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Faster and Faster Quills: Innovation in Scholarly Writing

Something is Coming to an End

"Does writing have a future?" (*Hat Schreiben Zukunft?*); this was of concern to Vilém Flusser, a philosopher and media theorist, in his 1987 book that examined the transition in writing from media-technological contexts towards the digital age. The volume comprises a series of essays that dissect particular components of writing to assess whether other media could replace this fundamental practice:

> Writing, in the sense of placing letters and other marks one after another, appears to have little or no future. Information is now more effectively transmitted by codes other than those of written signs. What was once written can now be conveyed more effectively on tapes, records, films, videotapes, videodisks, or computer disks; and a great deal that could not be written until now can be noted down in these new codes.[1]

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1 Vilém Flusser, *Does Writing Have a Future?,* trans. Nancy Ann Roth, introd. Mark Poster (Minneapolis: University of Minnesota Press, 2011), 3.

Writing is, thus, the act of transmitting specific messages. However, it also plays a vital role in thinking, allowing our thoughts to be verbalized. As Flusser observes, writing "is a gesture of setting up and ordering written signs. And written signs are, directly or indirectly, signs for ideas. So, writing is a gesture that aligns and arranges ideas. Anyone who writes must first have thought. And written signs are the quotation marks of right thinking."[2] Written signs, poetically compared to quotation marks, serve as containers of thought, putting some structure and boundaries on ideas to make them communicable.

This connection between what Flusser calls inscription technologies and human thought is thoroughly considered in the works of such scholars as Marshall McLuhan,[3] Eric Havelock,[4] William Goody,[5] Walter Ong,[6] and Friedrich Kittler,[7] so we will limit this discussion to some basic observations. In oral cultures, thought is closely connected to the subject and the context of utterance. Handwriting allowed for the externalization of one's experience and introduced temporality beyond the spectrum of one's immediate experience. It made history possible by allowing events to be noted in sequential order: "before writing was invented, nothing happened; rather things merely occurred. For something to happen, it has to be noticed and conceived as an event (process) by some consciousness."[8] The moving type of the printing press allowed for a kind of thought that is typographic, or "typifying" as Flusser calls it.[9] It introduced the notion of objectivity, as facts

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2   Ibid., 6.

3   Marshall McLuhan, *The Gutenberg Galaxy: The Making of Typographic Man* (London: Routledge and Kegan, 1962).

4   Eric Havelock, *The Muse Learns to Write. Reflections on Orality and Literacy from Antiquity to the Present* (New Haven, CT: Yale University Press, 1976).

5   William Goody, *The Domestication of the Savage Mind* (Cambridge: Cambridge University Press, 1977).

6   Walter J. Ong, *Interfaces of the Word: Studies in the Evolution of Consciousness and Culture* (Ithaca, N. Y.: Cornell University Press, 1977); Walter J. Ong, *Orality and Literacy: The Technologizing of the Word* (London: Methuen, 1982).

7   Friedrich A. Kittler, *Discourse Networks 1800/1900*, trans. Michael Metteer and Chris Cullens (Stanford: Stanford University Press, 1990); Friedrich A. Kittler, *Gramophone, Film, Typewriter*, trans. Geoffrey Winthrop-Young and Michael Wutz (Stanford, Stanford University Press, 1999)

8   Flusser, *Does Writing Have a Future?,* 8.

9   Ibid., 53.

could now be printed without the intervention of a copyist as was the case with manuscripts. Each time, the technology offered a more fluid way of thought inscription, providing newer tools to facilitate the process: "everything becomes structurally more complex, to become functionally simpler. […] After the goose quill came faster and faster writing instruments: [the– M. M.] ballpoint pen, typewriter, and word processor – faster and faster quills."[10] Finally, the advent of digital technologies has once more reshaped the way we think and communicate by "breaking with print consciousness":

> The new signs that appear on computer or television screens are no longer traces engraved in objects; they are no longer "typographic." The kind of thought that is producing the new information is no longer typographic, typifying kind of thought. […] It is fairly clear what will be lost in the transition from Gutenbergian to electromagnetic culture, namely everything we treasure in the Western legacy. On the other hand, we do not see what we have to gain. If we could do that, we would already have reached the first step toward the new way of thinking.[11]

