

## PROFESSORS

The Latin term *professor* was used as early as the first century CE to describe a paid teacher and to indicate a trained proficiency in the subject “professed.” Both elements are evident in the current Anglophone use of the word denoting a member of a university faculty. It is from the evidence posed by “professors” of this sort, and their predecessors in the European universities of the medieval and \*early modern period, that this entry is written.

Other parameters are certainly possible. A full accounting of the word *professor* and its cognates in the nineteenth century alone would have to include also secondary-school teachers of a certain rank, to say nothing of an (antiquated) designation for a particular academic degree; an exhaustive treatment of the word’s scope in antiquity, meanwhile, would need to deal with its religious associations. If, on the other hand, we loose ourselves from the term and simply look instead for some constellation of the functions and characteristics that, at various times and places, have attended the professorial title—publicly funded lecturing, for example, or institutionally anchored pedagogical activity on the part of leading scholars—the field grows even wider. We might find the professorial chair in the imperial salaries extended to certain high-level teachers in antiquity, such as the great rhetorician Quintilian in Rome, those installed in Athens in the second century CE by Marcus Aurelius, or those officially appointed in Constantinople as early as the fourth century. We would have to do with learned individuals like Ioannes Xiphilinus and Michael Psellos (1018–78?), active in schools sponsored by the Byzantine emperor. And we would be profitably engaged with figures in sites such as the academies of premodern China and the madrasas of eleventh-century Baghdad. One of the tasks for the history of information and its practices will be to elaborate how some of the themes presented here look different when the frame is changed. But for now, an outline.

### THE “TRADITIONAL” AND THE “MODERN”

Standard narratives about the history of the university begin in the twelfth and thirteenth centuries in Italy and France and spot a principal pivot point for the professor in late eighteenth- and early nineteenth-century Germany, at which time and place a research emphasis is said to have gained currency. Some combination of factors—competition between the German states, a social pressure to define disciplinary standards, increasing invigilation by bureaucratized ministries, a particular scholarly ideology—conspired to make original, written production for a specialized audience henceforth a crucial component of the professorial identity. According to this view, the professors (or *magistri* [masters] or *doctores* [doctors]) in the medieval and early modern university were predominately teachers. They lectured to students on set texts, reading them aloud, explicating them, offering a sort of running commentary on any questions they raised. They



participated in and presided over the verbal jousting exercises known as disputations. All the while they are supposed to have remained more focused on polishing and passing on established truths than on generating fresh ones. Their positions, often owed in no small part to family connections within the university, carried legal privileges and a measure of dignity and could be switched, over time, for others in subjects in which they had little experience. When they wrote, an activity to which they were not compelled, they inclined to treatises, textbooks, and commentaries based on their lectures and disputations, or else (this in the early modern period) to translations and other works meant for a general rather than a specialized readership—productions that would generate broader fame and, indirectly, more students and income for themselves and the universities of which they were a part. The “traditional” professor becomes, in this telling, a manager of information for the purpose of systematization and transmission.

The modern professor, on the other hand, is said to be a researcher, a handler of information for the purpose of creating new information. At a certain point it was no longer sufficient to teach: a faculty position came to require the writing and publication of specialized, often highly esoteric investigations that yielded original results. Such efforts, largely inaccessible to the general reader, were assessed by expert colleagues, whose reactions guided the decisions of the government bureaucrats controlling professorial appointments with filed and foldered efficiency, putting an end to old systems of local favoritism and corporate fellow feeling. Professors still gave lectures, but the disputation had all but disappeared, and the university landscape had new features—seminars and laboratories where the methods of research were exemplified and taught in hands-on ways, spurring students to their own original research. The modern professor was still a charismatic figure, one vested with a certain sort of authority, but now that authority inhered comparatively less in traditional symbols, dress and processions and titles, and comparatively more in a certain type of written academic production that could be peer reviewed, tallied in dossiers and tables, and translated into salary by ministerial decision makers.

