

This is the accepted manuscript for Marin L. (2020) University Lecturing as a Technique of Collective Imagination: On Seeing Things as If They Had Taken a Bodily Form. In: Hodgson N., Vlieghe J., Zamojski P. (eds) Post-critical Perspectives on Higher Education. Debating Higher Education: Philosophical Perspectives, vol 3. Springer, Cham. https://doi.org/10.1007/978-3-030-45019-9_6.

Available online at: https://link.springer.com/chapter/10.1007/978-3-030-45019-9_6

University lecturing as a technique of collective imagination: on seeing things as if they had taken a bodily form

Lavinia Marin (TU Delft & KU Leuven)

Abstract:

Lecturing is the only educational form inherited from the universities of the middle ages still in use today. However, it seems that lecturing has come under threat as recent calls to do away with lecturing in favour of more dynamic settings such as the flipped-classroom or pre-recorded talks have found many adherents. In line with the post-critical approach of this book, this chapter argues that there is something in the university lecture that needs to be affirmed: at its best, the university lecture functions as a technique for thinking together or for making collective thinking happen in a lecture hall. While it may seem that the seminar is the most adequate form of thinking together with others in a university setting, as it allows for a community of thinkers as speakers. However, the lecture offers the set-up, both technological and architectural, of forging a common experience that binds together the listeners and the speakers; that experience can be characterised as visualising ideas or seeing things as if they had taken on a ‘bodily form’. By looking at several examples of lecturing moments experienced by Gadamer as a student and later recounted in his autobiography, we can better understand the paradigmatic experience which characterises the lectures – as an ideal to be sought, even if, perhaps, not always actualised in every day lectures.

Keywords: lecture, collective, students, thinking, imagination, visualisation, university

'Why aren't lectures scrapped as a teaching method? If we forget the eight hundred years of university tradition that legitimises them, and imagine starting afresh with the problem of how to enable a large percentage of the population to understand difficult and complex ideas, I doubt that lectures will immediately spring to mind as the obvious solution.' (Laurillard 2002, p. 93)

The lecture is the oldest surviving pedagogical practice in the university, with a respectable age of over eight centuries and counting. In current discussions about the modernisation of the university, lecturing is one of the most criticised practices. Many ask whether the lecture needs to be kept when there are other means of conveying information, more efficient, less time consuming, more engaging for the student. For example: the recording of speeches, of videos, not to mention the availability of interactive materials, electronic books, and MOOCs - all of these are ways through which information can be easily offered to the students without the hassle of physically going to a lecture hall, sitting still, and being possibly bored for two hours. As the quote above from Diana Laurillard points out, lecturing is not the most obvious solution when looking for ways to give information to others. Perhaps it is time to let go of the lectures since there are better ways of doing things. But better for what?

If we assume for a moment that the university lecture was not kept around just out of respect for tradition, then we are faced with a difficult issue, one that also plagues other discussions concerning educational practices: is the practice valuable for the results it achieves or is the practice valuable in itself? The fact that the first line of defence for any educational practice is its usefulness for something else, in other words its instrumental value, does not mean that this should also be the last line of defence. Perhaps there are other ways about speaking of the lecture that are not instrumentalist. This is a challenge worth taking up if one assumes a post-critical perspective, which claims that educational practices

that are worth doing in themselves (Hodgson et al. 2017, p. 17). Let us see how the lecture looks when approached in educational, rather than instrumental, terms.

Instrumental approaches to lecturing

The debate on the usefulness or outdatedness of lecturing is often informed by an instrumentalist perspective. To ask what are lectures for implies that we have some goals to achieve and that lecturing is a means to get there. The instrumental approach is puzzling because lecturing has been a means to achieve different aims throughout the history of the university: the understanding of a subject matter, or knowledge transmission - especially in medieval times (Laurillard 2002, p. 93); while, for the Romantics, it was about finding original ideas while speaking to others (Kleist 1951 (1805), p. 42). Although the aims of lecturing changed - at least at a declarative level - the form of the lecture did not change significantly. Instead it was re-conceptualised to serve these new aims (Friesen 2011, p. 95). How is it possible to demand different outcomes from a practice that has remained almost unchanged for eight centuries?

A pithy formulation by Nietzsche characterises the lecturing situation as 'One speaking mouth, with many ears, and half as many writing hands' (Nietzsche 1910, p. 126). The situation has many commonalities with a conference setting, a church sermon, or other public gatherings. Its mediatic setup is also quite straightforward: there is speaking, writing, listening, and looking; paper and voice, images and texts. At first sight, the lecture is about a speaker in front of some listeners who are also writing down some of the words. This situation, which looks a lot like transcription, has led many researchers to claim that lecturing is about knowledge transmission, sometimes even dictation.