"A medium is a medium is a medium," wrote Friedrich Kittler in his paraphrase of Gertrude Stein's take on a rose, meaning that a medium "cannot be translated. To transfer messages from one medium to another always involves reshaping them to conform to new standards and materials."[12] Thus, every change in communication technology brings about the reconfiguration of the broader scene, which Kittler calls a "discourse network" (*Aufschreibesystem*). He distinguished two main networks: 1800 (based on print and the book) and 1900 (the breaking of the typographic monopoly thanks to audio and audiovisual media); in addition, the upcoming network of the "total media link on a digital base [which– M. M.] will erase the very concept of medium."[13] However, as Kittler observes, "before the end, something is coming to an end."[14] That is, we are currently living in the age between the audiovisual system and the fully digital one, whereby "the general digitization of channels and information erases the differences among individual media. Sound and image, voice and text, are reduced to surface effects, known to consumers as interface."[15]

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10   Ibid., 18.

11   Ibid., 52–53.

12   Kittler, *Discourse Networks 1800/1900*, 264.

13   Kitler, *Gramophone, Film, Typewriter*, 2.

14   Ibid., 1.

15   Ibid.

Something is coming to an end. We are currently in a dynamic, transitory phase, which could by no means be considered final. It could only be compared with the age of incunabula, the half-century in which the rapid development of print technology and associated practices coexisted with the most prolific period for manuscripts in history. It took some time before the characteristics of the printed codex were codified, which eventually flipped the script on the once unrivalled manuscript. To remember how rapidly things evolve and to what extent the features of current technology confine our thinking, we need to understand how the actors of those transformative times perceive the future of writing, where the inertia of established forms constantly clashes with the novelty of the emerging formats.

Now, watching how some objects on the communication scene, like a printed monograph, are resisting coming to an end, it makes sense to pose yet another question on whether such formats have become zombies. Kathleen Fitzpatrick's question, not mine, and she posed it in the introduction to her 2011 book *Planned Obsolescence*, which – who might have guessed – is a printed monograph. In other words, she asked whether the old forms of academic publishing are exhausted and artificially kept alive and, as such, should not be replaced by the new ones. Fitzpatrick's monograph interestingly resonates with earlier debates on the role of writing and the word in the digital age, captured in the 1996 volume *Future of the Book*. In his afterword, Umberto Eco remained somewhat optimistic about the future of writing, foregrounding the evolution and similarities with print culture rather than the ruptures. Eco perceived computers as vehicles to enhance or amplify some characteristics of print and as a means of better diffusing printed, not digital-born, documents. Perhaps more stress was put on visual materials and hypertextual narratives, which he conceived as already prolific in non-digital culture. Eco saw the future of writing mainly in visual terms, but not audiovisual or aural, which testifies to the supremacy of specific means of storage, compression, and transmission in his day, technologies that handled images better than sounds. Available technology often limits the horizon of those future innovations one can imagine. Interestingly, the institutional dimension of the change has already been noted, as "people can communicate directly without the intermediation of publishing houses."[16] However, in this context, Eco recalled Landow's remark in the same volume that "we are entering a new samizdat era,"[17] underlining that digital circulation is conceived of as a different means of text distribution, less formally established or controlled by gatekeepers.

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16   Umberto Eco, *The Future of the Book*, ed. Geoffrey Nunberg (Berkeley: University of California, 1996), 301.

17   Ibid.

Fitzpatrick's book is less of visionary speculation than an assessment of where those first decades of digital innovation had led us. And it turns out that the journey was not far. The author herself denies the zombie hypothesis by asserting: "if the monograph were genuinely dead, we'd be forced to find other forms in which to publish."[18] Some crucial formats of communication like a scholarly monograph or a journal article still seem to prevail as the default mode of academic dissemination. Fitzpatrick observes that print formats "are so deeply ingrained in the ways we think that it becomes hard to imagine alternatives to them."[19] That is why our thinking about electronic formats for scholarly communications remains framed by the book, what she calls a "trap of digital textuality."[20] We find similar observations in the *Academic Book of the Future* report by Marilyn Deegan.[21] Even though digital technologies loosen free the texts from the bonds of print and we can imagine a variety of textual forms, she points out, they still seem to revolve around the concept of the book.[22] Fitzpatrick considers this focus on attempting to reproduce the printed page on digital screens a trap of digital textuality.[23]