There is much that this account captures, both about how professors and universities have viewed their own histories, and about the very real differences in attitude and orientation between the publish-or-perish, specialized faculties of today and those of several centuries ago. But there is also much that it risks flattening, and many other ways to tell the story. In particular, scholars have shown that a detailed attention to the “everyday” practices and concerns of professor and student inside and outside the classroom tends to blur the line between traditional teacher and modern researcher, or at least to suggest new patterns of resonance and dissonance between them. The following will adopt a structure in line with this “everyday” approach, portraying the modern professor not as the *after* to a putative *before*, but instead as a cross section of a continually evolving set of considerations, waged in the *\*longue durée*, about the communication, generation, conduction, and use of information within and beyond the university.

## COMMUNICATION: THE LECTURE

The modes of professorial communication are many: disputations, seminars, exercises, monographs, conferences, popular writing, informal exchange in “office hours.” A particularly durable mode of information transfer has been the lecture: the professor’s



“reading” of a subject, author, or work before an auditor or group of auditors. The lecture’s history is one of back-and-forth motion along many, often interrelated axes: between reader and auditor, content and form, oral and written, presence and absence. The difficulty of finding the right equilibrium is amply attested: lecturers could be too difficult, too quick, too uninviting, or too long-winded (one early modern Tübingen scholar spent twenty-five years working through the book of Isaiah). The auditors, meanwhile, had their own ways of influencing the proceedings: in fourteenth-century Paris, “clamor, hissing, noise, [and the] throwing of stones” were conceivable ways of protesting a lecturer’s delivery. Later accounts have students intervening by placing slips on the professor’s lectern with doubts or questions; by stamping their feet or scraping them across the floor to indicate approbation, confusion, or disapproval; or by absence—when an eighteenth-century Jena professor insisted on using Aristotle’s *Rhetoric* as a manual for preaching, and when he lingered for three hours on a single word, the students simply stopped coming.

The matter of the lecture’s orality further illustrates its perpetually negotiated character. Many modern lectures play out as the oralization of an existing text or script, a phenomenon with analogies already in the medieval university, where, for instance, the set text for a course might be read out—“dictated” or “pronounced” or “given to the pen”—so that students, if they wished, could generate a copy for themselves, and where it was not unknown for a scholar (or deputized student) essentially to read off another’s course. But the idea that the lecture itself should not simply be a vocalized form of the written word also has a venerable tradition. Merely reading aloud could earn the early modern Italian professor a monetary penalty and the derogatory title “paper doctor”: there were regulations against dictation in Paris and in German universities as well. Hybrid written-oral forms were common: medieval professors in the higher faculties might expect students to have a book before them; some early modern professors lectured according to printed textbooks (sometimes their own), commenting orally on the printed contents. The Göttingen professor Johann Matthias Gesner (1691–1761) printed a book that offered only an outline of his lecture because he believed students fared better if something remained to be found out “from the mouth of [the teacher] alone, by paying attention, or to be learned through their own inquiry.” Students, that is, still needed to be present for the oral part of the lecture if they really wanted to get ahead.

Their activity once there was oriented around the capture of the information that the professor presented, often in the form of notes. This was an operation that could involve everything from particular equipment (the medieval student’s wax tablets or parchment scraps, for instance, and the pouches or “wallets” that may have held them), to styles of writing adapted for rapidity, to the furniture of the lecture hall (which might include slanted desks for propping a book and writing). There was no shortage of attempts to regulate the exchange from the professorial side. A 1355 statute of the Paris faculty of arts references a test of two ways of delivering lectures, one too quick for the note taker’s hand to follow, one deliberate enough to allow transcription. The decision, later superseded, was for the former method, so that lecturers were enjoined to speak “as if no one were writing in front of them.” But one suspects that regardless of statute, it proved difficult to elude the recording hand, as was certainly the case at other times and places. The Jena theologian Johann Andreas Danz (1654–1727), for example, re-



portedly used to complain that students made a record of everything, even when he cleared his throat: some auditors, apparently unfazed, duly recorded the complaint.

