738) were published posthumously from notes by students; see G. A. Lindeboom, Herman Boerhaave. The Man and his Work (London: Methuen, 1968), pp. 357-59.

80. I rely for this section on Thomas Knoles and Lucia Zaucha Knoles, "In Usum Pupillorum: student-transcribed texts at Harvard College before 1740," in Thomas Knoles, Rick Kennedy and Lucia Zaucha Knoles, Student Notebooks at Colonial Harvard: Manuscripts and Educational Practice 1650-1740 (Worcester: American Antiquarian Society, 2003), pp. 7-88.

81. Knoles and Knoles, p. 12

82. Starting and ending dates of transcriptions indicate about that about 80,000 words were transcribed during periods of 45 to 133 days, viz. at a rate of 600-1750 words per day. Knoles and Knoles, p. 33.

83. For the size of early Harvard, see Samuel Eliot Morrison, Three Centuries of Harvard, 1636-1936 (Cambridge, Mass.: the Belknap Press of Harvard University Press, 1936), pp. 45, 59.

84. Monis' grammar was printed in 900 copies at a cost of 90 pounds; see Knoles and Knoles, pp. 83-85.

85. Knoles and Knoles, p. 51.

86. Francke describes the quantity of text as "roughly as much as fits in a Comma." The passage is transcribed from archival documents in the Frankesche Stiftungen zu Halle in Peter Menck, Die Erziehung der Jugend zur Ehre Gottes und zum Nutzen des Nächsten. Die Pädagogik August Hermann Franckes (Tübingen: Verlag der Franckeschen Stiftungen Halle im Max Niemeyer Verlag, 2001), pp. 138-40, here p. 139. I am most grateful to Dr. Jürgen Gröschl for this reference.

87. "Spatia intermissa indicant Liter. L perijsse ex decade VIII quae enim interjecta erat, pertinent Dec ix ut videri est. Et literam A et L ex Dec. ix amissa volui adjicere ut vel ejus argumentum constare possit. J. Crusius." Archiv der Franckeschen Stiftungen AFSt/ H L 9a, note inserted at p. 1420. Sadly J. Crusius has not been identified.

88. 133 pages at 18 lines per page = 2394 lines. A sheet contains about 15 lines of material in Reinschrift. 160 sheets (considering only one side) would account for 2400 lines.

89. See Menck, p. 142-43 for regulations concerning copying.

90. Jürgen Gröschl, personal communication.

91. This example and the rest of this paragraph rely on Kants Vorlesungen, vol. 2: Vorlesungen über Anthropologie, ed. Reinhard Brandt and Werner Stark (Berlin: Walter de Gruyter and Co., 1997), pp. lxxi-lxxii.

92. On the general pedagogical context of these lectures, see Werner Stark, "Historical Notes and Interpretive Questions about Kant's Lectures on Anthropology," tr. Patrick Kain, in Essays on Kant's Anthropology, ed. Brian Jacobs and Patrick Kain (Cambridge: Cambridge University Press, 2003), 15-37, esp. 15-20.

93. "Geschrieben von einer Gesellschaft Zuhörern" or "Collegium anthropologicum oder Vorlesungen über Menschen von Kant ... gesammelt von Theodor Friderich Brauer," as discussed in Kants Vorlesungen, ed. Brandt and Stark, pp. lxxi-lxxii. See also the discussion there of a possible Schreibechor in lectures of Fichte's.

94. See Georg Wilhelm Friedrich Hegel, Lectures on the Philosophy of Religion, ed. Peter C. Hodgson, 3 vols (Berkeley: University of California Press, 1984), I, pp. 5, 14-20.

95. See for example the report on note-taking at a recent conference in Olga Weijers, "Note sur une expérience de reportatio," in Du copiste au collectionneur. Mélanges d'histoire des textes et des bibliothèques en l'honneur d'André Vernet, ed. Donatella Nebbiai-Dalla Guarda and Jean-François Genest (Turnhout: Brepols, 1998), p. 185-90. Or the preface to the first edition of Ferdinand de Saussure, Cours de linguistique générale, in the critical edition by Tullio de Mauro (Paris: Payot, p. 1985), pp. 8-9. For an edition and translation of one set of notebooks, see F. de Saussure, Premier

cours de linguistique générale (1907) d'après les cahiers d'Albert Riedlinger, French text ed. Eisuke Komatsu, English tr. George Wolf (Oxford: Pergamon, 1996).

96. See, for examples in anatomy, Andrea Carlino, Paper Bodies. A Catalogue of Anatomical Fugitive Sheets 1538-1687, tr. Noga Arikha (London: Wellcome Institute for the History of Medicine, 1999) or, in astronomy, books like the portfolio editions of Petrus Apianus, Astronomicum Caesareum (Ingolstadt, 1540).

97. In the 16th century blackboards used in music teaching are known from inventories after death and from a few iconographical sources; see Jessie Ann Owens, Composers at work: the craft of musical composition 1450-1600 (Oxford: Oxford University Press, 1997), p. 87. On the use of the blackboard by the Italian mathematician Giovanni Poleni (1683-1761), see Giovanni Poleni, 1683-1761: nel bicentenario della morte, Atti e memorie dell'Accademia Patavina di scienza lettere ed arti, 74, Supplemento (Padua, 1963), p. ??

98. Francesco Sacchini, De ratione libros cum profectu legendi libellus (Ingolstadt: ex typographeo Ederiano, 1614), p. 74: "Deinde ipsa quoque scriptio et intelligentiam iuvat." Jeremias Drexel, Aurifodina artium et scientiarum omnium; excerptendi sollertia, omnibus litterarum amantibus monstrata (Antwerp: vidua Ioannis Cnobbari, 1638), ch. 9, p. 56: "excerpendum esse diversis rationibus docetur. Prima est: lectoris intentio scribendi et annotandi cura multum acuitur. Altera ratio est: quod exscribitur, intelligentiam profundius subit, menti altius imprimitur. ... Cum gnaviter excerpti et annotat, crebrius subsistere cogitur et pedem figere: etiam dum lectis immoratur, dum relegit et retractat, longe melius, quae retinenda penetrat."

99. "Itaque Demosthenes sua manu si Dionysio Halicarnasseo credimus, octies totum exscripsit Thucydidem. Multa etiam manu sua exscripsit volumina S. Hieronymus: multa alij sapientissimi viri, non tam librarij inopia, quam cupiditate profectus ex opere." Sacchini, p. 74.

100. Ann Moss, Printed Commonplace-Books and the Structuring of Renaissance Thought (Oxford: Clarendon Press, 1996), quotation #125, p. 300.

101. Richard Steele, "What are the Hindrances and Helps to a Good Memory in Spiritual Things?" in A Continuation of Morning-Exercise Questions ... resolved in 1682, ed. Samuel Annesley (London: J.A. Dunton, 1683), p. 428, as quoted in Knoles and Knoles, p. 57.

102. "Disce memoriter, quamvis non intelligas: Nam memoria iudicium precedere debet, et arca Thesauris debet institui, antequam ijsdem utaris et disponas." Crassot, Institutiones (1617), sig. a ix verso. On the tables see sig. a ix recto.

103. Knoles and Knoles, p. 54. Mather's "Catechismus logicus" is edited and translated in 40 modern pages by Rick Kennedy and Thomas Knoles in Student Notebooks at Colonial Harvard: Manuscripts and Educational Practice 1650-1740, pp. 127-67.

104. Mary Carruthers, The Book of Memory: a study of memory in medieval culture (Cambridge: Cambridge University Press, 1990), pp. 12-13, 156.