Such technological inertia is nothing new. One example is incunabula, the early printed books that mimicked the style and appearance of manuscripts. But there is much more to unpack here regarding the interaction of technological affordances, needs and prestige, namely how some forms are valued as better and more prestigious than others. In their analysis of the interaction between academic tradition and innovation in academic publishing, Adriaan Van der Weel and Fleur Praal observe "implicit assumptions about the connection between the scholarly importance of a text and the properties of print."[24] This inertia of ascribing value to the format itself becomes puzzling

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18   Kathleen Fitzpatrick, *Planned Obsolescence: Publishing, Technology, and the Future of the Academy* (New York: New York University Press, 2011), 5.

19   Ibid., 94.

20   Ibid., 93.

21   Marilyn Deegan, *Academic Book of the Future Project Report (A Report to the AHRC & the British Library, 2017)*, accessed June 1, 2024, https://academicbookfuture.files.wordpress.com/2017/06/project-report_academic-book-of-the-future_deegan3.pdf.

22   Ibid., 31.

23   Fitzpatrick, *Planned Obsolescence*, 93.

24   Adriaan Van Der Weel and Fleur Praal, "Publishing in the Digital Humanities: The Treacle of the Academic Tradition," in *Digital Technology and the Practices of Humanities Research*, ed. Jennifer Edmond (Open Book Publishers, 2022), 22, https://doi.org/10.11647/OBP.0192.02.

as, in Jennifer Edmond's words, the border between informal communication and validated scholarship has become blurred, and new forms ("from the tweet to the blog post, to the listserv contribution, to the enhanced finding aid, as well as the public distribution and peer response inherent in many of these formats") increasingly pose the challenge to what should be considered (and valued) as scholarship.[25] This fluid border is even more of an issue now in the humanities, where digital methods reshaped some of the traditional outputs, which are now "often communicated through databases, websites, datasets, software tools, online collections, and other informal means of making results public."[26] Moreover, the authors observe that diverse genres may be better suited to different scholarly uses: "at certain stages of the research process, it is often not as important to produce an in-depth scholarly summation so much as to provide short snapshots of an experiment's current developments (as in the hard sciences), or an analysis of a source (in the humanities). This is a situation where it may be more appropriate for a scholar to write small reports in the form of blog entries and publicize them on various social networks."[27] So, innovation responds to particular communication needs.

This abundance of novel formats highlights the diversity and multiplicity of innovative forms, which led Deegan to the conclusion that we should envision different futures for different kinds of books: "some of these are infrastructural and hold out promise of sustainable models; others are individual and experimental, and may point to some new and interesting possibilities."[28] This abundance of forms is both "a blessing and a curse," as Burton and others[29] note in their landscape analysis of non-traditional scholarly objects (NTSO), as we see many exciting forms that defy academic norms at the same time: "they are less prestigious, more difficult to find, and more likely to suffer neglect than their printable counterparts. The stages of and roles involved in an NTSO's life are ill-defined and contentious."[30] This tension between technology, a form of academic writing, technology and validation

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25   Jennifer Edmond, "Introduction: Power, Practices, and the Gatekeepers of Humanistic Research in the Digital Age," in *Digital Technology*, 3–4.

26   van der Weel and Praal, "Publishing in the Digital Humanities," 22.

27   Ibid., 65.

28   Deegan, *Academic Book of the Future Project Report*, 71.

29   Matt Burton, Matthew Lavin, Jessica Otis and Scott B. Weingart, "Digits: Two Reports on New Units of Scholarly Publication," *Journal of Electronic Publishing* 22 (1) (2019), https://doi.org/10.3998/3336451.0022.105.

30   Ibid.

will be central to this paper, which explores different understandings of in-
novative scholarly writing.