Serious students would spend time refining the results of these note-taking efforts, working up an elaborated version after the lecture itself. A thirteenth-century collection of Aristotelian works belonging to Henry of Renham at Oxford shows what is possibly the result of such a multistage process: while listening to the lecture Renham apparently made notes with a stylus (more easily handled in a classroom than pen and ink), later enhancing them into penned glosses. Such \*second-order notes were partly the product of the student's own reflections and could take far longer than the lecture itself. In 1853, Ernst Haeckel reported spending at least three to four hours on every one hour of the lecture of his teacher Rudolf Virchow, "chew[ing] and digest[ing]" what he had transcribed. Students' role in the lecture, therefore, did not begin and end in the lecture hall. Instead, they transformed spoken words into written documents—in German, so-called *Hefte* (notebooks)—that could be bound, circulated, even sold. The lectures of a notable professor, "traditional" or modern, might well end up in circulated or published versions based in part or in toto on these student copies. Thus the (more or less) oral event that emerged at the nexus of professorial practice, ministerial regulation, and student desiderata was often transformed into other information-delivery tools, including manuscript notebooks and printed books or commentaries.

The question of what is lost or gained in these media transformations of the lecture is a sort of Rorschach test for pedagogical convictions still on display today in debates about how to handle the filming and \*internet broadcasting of course components. If the lecture is modeled as a pure information transfusion from professor to auditor, its migration onto more widely diffusible platforms is enticing. But the tendency to see something more there—a need for spontaneity, orality, participation—is centuries old. Indeed, for many the information transmitted into the *Hefte* was of decidedly secondary importance to the general "catalytic effect" of witnessing a great teacher. An example: an eighteenth-century report of the lectures of the \*philologist Christian Gottlob Heyne (1729–1812) saw the chief takeaway, regardless of the material treated, as the "art of finding the point that matters." Here was something, after all, for future bureaucrats and businessmen, and it was something to be taught not declaratively but rather in modeling the process, for example, of investigating the meaning of an unassuming Greek particle. What exactly, in the end, δέ meant in one passage or the other was not really the issue. The key thing was to learn "to feel around for the spring" that could undo a difficult problem. Watching Heyne at work was apparently good for that.

#### GENERATION: PROFESSORIAL EQUIPMENT

"We look for the researcher and find the collector," went an unflattering faculty assessment of a candidate for a Munich professorship in 1904. The message was clear: a professor was expected to generate new information, not gather what was already available. One can and should historicize the "newness" at issue, as well as its policing and emphasis, but we should also appreciate that the pantheon of professorial virtue has for centuries included the ability to deliver artful and productively distinct scholarly results. In the eighteenth century, it was inconceivable to a young Alexander von Humboldt that Heyne could be equaled by a scholar he deemed a "tasteless compiler."



In the seventeenth, it was cause for mordant pity to Joseph Scaliger (1540–1609) that a Zurich professor had managed, in a book on numismatics, to say nothing that was not already said: “Oh the poor man!”

Information generation did not happen *ex nihilo*; it demanded equipment. The prolific German sociologist Niklas Luhmann (1927–98), for decades a professor in Bielefeld, said as much of his own production. He relied on a legendary card index full of notes—some ninety thousand slips, components of a filing system that he credited with the role of a “secondary memory” and accorded a key place in his academic productivity: “Without the cards, just by contemplating, I would not come up with these [new] ideas.” For scholars in many disciplines, libraries have served a similar productive purpose. The faculty at Göttingen was lampooned at the end of the eighteenth century for supposedly believing professors came there because it was an honor: in reality the draw was the pay and the library, where one could often “from nine books make a tenth—a business at which [one] see[s] the Göttinger get so fat.” Scholars, in short, were inclined to come to places that afforded them productive apparatus, a fact that helped determine the shape of the university landscape. One of the conditions of the deal to bring the scientist Hermann von Helmholtz as professor to Berlin in 1871 was a ministerial promise to build him a new physics institute. His contemporary, the Munich philology professor Eduard Wölfflin, worked in the 1890s to ensure that a collaboratively assembled collection of millions of slips documenting the use of Latin words would be housed in Munich, writing to the ministry of the “honor and advantage” conferred thereby: “there will deposited here such a material for Latin-language studies that numerous scholars will be forced to seek out the university in Munich.”