There are two main forms of lecturing as transmission: it was either about dictation of books (Durkheim 1969 (1904) p. 105; Clark 2006, p. 83), or the transcription of the master's commentary by the student-scribes (McLuhan 1971; also Kittler 2004, p. 245). In the first case, the main argument is that books were scarce before the invention of the printing press. In the latter, the publishing of lecture notes as manuscripts is taken as proof that professors

used students as scribes. Both interpretations are missing something essential: the first generations of medieval students were not taking any notes. The few students who had pens in their hands did so only to correct the mistakes on the manuscript copies that they had in front of them. The very moment at which the university lecturing constitutes itself is in the absence of writing. This is strange for a practice of so-called knowledge transmission. Furthermore, lecturing should have ceased once the printing press was invented - an event that made books more available: 'the Gutenberg revolution makes it clear that practices in the lecture hall are not to be understood primarily in terms of information, its abundance, its scarcity, or its efficient transmission. ... The printing press alone should have marked the end, or at least the beginning of the end' (Friesen 2011, p. 97). Strikingly, however, it is only after the printing press was invented that students began to take notes in the lecture hall:

Early modern students became note takers in lectures, sometimes manically, according to some eighteenth-century reports. The sound coming from lectures—that 'clear, dry, tingling sound,' like the wind in late fall—arose from so many taking copious notes in eighteenth-century Wittenberg. 'We knew very many at Wittenberg who spent their three years there attending five lectures each day and who filled the remaining hours by rewriting their lecture notes ... [or] when not rewriting them, then filling the holes in them by other notes.' (Clark 2006, p. 86-87)

Student's note-taking is just one striking case in which the practice appears after its instrumental function is made obsolete by other technological inventions. Granted, books were still expensive and often the students could not afford them, yet the note-taking in the lecture hall was never about copying books. Why, then, would someone write while another is speaking? What was it that students could not afford to lose?

A second explanation of lecturing as transmission is that it facilitates understanding. What students could not understand by themselves while reading the book becomes straightforward once a living voice explains it to them, for them. But this implies that the lecture is, again, a matter of transmission, this time not of knowledge, but of an interpretation. The right interpretation, the orthodox one, the only one. Every lecturer hears this question from her students: 'Will this be on the exam?'. Students write what they think

the professor thinks is important so that they can deliver it in almost the same wording in the exam. This second instrumental explanation of lecturing is about the transmission of a certain way of seeing the world and doing things, of a paradigm. The students learn how to approach this book, this text, this piece of knowledge by listening to their professor speak about it. The lecturer then transmits a paradigm, something that should be reproduced in the next generations without modifications. The lecture then would be the stage where a certain *episteme* is given to the future generations, inscribing it in the heads of the students via the voice of the lecturer because the voice is more persuasive than the written word. This perspective assumes that university knowledge is fixed and stable. I do not want to go into the debate opened by critical theorists about power and knowledge, submission to and control of cultural capital. Instead of answering in detail to this perspective, I will insert here the words of Wilhelm von Humboldt, not as an appeal to authority, but as an alternative perspective, as worthy of consideration:

it is a peculiarity of the higher scientific institutions that they always treat science as a problem that has still not been fully resolved and therefore remain constantly engaged in research, whereas the school deals with and teaches only finished and agreed-upon bits of knowledge. (Humboldt 1810)

Often, the lecturer does not know exactly what she is speaking about, she is searching with the students, in front of the students, for a possible answer. And as soon as students receive an interpretation, they are often hit with a competing interpretation. This observation holds also for the hard sciences, when lecturers take pains to explain to students what we do not yet know, what the limits of knowledge are. If lecturing were about the transmission of an interpretation, then this interpretation is quite hesitant and stuttering.

