

THE PRINTED BOOK IN THE DIGITAL AGE: AN OVERRATED CURRENCY IN ACADEMIA?

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In his collection of autobiographical short stories, *The Periodic Table* (*Il sistema periodico*, 1975), Italian chemist and writer Primo Levi begins the chapter 'Chromium' by narrating an encounter with his friend Bruni, who worked in a varnish factory from 1955 to 1965.

So he told us that, when he was down there in charge of the Synthetic Varnishes Department, there fell into his hands a formula of chromate-based anti-rust paint that contained an absurd component: nothing less than ammonium chloride, the old, alchemical sal ammoniac of the temple of Ammon, much more apt to corrode iron than preserve it from rust. He had asked his superiors and the veterans in the department about it: surprised and a bit shocked, they had replied that in that formulation, which corresponded to at least twenty or thirty tons of the product a month and had been in force for at least ten years, that salt had 'always been in it,' and that he had his nerve, so young in years and new on the job, criticizing the factory's experience, and looking for trouble by asking silly hows and whys. If ammonium chloride was in the formula, it was evident that it had some sort of use. What use it had nobody any longer knew, but one should be very careful about taking it out because 'one never knows'.¹

None of the superiors even considered the possibility that this sal ammoniac might indeed be completely dispensable. Regardless of the question whether they were right (which they were not, as Levi immediately sets out to explain to his readers and to which we shall return at the end of our essay), their attitude charmingly illustrates a crucial point: Conventionalism, which is nurtured by a generation of elders deducing their unquestionable authority from years of experience.

Doubtlessly, experience is a vital prerequisite to maintaining standards without which scholarly communication and research are rendered impossible. But a fixation on conventions and routines also involves the risk of executing practices simply for their own sake without questioning them and thus missing the chance of improvement. And even though the tale of the 'absurd component' takes place in the sphere of applied sciences, similar patterns and attitudes are likely to be found in all academic fields, not to mention our everyday life. In the fields of cultural studies or humanities in general, the habit of clinging to traditional, established practices is even more prevalent.

A fixation on the printed book (or printed text) as the ultimate medium of publication can well be regarded as both an effect of, and an indication for, this phenomenon. As we are about to show, especially among German humanities scholars, high relevance is attributed to the printed book and, consequently, a high reputation is granted to those who succeed in having their works conserved therein. The fact that strictly digital modes of publishing are far less established in this sphere is induced first and foremost by the small benefit in reputation they yield to a scholar keen on improving his résumé. Considering the omnipresence of 'the digital' in this day and age, this phenomenon should strike us as very peculiar.

Two ways of being digital

It is needless to say that the Internet and hence digital texts have become indispensable elements of our everyday life, not only as means at our disposition, but also as inevitable influences on the way we live. This applies in the same way to the academic field: Peer-to-peer communication via email, Online Public Access Catalogues (OPACs), digital libraries such as Clio-online or JSTOR and digitized source material are all part

of an academic's daily routine. However, while scholars embrace the digital in their routines of research and communication, they remain sceptical about presenting their results in a digital-only environment.

In 2004, the German Research Foundation (DFG) launched a survey on the acceptance of electronic publications in science and research with special emphasis on digital publications available free of charge. One thousand and twenty-three scholars from various disciplines, ranging from engineering to natural to social and cultural sciences, were interviewed. The results suggest that reservations towards the reliability of online publications prevail among the humanities community. They are linked to the assumption that electronic publications fail to aggrandize scholarly reputation, which is why many scholars refrain from investing in them. Said scepticism was even more prominent among young academics.²