The machinery of information production had living and breathing components. Professors could rely on correspondence or reports from other scholars to supply their work. The Latinist Wölfflin, for instance, drew for years on an extensive correspondence network to outfit him with information about words’ occurrences for his lexicographical studies. The American psychologist G. Stanley Hall attended the seminar of the noted professor Wilhelm Wundt at Leipzig in the 1870s and recalled how the students became in effect prosthetic readers: Wundt’s method was to take “incessant and voluminous notes” when seminar participants reported on the literature “so that in a sense [the students] read for him.” At still closer quarters, professors have long relied on helpers, sometimes from their own households—including their wives and children—or among the students who might have their lodgings there. But the need for personnel assistance has become particularly visible in vast modern university laboratories that have demanded legions of professors, engineers, technicians, and graduate students to collect, curate, and interpret new information. In the 1960s, experiments on the seventy-two-inch hydrogen bubble chamber supervised by the Berkeley professor Luis Alvarez could involve one hundred people. While Luhmann’s card index was formidable, he had built it himself, could operate it from his desk, and could serve as sole author of the results; for mid-twentieth-century professors specializing in areas like high-energy physics, issues of construction, use, and authorship were considerably more complicated and would become still more so as subsequent decades brought collaboration to paradigm-shattering levels.

The importance of equipment cannot be underestimated, not least for some of its “side effects.” Early modern professorial aides, as Martin Mulsow has indicated, sometimes



circulated things that their supervisors would not have, providing an alternate information byway. Another problem was overabundance. Wölfflin's correspondence network generated so much information that by the 1890s he was revising his enthusiasm for comprehensive lexical collection: the seven boxes of material documenting citations for the humdrum preposition *a, ab* presented an apparatus so formidable that nobody wanted to work with it. The twentieth-century bubble chamber also became cause for second thoughts: as Peter Galison has shown, Berkeley's Alvarez became disenchanted with the "factory world" required to work with the detector: the necessary routine had become "just a little dull." Instruments—human, paper, or otherwise—could circumvent, overwhelm, or stifle the researchers meant to manage them. In the laboratory and in the study, the message is the same: not always did the tools of information creation do the bidding of those meant to wield them; sometimes they forced the professorial hand.

### CONDUCTIVITY: PROFESSORIAL PARA-INFORMATION

"Accumulation and distribution of information are integral components of practical life in the academic field," wrote Heidrun Friese, in an anthropological account of an academic workshop in the 1990s. The "information" in question included details communicated in the social interludes built into the academic gathering. Such details, which constitute part of what Friese calls the "paratext" of the conference, were of many sorts: name-dropping, allusion, personal confidences, and "gossip," all constantly deployed, registered, stored, and exploited in plays, long and short, for influence. This too is part of the messy business of professorial information management, an entrée to the phenomenon of para-information—the collection and circulation of information *about* professors. Information does not arise and move of its own accord: one can think of para-information as helping to establish the conductivity and reach of the lines that it travels. It is part of the equation by which some scholars cultivate position and influence as professors and others do not, making their prospects for communicating and creating disciplinary information *stricto sensu* better or worse.