A third instrumental perspective sees lecturing as brainstorming in front of a crowd. This was a Romantic idea, which is lost to our contemporary sensibilities. One of the most pre-eminent exponents of it was Humboldt, in the same text quoted above:

For the free oral lecture before listeners, among whom there is always a significant number of minds that think along for themselves, surely spurs on the person who has

become used to this kind of study as much as the solitary leisure of the writer's life or the loose association of an academic fellowship. (Humboldt 1810)

When Humboldt proposed that thinking is tightly connected to speaking about thinking, not just with others - as dialogue - but also in front of others, he was expressing an observation. This observation had already been made several years before by Heinrich von Kleist, one of Humboldt's compatriots. Kleist proposed that there are multiple ways of being inspired into thinking, and thinking as speaking in front of another is one of the best ways to come up with new ideas:

The human face confronting a speaker is an extraordinary source of inspiration to him and a glance which informs us that a thought we have only half expressed has already been grasped often saves us the trouble of expressing all the remaining half. I believe that, at the moment when he opened his mouth, many a great orator did not know what he was going to say. (Kleist 1951 (1805), p. 43)

To speak then in front of another amounts to thinking out loud and discovering ideas while formulating them: '[t]his kind of speech is nothing less than articulated thought' (Kleist 1951 (1805), p. 44). It is not about delivering a speech or re-telling old thoughts, but about getting into a mental state where thinking is provoked and called forth. Kleist's technique for the provocation of thoughts includes starting with the problem to be solved, then naming hunches and half-baked ideas, intuitions in no particular order, and just speaking, speaking, speaking in front of the other, until the ideas emerge in speech:

since I always have some obscure preconception, distantly connected in some way with whatever I am looking for, I have only to begin boldly and the mind, obliged to find an end for this beginning, transforms my confused concept as I speak into thoughts that are perfectly clear, so that, to my surprise, the end of the sentence coincides with the desired knowledge. I interpose inarticulate sounds, draw out the connecting words, possibly even use an apposition when required and employ other tricks which will prolong my speech in order to gain sufficient time for the fabrication of my idea in the workshop of reason. (Kleist 1951 (1805), p. 42)

Perhaps less emphasised but just as important in this technique, is the importance of the other, that 'human face' in front of which one elaborates ideas. It is the other who guides and directs this process of thinking out loud through the mimic of the face. When we speak and the other does not understand, this acts like a break on our process of thinking. We must stop and re-evaluate, find another approach, different words, so that the other may understand us. At the end of the thinking process, both speaker and listener must arrive at the same understanding, otherwise the thought is not complete.

Kleist's technique points at something essential about the process of thinking, namely that we need to be understood while we are thinking and that the other acts as a kind of resistance to an unencumbered flow of thoughts. But this generative technique was not everything that Humboldt had in mind when proposing lecturing as a research aid. If lecturing were just a technique for speaking as thinking in front of another, à la Kleist, then why do lectures need such large audiences? Wouldn't it be enough to have one student for each researcher to bounce ideas off? In lecturing there is something more going on than the mere generation of ideas and we can better understand this if we remember that lecturing is a collective event. As such, lecturing should be for everyone in the room, not just for the professor's sake, speaking to a captive audience who would much rather be elsewhere. Perhaps, if we turn our attention to the moments when lecturing is enjoyable for all those present, we will see another perspective which the instrumental approach has eluded for us. Let us hasten to look elsewhere yet staying within the lecture's circle.

Moments of lecturing

Most of the lectures attended throughout our university years have been forgotten. However, there are certain courses for which the lecture becomes an event eagerly awaited by students. The visible success of a lecture series is the auditorium regularly packed with students. However, if one were to ask the students what they were waiting for, what was memorable about this or that lecture, they could not single out an instance, a moment, a word. It is rather the whole lecture, the atmosphere created, which attracts

the students; a feeling that something very important is taking place and that they want to be part of it. It is something felt intensely in that moment, yet hard to describe afterwards.

Let us look at someone who managed to recollect these moments, Gadamer as a student, in order to try to understand what is at stake in the lecture. When Gadamer was a student, he had the good fortune of attending many lectures given by famous philosophers, which were carved into his memory and later written of in his autobiography. One of his most memorable professors was Husserl, who Gadamer remembers as a lecturer:

Husserl's presentation was smooth and not without elegance, but it was without rhetorical effect. What he presented sounded in all ways like refinements of already well-known analyses. But there was an authentic intensity there, especially when he really lost himself in a description instead of developing his programs ... His seminars began with a question posed by him and ended with a long statement in which the answer he had given earlier was redeemed. A question, an answer, and a half-hour monologue. But sometimes in passing he gave excellent insights into vast speculative areas that led up to Hegel. In his writings hardly any similarly large vision is to be found. His presentations were always monologues, but he never saw them as such. Once upon leaving he said to Heidegger: 'Today for once we really had an exciting discussion.' And he said this after he had spoken without period or comma for the duration of the session in response to the first and only question raised. (Gadamer 1985, p. 35-36)

The moments that captured Gadamer's attention irrupted in the texture of a continuous monologue, as unplanned events that took even Husserl by surprise. The idea hinted at by Gadamer is not that Husserl was monologuing like an actor on stage, but rather that he came prepared to say something, he said it, but in elaborating the speech, he lost himself in observations that led him elsewhere. Those observations, though made by Husserl the lecturer, were never replicated in his writings. Simply put, Husserl the lecturer was more fascinating than Husserl the author because something happened to Husserl the lecturer in the encounter with the listening eyes of the students.