Considering this last point, it is important to note that – against the background of the German educational system at the time – the majority of scholars was unlikely to accomplish a full university degree before the age of 25.³ Therefore, a survey amongst professional scholars executed in 2004 would address very few representatives of the so-called 'digital natives' (imprecise and debatable as this term may be). Subsequently, it appears plausible to expect that the same survey, conducted today, would yield a very different picture. But several sources indicate differently: For example, journalist Gemma Pörzgen, exploiting the statistics of the German National Library (DNB), confirms a continuous increase of electronically published doctoral theses from 2004 to 2014. However, she also found that out of a total of 26,853 doctoral theses published in 2013, only 38.7 % of the authors chose to publish digitally, most of whom stem from the natural sciences rather than the social sciences or humanities.⁴ The same article suggests that the digital alternative is chosen mostly by those who do not plan to pursue an academic career.⁵ Another theory is that the prevailing preference for printed books might also be linked to 'cultural imprint': Many students find it easier to keep track of printed material than to use several windows on a screen to read source material and simultaneously write down their notes and abstracts. Oftentimes digital documents are still printed in order to add notes and highlight passages. Finally, reading long texts on screen is

experienced as exhausting and uncomfortable.⁶

Narration and ‘virtual kitchenettes’

In his recent work, *Zur Sache des Buches (On the Cause of the Book)*, historian of science Michael Hagner examines the assets and functions of digital and printed texts. According to Hagner, the key quality of the printed book is its ability to narratively display and analyse larger contexts, a function especially relevant in the humanities.⁷ In an interview published in 2016, he presented the printed book – as opposed to the (digital) article – as the ‘gold standard in the humanities’.⁸ Further, he stated that digital publications should be regarded less as substitutes for printed books; instead, they ‘are simply very different things’.⁹ If we go by Hagner’s observation that monographs are better suited for larger contexts, this leads to the pivotal question: What about smaller scales? Looking at the academic reality, we find that scholars will only reach an understanding broad enough to rightfully permit the conception and production of an entire monograph spanning several hundred pages at a very advanced – not to say late – stage in their academic career. Doctoral theses left aside, the majority of academic ‘output’ consists of short papers on specific aspects. As a result, articles in journals, anthologies and conference volumes will be the predominant items found on lists of publications.

From a strictly pragmatic point of view, the inclusion of an article written by scholar X in a conference volume is, first of all, an indicator of scholar X’s presence at said conference. Indirectly, this implies that by having been invited to the conference in question, a number of other scholars share the opinion that scholar X is entitled to contribute to a discourse. A similar logic applies to other kinds of anthologies. In both cases, the editor’s authority functions as a kind of certificate. Thus the included article does indeed verify, to some degree, a certain amount of ‘reputation’. Yet, the amplitude of this effect seems to depend less on the institutional affiliation, than on the question whether the environment of publication is digital or print. The general attitudes found in the community towards blogs and wikis does not offer a full explanation, but it is indicative to some degree. Johannes Fournier, programming director of the workgroup Scientific Library Services and Information Systems at the DFG, attributes functions similar to those of university seminars

to wikis and blogs, stating that they allow the discussion, exploration, and verification of an object of research prior to its final publication, ‘offering the possibility to instantly display ideas to be questioned and discussed on a worldwide scale’.¹⁰ Paris-based historian and chief-editor of the German version of the web portal Hypotheses, Mareike König, identifies the blog as ‘a format of its own, eligible in the process of research as a practice of exchange and scholarly communication, situated between the loose, oral exchange and the slightly more rigid form of an essay for a journal’.¹¹ Fournier epitomizes this view by dubbing this sphere a ‘virtuelle Teeküche’ (virtual kitchenette).¹² In doing so, he refers to coffee lounges as a central social location where scholars frequently meet and unceremoniously exchange thoughts and opinions on the subjects they are currently working on. Clearly, the idea of simply recording and uploading a coffee break conversation is by no means comparable to the authority of a repeatedly peer-reviewed paper and the metaphor brings forward the negation of those virtual spheres as an acceptable canvas for the presentation of definite results. Based on

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the diagnosed processual character, Fournier accordingly regards blogs as a suitable instrument for teaching, allowing students to get accustomed to academic publishing and public discussions. Furthermore, they can be used to provide pre-

prints of provisional results, or draft papers about intended research projects, a practice which is already well-established in the natural sciences, and is increasingly finding its way into the humanities.¹³ In summary, the digital sphere is welcomed and eligible as an environment for the *process*, but not for the *product*.