Professorial para-information has its own long history. As the Göttingen theology professor Johann Lorenz Mosheim (1693–1755) told a visitor, one judged scholars far better with the benefit of personal knowledge: "when one has inquired about their circumstances, situation, conditions and has had the opportunity now and then to speak with them and to surprise them in a state of *undress*, so to speak." Here, too, professors could rely on assistants to help gather material: students on the move between universities delivered dispatches humming with news of scholars in all states of undress. Göttingen's Gesner "hates pretty much all good men, and all hate him in turn" went the helpful report of a transplanted Basel student who had met the man in his own home—he was writing to his former teacher (also a professor, and Gesner's competitor in the field of Latin lexicography). The concern to control talk like this, to ensure that the right sort of reports made the rounds, is evident in the case of still another Göttingen professor, the mathematician Abraham Kästner (1719–1800), who knew that "all the world wanted to hear clever ideas from him" and felt "embarrassed" before visitors when he was not in the mood to muster them.

Para-information has been of particular interest to professorial employers seeking individuals regarded as stars. When the Duke of Braunschweig-Wolfenbüttel saw fit, in



1650, to compensate Hermann Conring with a second professorial chair at the University of Helmstedt, a key motivation was Conring's favor with Queen Christina of Sweden. His lot, that is, was bettered most directly not by what he had per se done as a professor but by the information about where that stood him and how others responded to him. To keep track of such information, ministries developed tools such as the professorial dossier: files for individual professors and professorial candidates complete with testimonies and assessments from colleagues. Once professors were installed, it was often necessary to determine how they performed and whether they behaved. In Bologna in the fifteenth and early sixteenth centuries, an official—the *punctator*—was responsible for checking classes to make sure lecturers were present and had enough auditors. Other early modern measures included everything from paying “spies” to sit in on lectures, to requiring the submission of *Professorenzettel* (professorial slips) in which professors accounted for the term's work, to visitations—in which ministerial emissaries were sent to a university to report on the doings there.

It is the power of para-information that helps account for one apparently deep-seated professorial phenomenon: that of the public celebrity commanded by figures from the swaggering Peter Abelard of the eleventh and twelfth centuries to the bald-pated Michel Foucault of the twentieth. One may wonder whether those reportedly inclined to call out *Ecco Montsene!* (“Behold, Mommsen!”) behind the internationally renowned German historian Theodor Mommsen (1817–1903) in the streets of Rome had ever read the man's celebrated Roman history, let alone his more technical publications. But they knew and admired him nevertheless. The same goes for the Italian thieves who supposedly stopped short of robbing Mommsen when he told them his name: a big reputation could be a boon for a professor's wallet, in more ways than one.

The inverse of this extraordinary amplitude outside the university has been, of course, the sort of para-information that keeps some from entering such an institution or ascending its professorial chairs altogether. One thinks of statutes like the one dating from the fifteenth century at the University of Leipzig, which specified that those examined for the master's degree must be “born legitimately and otherwise morally commendable.” But there is no need to look so far into the past. The modern histories of the obstacles faced by Jewish scholars, by women, and by other minorities in ascending the academic ladder are a reminder of a simple truth: professors' ability to create and transmit information (or not) in the subjects they profess, and indeed to be professors at all, has been and continues to be regulated and dimensioned by an extensive ecosystem of para-information, one that is sometimes flatly oppressive.

#### USE: INFORMATION IN THE WORLD

Finally, we must turn to what is done with professorially generated information, which has never been merely confined to the classroom. Medieval and early modern regents recognized that they could benefit from the opinions and advice of university teachers. The ample seventeenth-century portfolio of the Helmstedt professor Conring included services to the archbishop of Mainz, the French crown, Sweden, the cities of Lindau and Cologne, and others besides: his legal and diplomatic skills allowed him to do work with palpable territorial and political implications—work that could earn him a tidy