Gadamer describes one of those experiential moments when he was sitting in a class and he suddenly saw the thing described by Husserl in his imagination. He was shocked that the description materialised before his eyes. Perhaps that description will not tell us much, like the *punctum* in a photograph,¹ everyone is touched by different things in the same image (Barthes 1981, p. 42). Gadamer mentions it in passing, when he recollects a moment of Husserl's lecture, he does not even describe it in detail, as a moment of shock.

Another lecturer, Max Scheler, spoke as if he was 'possessed' by thought. In the theatre-hall of lecturing, both speaker and listeners are carried on, like puppets on a string, by the thought that unleashes itself through words: 'Pulling strings, pulling on puppets - no, it was more like being drawn along, a nearly satanic sense of being possessed that led the speaker on to a true *furioso* of thought' (Gadamer 1985, p. 29). It is unclear who was the marionette in this scene; is Scheler manipulated by thinking, or the students themselves? At least from these lines, Gadamer the student was all too glad to follow his professors on these paths to intellectual illumination.

But one of the most enduring influences on Gadamer's thinking was Heidegger, who seems to have been also a memorable creator of lecturing moments: 'when Heidegger lectured, one saw things as if they had taken on bodily form. In a tamer form and limited to phenomenology of perception, much the same thing could be said of Husserl' (Gadamer 1985, p. 47). These moments of materialisation of ideas in front of one's eyes happened more than once:

Who among those who then followed him [Heidegger] can forget the breathtaking swirl of questions that he developed in the introductory hours of the semester for the sake of entangling himself in the second or third of these questions and then, in the final hours of the semester, rolling up the deep-dark clouds of sentences from which the lightning flashed to leave us half stunned. (Gadamer 1985, p. 48)

¹ 'In this habitually unary space, occasionally (but alas all too rarely) a "detail" attracts me. I feel that its mere presence changes my reading, that I am looking at a new photograph, marked in my eyes with a higher value. This "detail" is the *punctum*' Barthes (1981, p. 42).

Gadamer's rich descriptions of these events, these moments of sudden materialisation of thought in front of one's eyes - when things take on 'a bodily form' - when the image of a marionette becomes unbearably present, when thoughts seem to coalesce in the flash of a moment and suddenly become images; these are the moments that made Gadamer and his colleagues come back to the lectures.

Gadamer was describing different lecturing personalities, with different approaches, but he is always pointing to the same thing, achieved by Heidegger, Husserl, Scheler - and several other figures not mentioned here, Natorp, Hartmann, Jaspers, etc. - this event which takes place in the lecture hall. When reflecting on his many professors, Gadamer remarked that perhaps the same intensity of thinking could happen with other professors (naming Nicolai Hartmann) who employed a less dramatic style of lecturing, quite the opposite of Heidegger's (Gadamer 1985, p. 48). The conclusion would be that it was not Heidegger's dramatic staging of the lecture that made it so breathtaking, but the event itself that made it possible to connect with others through an act of imagination.

The fact that these kinds of experiences cannot be replicated by oneself, alone at one's desk, point at the idea that students are an integral part of the lecturing event, that without them, there would be no intellectual fireworks, no moments of imagination taking on a bodily form.

An educational approach to lecturing

The moments of lecturing described by Gadamer had something in common: in those moments the students experienced a flight of imagination, when ideas took on a 'bodily form' as if one could actually see what was spoken about. When recollecting these moments, Gadamer does not speak of himself, as an 'I', an individual student, but of a 'we'. It is as if he was saying: 'We, the students, suddenly experienced together the presence of an idea, a text, a concept, a law'. Something became present to the students via imagination and this presence of the thing spoken about made students into a 'we'. The shared experience of an

event via imagination is what unites the students and the lecturer in a particular way, similar to the way in which witnesses of a catastrophe are united for life by their shared memory.