The fact that electronic publications offer new and different assets finds little consideration. First and foremost, they do permit a relatively quick and low-priced mode of production, independent of established publishing houses, which should particularly appeal to scholars engaged in projects with low budgets. But when debating over digital and printed publishing in the humanities, it is important to keep in mind that the concept of digital publishing must not be limited to the idea of a simple digital duplex of a printed original. The features available by far exceed the option of simply uploading a PDF file, which – content and design-wise – can indeed be regarded largely as an equivalent to a printed document. Multimedia elements, such as video and audio files, as well as elaborate graphs can

be added to illustrate and visualize the content. The same applies to statistics and tables, which might otherwise exceed the limits of a printed appendix. Furthermore, online publications are location-independent and thus much more apt for entering a multi-national discourse. Last but not least, search engines and hyperlinks enhance ways of networking. Full-text search allows the easy discovery of publications with the aid of specialized databases or search engines. Footnotes and references allow direct, interactive linkage to the literature a text is based on, if this source material is digitally available, too. To sum up, the digital sphere holds a vast potential, only a fraction of which has, as of now, actually been put to use.

Measures to encourage ‘digital reputation’

Even though we put strong emphasis on the fact that the German humanities community is lagging behind, this is not to say that there is no progress at all. Over the course of the last two decades, a process of rethinking the acceptance of online publications can indeed be observed, spurred by initiatives and projects emanating from the German research community. The results of the above-mentioned survey, for example, led to the release of a position paper by the DFG in 2005, outlining central objectives in order to promote online publications.

As a first objective all scholars receiving DFG funding were asked to publish as Open Access where possible, if suitable journals exist in their discipline. Secondly, an *ad hoc* support programme for funding electronic journals was launched, with the aim of meliorating the image of electronic publications and media and encouraging scholars to publish therein. This funding included the transfer of print-only content into digital formats. A third objective was to render research repositories more attractive: The central aim was to improve quality management in order to strengthen the faith in the reliability of the content. At the same time, their function as service providers was to be emphasized. Key approaches to achieve this were the optimization of linkage and exchange between individual university repositories and thus the findability of publications. Finally, renowned scholars were encouraged to function as role models for the younger generation by contributing their existing works to a specially designed platform based on the idea of the initiative ‘Cream of Science’, an online repository with publications by over 200 renowned Dutch scholars.¹⁴

The last objective – appealing to the older, established generation to set a good example

–, in particular, may well be described as a very sluggish endeavour. The issue of role models is also broached by Hagner, who – referring to omnipresent ‘web-intellectuals’ like German blogger and journalist Sascha Lobo – asserts that ‘so far, there are no opinion-leaders in the humanities having prospered in the same way through the web, and perhaps there never will be’.¹⁵

Contrary to this rather pessimistic assessment, an important development can be observed in the training of the next generation of academics: Several new degree programmes specializing in the digital potential in the humanities have been launched in Germany under the superordinate term of ‘Digital Humanities’. They focus on an application-oriented discourse on scientific problems, aided by digital tools and sources. Not only do these programmes contribute to a convergence between the humanities and the subject of the digital, they also encourage scholars with stronger reservations to re-evaluate this matter.¹⁶

In summary, even though the realization of the above-mentioned objectives might proceed slower than initially hoped for, the increased efforts of the DFG in this domain do yield a strong growth in the acceptance of digital publications.