sum. The arrangement parallels roles filled by professors acting as paid consultants for governments and private companies today. The spectrum of such relationships is wide: in their crasser forms they have led some universities to regulate the ways in which professors may seek to apply their status and expertise outside the academy. But of course the “right” and the “wrong” use of information, the proper mode of its production and trafficking, is not always perfectly clear. This was true centuries ago when the ask-me-anything disputations known as quodlibets saw medieval professors weighing whether they committed mortal sins by treating interesting questions instead of those concerning salvation, and whether one could refuse inquiries potentially offensive to the rich and powerful. It is just as true in our own times, not least of all when the stakes are highest. The obvious example: several of the physicists whose extraordinary mobilization helped deliver crucial military technology in the 1940s, including the atomic bomb, were or would be professors. The information produced by these civilian scientists was used to help win the war and brought with it a high profile reflected not only in ballooning federal support and access to government, but also in a new disciplinary posture back on campus. “The college professor, you think, is a dreamer,” read part of a contemporary poem passed about—as Galison relates—in the physics department at the University of Wisconsin, “but see the shellacking he gave Hiroshima.” The use of certain kinds of professorial information could be breathtakingly consequential—and unsettling indeed.

Unsettling enough to make high-profile physicists query seriously what price they had paid for their new prominence on and off campus. J. Robert Oppenheimer (1904–67), whose wartime work as the director of the Los Alamos Laboratory abutted professorships at Berkeley and Caltech, represented the postwar concerns of certain of his scientific colleagues in describing further weapons work as “against the dictates of their hearts and spirits.” There was a feeling, a nervous Oppenheimer said to President Harry Truman, of “blood on my hands.” A feeling, too, he wrote elsewhere, that the war with its dislocation and emphasis on technical application had meant a temporary disaster for “the prosecution of pure science,” and “a more total cessation of true professional activity in the field of physics” in America than in any other country. The influx of money from government and industry for university research carried its own risks: a Stanford physicist, William Hansen, worried prior to war’s end about preserving “our soul” while accepting financial “help . . . from the outside.” The concerns are a classic indication of some of the tensions around information from “inside” the university: the clash of idealistic and often imprecise commitments to a “pure” sort of scientific activity undertaken by a clean and “professional” scientific soul, with the needs—sometimes dirty—of the societies that support such activity. They point up inevitable gray areas in the consideration of just what kind of information professors are meant to make, how it should be supported, and how it should move.

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*See also* books; cards; diplomats/spies; indexing; knowledge; learning; libraries and catalogs; notebooks; secretaries; teaching



## FURTHER READING

- C. Burnett, "Give Him the White Cow: Notes and Note-Taking in the Universities in the Twelfth and Thirteenth Centuries," *History of Universities* 14 (1995–96, pub. 1998): 1–30; William Clark, *Academic Charisma and the Origins of the Research University*, 2006; Holger Dainat, "Mitschrift, Nachschrift, Referat, Korreferat: Über studentisches Schreiben im 19. Jahrhundert," *Internationales Archiv für Sozialgeschichte der deutschen Literatur* 40, no. 2 (2015): 306–28; Heidrun Friese, "Thresholds in the Ambit of Discourse: On the Establishment of Authority at Academic Conferences," in *Little Tools of Knowledge: Historical Essays on Academic and Bureaucratic Practices*, edited by Peter Becker and William Clark, 2001; Peter Galison, "Laboratory War: Radar Philosophy and the Los Alamos Man," and "Bubble Chambers: Factories of Physics," in *Image and Logic: A Material Culture of Microphysics*, 1997; Anthony Grafton, "Polyhistor into Philolog: Notes on the Transformation of German Classical Scholarship, 1780–1850," *History of Universities* 3 (1983): 159–92; Kristine Haugen, "Academic Charisma and the Old Regime," *History of Universities* 22, no. 1 (2007): 199–228; R. Steven Turner, "The Growth of Professorial Research in Prussia, 1818 to 1848—Causes and Context," *Historical Studies in the Physical Sciences* 3 (1971): 137–82.