Nietzsche's famous description of the lecture as 'One speaking mouth, with many ears, and half as many writing hands' (Nietzsche 1910, p. 126) seems to assume that the main character of the lecture was either the professor or the student. Yet Nietzsche omitted to see how lecturer and students functioned together to create something beyond themselves. If we see the two halves of the room as separate entities, the speaker on the stage and the audience at their desks, then it is as if a chasm opens up between them. Then the entire event begins to look like a mechanical marionette show: the speaker utters words that are not his, reciting knowledge passed on by tradition, whereas the students write manically something that they do not necessarily understand. If we look only separately at the gestures of lecturing, we will end up with descriptions of automatic, almost machinic, movements. If we look at the two sides of the room as performing incomplete gestures, however, we can begin to understand the entire event of the lecture as a collective gesture. In the lecture there is not speech, but speaking to; not writing, but note-taking as listening; not watching but looking and being shown. All the gestures in the lecture can be interpreted as gestures in themselves, but there remains something incomplete about them, as if what is going on in the lecture takes only half of a form. The half-gestures of the individuals unite to form a whole gesture, the lecturing itself emerging collectively as a gesture.

The lecturer's speech is modulated by the interest and attention of the audience. One can read the signs of attention in the ways in which students write, either furiously scribbling everything, or slowly jotting down here and there, by the way they nod, or smile, or frown. All these reactions show that the students are actually present. The importance of the audience shows to what extent the lecture is a co-production. The lecturer by herself cannot produce the lecture. The voice fails, the hand trembles, the line of thought is interrupted. Who can speak to an empty room and make sense? Even if the lecture looks like a discourse made by 'one speaking voice', it has to be open to the possibility of dialogue all the time. The presence of the audience makes possible a kind of dialogue, at least at the level of gestures.

It does not need to become a disputation in the medieval sense, but at least a question must be implied: 'The irritated twisting of [students'] face muscles, certain movements of the head, hesitation in taking notes, and so on, remind the professor that his auditors do not understand him.' (Meiners, quoted from (Clark 2006, p. 412-413). And, if the audience does not understand the lecturer, then he should change his pace, his tone, his words. As they say, no theatre show is the same, because the audience changes. The same holds for the university lecture.

While it may seem that the lecture is just another performance, there is a difference: the students perform along with the lecturer and, through their performance, they make the lecture possible. A lecturer cannot conjure the thinking event by herself, in front of a hostile or indifferent audience. Similarly, no matter how interested the students are in the topic, if the lecturer is bored and merely dictating or reading from his notes, nothing can happen. It is only when the lecturer speaks, and the students pay attention, when they follow her along the line of thought with their writing, with their gazes, signalling their presence and attention, that something similar to the flight of collective imagination is allowed to happen.

Instead of using the metaphor of the performance, which privileges the performer on stage to the detriment of the audience, perhaps a more apt metaphor for lecturing would be that of a spiritual *séance*. Something is resurrected in the university lecture, the ghost of past ideas. The lecturer starts with a piece of past knowledge and brings it to life. The lecture is about showing that every piece of knowledge we take for granted was once the incandescent core of a live act of thought. To take an example, Hegel's philosophy might seem irrelevant for us today, as some might say, at least when comparing it to its wild popularity in the 19th century. Yet, if we take a text of Hegel and unpack it in a lecture, and then start tracing this or that line of thought, we might discover that it can still make us think. Issues to which we used to be indifferent before the lecture, now shine forth and become inspiring. The problems that animated Hegel's thinking become present for us, urgent even. After a successful lecture, the students should leave the lecture hall with the impression that they have discovered something tremendous, that they feel compelled to explore further.

The lecture at its best becomes an event of collective imagination. The thing spoken about becomes present through the words of the lecturer, yet it is maintained by the students. Their gestures, their faces, their note-taking show that they are thinking with the lecturer, captivated by the thing that shows itself. It is a collective event because the lecturer cannot make the past speak to the present if the present is not interested. In the lecture, thinking is not a dialogue between the lecturer and the students, rather, between all of those present who become students in front of the thing that captures their imagination. In those moments, even the lecturer becomes a student (Masschelein and Simons 2014, p. 179) and this is how we can recognise it more easily. The lecture is not a communicational form, nor a way of teaching. The lecture is like a giant magnifying glass over something from the past that is brought into the present, put into words, and allowed to hold us captive. In this respect, the lecture also functions as a test by showing us what is still part of our world, and whether we still want something to be in it. When something ceases to spark the imagination of a room full of students, perhaps its time has ended.