Talking about a revolution

Since we are investigating the role of the printed book for said scholarship, it makes sense to briefly turn our attention towards the printing press as contrived by Johannes Gutenberg. Until then, very few copies existed of a certain text, which meant that only a split fraction of books and the knowledge within them was available to an individual person, unless they travelled.¹⁷ In other words, the corpus of knowledge was limited by the factors of geographical distance and time. Thus, by minimizing the geographical distance in this equation, the volume of knowledge retrievable within the same amount of time was greatly magnified. If we regard travelling strictly as a means of overcoming a technically imposed obstacle, we might say that this practice was rendered not entirely obsolete, but far less mandatory, by the printing press. But it also automatically encouraged what we might call ‘networking’ as an element of scholarly practice: People from various environments with shared interests meeting in one place and discussing their findings and ideas. Obviously, this element has prevailed until this day, and rightfully so, its most ceremonial manifestation being conferences and meetings.

Considering the praise of Gutenberg’s con-

tribution to speeding up the dissemination of knowledge, the logical consequence would be to welcome and apply any (technical) innovation that further minimizes the inhibiting influence of geographical distance. In fact, the theoretically possible, fully digitized and Open Access-only scholarly universe could even eliminate this inhibition altogether. Yet, resistance prevails. In the debate over Open Access publications, publishing houses are often chosen as scapegoats, allegedly misusing their power by restricting access to publications. The on-going skirmish between libraries and publishing magnate Elsevier is the most prominent example of this. In our opinion, too little respect is paid to the fact that 21st-century scholars and institutions do in fact have plenty of other options at hand to publish their results. Still, when in doubt, only a very idealist minority would choose their university's repository over a contract with a publishing house, even though the latter usually requires authors (or more precisely, the institution they are affiliated with) to pay a significant sum of money. Hence, the key inhibition is not generated by the economic interests of the publishing houses, but by the consensus inside the academic community that attributes a disproportionately larger amount of symbolic capital to a printed publication.

Conclusion

As hinted at in our exposition, the superiors at the Italian varnish factory were quite mistaken or at least ill-informed in their judgment. Levi, on the other hand – having worked at the same varnish factory ten years prior to his colleague Bruni –, was perfectly aware of the ‘silly hows and whys’ that got the ‘absurd component’ into the formula and that ‘yet today it is completely useless, as I can state from firsthand experience because it was I who introduced it into the formula.’¹⁸ One of Levi's first tasks at said factory had been to solve the unexplained mystery of huge shares of varnish turning into useless jelly due to an unexpected chemical reaction. Soon, he found out that this was caused by another component (chromate), which the factory's inspection had failed to identify as unfit for their product due to a tiny but powerful clerical error in the testing method.

Since the storeroom contained several shipments of perilously basic chromate, which must also be utilized because they had been accepted by the inspection and could not be returned to the supplier, the chloride was officially introduced as an anti-liverng preventive in the formula of the varnish.¹⁹

In other words, Levi had altered the procedure in order to match the conditions given at a certain time and place. Furthermore, by eliminating the original source of error in the testing method, he had ensured that those suboptimal conditions would not last for very much longer. Still, the superiors at the factory chose to retain the procedure in the long term, because it continued to work.

Our findings suggest that the persisting refusal in the humanities to incorporate new elements into the traditional practice is based on a similar pattern. What can be detected is the repugnance between the individual scholar's obligation to play by the – traditional – rules in order not to perish, and the community's proclaimed interest in the advancement of research, which shows a deplorable resemblance to the classic ‘Tragedy of the Commons’.²⁰ This leads to the conclusion that a significant change in the collective behaviour in favour of the collective progress is unlikely to emanate from individual acts of conviction and underlines all the more the need for decreed, collective measures. For this reason, we wish to emphasize that some elements of today's scholarly practice are not so much the best possible solution to meet the needs of academic discourse, but rather atavisms, once established as compromises between what was needed and what was technically possible. Hence, they need to be carefully reassessed in order to eliminate unnecessary inhibitions, for example those rooted in the specific limitations inherent to the printed book as a static, unidirectional medium.

Notes.