Conclusion

Universities' schedules are filled with lectures but not all lectures are educational. Sometimes students and professors just 'go through the motions' and a voice speaks to deaf ears who pretend to listen while taking notes half-heartedly. Anyone working in a university knows the rush and hassle of finding 'a warm body to put in front of a scheduled course, just a few weeks before the semester's start' (Kelsky 2015). That warm body placed in front of the students needs to speak of something, anything, to cover the curriculum. This is how many lecturers find themselves pontificating about things they couldn't care less, and students feel it yet pretend to be listening while they scroll through their social media feeds. These worldly constraints of organising a course, sometimes casted with less than stellar actors, should not distract us from the educational matter at hand. When a lecture is a lecture and not a dictation session, not a presentation of the self in front of others, not brainstorming in front of witnesses, not transmission, then things are allowed to happen. When a lecture functions as a lecture, it is an event in which students and lecturer are united by a unique

experience. A successful lecture is an experience of collective imagination in which the lecturer becomes also a student of the thing that discloses itself to all those present. Students and lecturer become witnesses of something that shows itself by letting itself be imagined and thus become present, actual, resurrected from its world of abstraction into something more concrete. The lecture is an event that makes possible a collective experience of relating to a thing, and, through this experience, of relating to each other. It is something worthy of pursuing in and for itself, just like an aesthetic experience is worthy of being pursued for itself, so is the educational experience. In the moments when a lecture works as a lecture and it manages to unite its audience into a collective of imagination, no questions of instrumental value, utility, or employability can appear. The lecture becomes the opportunity to relate to others through a thing that becomes present, concrete, and thus demands our attention, our thinking of it. In those moments, the lecture is not about us, we disappear in an experience of something else, more important than us, but of which we are part. The university lecture manages to create these moments when the issue at hand speaks to us and it is more important than us, the individual students or lecturers, when we understand that things are more urgent and more interesting than us, and we must attend to them. Ultimately, the university lecture is a de-personalising and de-identifying event. In the university lecture, we sit in silence so that something else may show itself and start speaking to us.

Acknowledgements

This work was supported by the Fonds Wetenschappelijk Onderzoek [grant number G059414N] and Onderzoeksraad, KU Leuven [grant number 3H130076].

[References](#)

Barthes R (1981) Camera Lucida: Reflections on photography

- Clark W (2006) *Academic charisma and the origins of the research university*. University of Chicago Press; Bristol : University Presses Marketing [distributor], Chicago, Ill.
- Durkheim É (1969 (1904)) *L'évolution pédagogique en France*. JSTOR
- Friesen N (2011) *The Lecture as a Transmedial Pedagogical Form: A Historical Analysis*. *Educational Researcher* 40:95–102. doi: 10.3102/0013189X11404603
- Gadamer H-G (1985) *Philosophical apprenticeships*. *Studies in contemporary German social thought*. MIT Press, Cambridge, Mass.
- Hodgson N, Vlieghe J, Zamojski P (2017) *Manifesto for a post-critical pedagogy*, 1st edition. Punctum Books, Santa Barbara CA
- Humboldt Wv (1810) *On the Internal and External Organization of the Higher Scientific Institutions in Berlin*. http://germanhistorydocs.ghi-dc.org/sub_document.cfm?document_id=3642. Accessed 25 November 2016
- Kelsky K (2015) *The professor is in: The essential guide to turning your Ph.D. into a job*, First edition. Three Rivers Press, New York
- Kittler F (2004) *Universities: Wet, Hard, Soft, and Harder*. *CRIT INQUIRY* 31:244–255. doi: 10.1086/427310
- Kleist H (1951 (1805)) *On the Gradual Construction of Thoughts during Speech*. (Michael Hamburger transl.) (*Über die allmähliche Verfertigung der Gedanken beim Reden*). *German Life and Letters* 5:42–46. doi: 10.1111/j.1468-0483.1951.tb01029.x
- Laurillard D (2002) *Rethinking university teaching: A framework for the effective use of learning technologies*, 2nd ed. RoutledgeFalmer, London
- Masschelein J, Simons M (2014) *The University in the Ears of its Students: On the Power, Architecture and Technology of University Lectures*. In: Ricken N, Koller H-C, Keiner E (eds) *Die Idee der Universität-revisited*. Springer VS, Wiesbaden, pp 173–192

McLuhan M (1971) *The Gutenberg galaxy: The making of typographic man*, Repr. Routledge & Kegan Paul, London

Nietzsche F (1910) *The Future of our Educational Institutions*. (J. M. Kennedy, Trans.). T. N. Foulis, Edinburgh