- 1 Levi, Primo. *The Periodic Table*. Trans. Raymond Rosenthal. London: Penguin, 2000. Print. 125-26.
- 2 Fournier, Johannes. 'Zur Akzeptanz des elektronischen Publizierens in den Geisteswissenschaften – Ergebnisse und Folgen der DFG-Studie „Publikationsstrategien im Wandel“'. *Geschichte im Netz: Praxis, Chancen, Visionen. Beiträge der Tagung .hist 2006*. Ed. Daniel Burckhardt, Rüdiger Hohls and Claudia Prinz. Berlin: Clio-online, 2007. Web. 2 February 2016. 141-57, 148.
- 3 Several factors determining the average minimum age of German students enrolling at universities were altered in the first decade of the 21st century: Firstly, all except one of the 16 federal states introduced the so called 'G8' to their school systems, which allows students to accomplish their 'Abitur' (the general standard required to enter universities) within twelve years instead of thirteen, which had been the standard model since 1949. Secondly, compulsory military service was abolished in 2011 and allowed male students to enroll immediately. Consequently, starting university at the age of 18 or even 17 is not uncommon nowadays. Thirdly, following the Bologna Process, academic curriculums were massively re-structured in Germany after 1999. Up until then, exceeding the minimum number of semesters suggested to accomplish a degree (*Regelstudienzeit*) was common, especially in the humanities, whereas the new bachelor and master programs initially led to a shorter duration.
- 4 Pörzgen, Gemma. 'Doktor Digital. Publizieren von Dissertationen im Internet'. *Der Tagesspiegel*. 18 February 2014. Web. 06 April 2016.
- 5 Ibid.
- 6 Burkel, Anja. 'Buch oder Bildschirm. Wie E-Books den Unialltag verändern'. *Münchener Uni Magazin* 3 (2010): 6-9. Web. 06 April 2016.; Hagner, Michael. *Zur Sache des Buches*. Göttingen: Wallstein Verlag, 2015. Print. 60.
- 7 Hagner. *Zur Sache des Buches*.
- 8 Hagner, Michael. 'Das Buch, der "Goldstandard in den Geisteswissenschaften"'. Interview by Klaus Taschwer. *der Standard.at*. 2 February 2016. Web. 4 February 2016.
- 9 Ibid.
- 10 Fournier. 'Zur Akzeptanz des elektronischen Publizierens in den Geisteswissenschaften'. 144.
- 11 König, Mareike. 'Wissenschaftsbloggen – quo vadis? Vier Aufrufe und zwei Lösungen #wbhyp'. *Hypotheses.org*. 19 January 2015. Web. 6 February 2016.
- 12 Fournier. 'Zur Akzeptanz des elektronischen Publizierens in den Geisteswissenschaften'. 144.
- 13 Ibid.
- 14 Deutsche Forschungsgemeinschaft. 'DFG-Positionspapier: Elektronisches Publizieren'. *DFG.de*. March 2005. Web. 5 February 2016.
- 15 Hagner. *Zur Sache des Buches*. 60.
- 16 Sahle, Patrick. 'Digitale Geisteswissenschaften: Studieren!' *Digitale Wissenschaft: Stand und Entwicklung digital vernetzter Forschung in Deutschland*. 20./21. September 2010, Köln. Eds. Silke Schamburg, Claus Leggewie, Henning Lobin and Cornelius Puschmann. Köln: hbz, 2011. Web. 5 February 2016. 51-56.
- 17 Burke, Peter. *A Social History of Knowledge. From Gutenberg to Diderot*. Cambridge: Polity, 2008. Print. 18-31.
- 18 Levi. *The Periodic Table*. 126.
- 19 Ibid. 133.
- 20 The 'Tragedy of the Commons' describes a situation in which the uncontrolled pursuit of self-interests by individuals of a group or community leads to the destruction of a common property or system. It is a concept found in a variety of disciplines, e.g. economics, sociology or behavioural biology. For more detailed information see Hardin, Garrett. 'The Tragedy of the Commons'. *The Concise Encyclopedia of Economics*. n.d. Web. 9 February 2016.