This article discusses the notion of innovation in scholarly writing based
on semi-structured interviews conducted by the international research team
in the Horizon 2020 project OPERAS-P. The study explored the experiences
and perspectives of individuals involved in various aspects of scholarly com-
munication. The interview scenario was developed iteratively, drawing on
a literature review and pilot interviews, and was informed by the method-
ology of episodic interviews, aiming to capture both episodic and semantic
knowledge of the participants, that is, their judgments as well as practical
experiences.[31] Thus, the material presented here provides a snapshot of how
actors in scholarly communication understand the innovation in academic
writing and see the ways forward.

The research sample consisted of 33 interviewees, diverse in terms of gen-
der, career stage, country of origin, and academic discipline. This diversity
ensured a broad representation of perspectives within the scholarly com-
munication landscape. Participants held various roles, including research-
ers, editors, publishers, reviewers, and librarians, reflecting the multifaceted
nature of scholarly communication. The interviews were conducted in 2020
primarily online due to the COVID-19 pandemic, transcribed, and then coded
and analyzed in MaxQDA software. This process involved provisional coding,
descriptive coding, and the development of a final coding scheme to identify
and categorize key themes and patterns in the data. Full methodology, along
with the analyses of other aspects of the interviews and an earlier version of
those findings, could be found in the study report.[32]

What is Innovation in Scholarly Communication?

When asked to define innovation in scholarly communication, our interview-
ees pictured it as the activity of experimenting to find a better way of doing

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31   Uwe Flick, *An Introduction to Qualitative Research* (New York: Sage, 2009).

32   Maciej Maryl, Marta Błaszczyńska, Agnieszka Szulińska, Anna Buchner, Piotr Wciślik, Iva
     M. Zlodi, Jadranka Stojanovski, Elisa Nury, Claire Clivaz, Bartłomiej Szleszyński, Kajetan
     Mojsak and Mateusz Franczak, *OPERAS-P Deliverable D6.5: Report on the Future of Scholar-
     ly Writing in SSH*, Zenodo (2021), https://doi.org/10.5281/zenodo.4922512. All citations from
     interviews in the article are marked with an interviewee code in brackets, e.g. (OP01). The
     original wording is preserved to the maximum possible extent, with some small edits
     for clarity. The list of codes with basic data about the interviewees is available in Annex
     1 to this report. Those interview transcripts that were approved for publication by the
     interviewees are available in the Nakala repository (https://operas-p.nakala.fr).

something: "the point of an innovative publication is that it's not been done before, so there are no guidelines! There's a trial and error aspect" (OP21). In other words: "innovation means trying something new, and sometimes it might not work" (OP28). In general, innovation is seen as a chance to improve the sharing of ideas with audiences thanks to novel technology, as in the case of an information studies scholar who thinks that "innovation is something that sort of unsettles the way that we have always done things" (OP10). Not only does innovation unsettle the way things have been, but it also provides much-needed room for improvement and novelty. As a Czech science studies scholar put it: "it's much easier to share things now and so I think that innovation basically means catching up with opportunities that technology offers" (OP16).

Interestingly, this respondent saw innovation as a means of reconnecting with the roots of scholarly communication, as current norms and traditions of scholarly communication tend to be incompatible with what is currently possible due to technology:

> I think now it's clear that we should change the norms and change the traditions to catch the original intent of scholarly communication, which I think is to publish your results and share the results of your work. (OP16)

In a similar spirit, a French PhD student reported his turning towards innovation, namely, publishing a blog, because of dissatisfaction with how his writing was displayed on publishing platforms (OP17). Hence, he chose innovation because publishers did not support features he considered better for communication. "Innovation can be disruptive", he concludes, "all the tools that I'm using and promoting can be very challenging to use for some people who are not used at all to that system and who see them as a threat to the efficiency of their process" (OP17).

Innovation was related to the creation of outputs and the seamlessness of using scholarly content, removing unnecessary obstacles from the vantage point of current technology. A philosophy professor valued easy access to articles online. Hence, he used Sci-Hub, a shadow library, rather than his own institutional access, so he did not have to "think about which window, where to click, which database to connect to" (OP13). Innovation is also understood to align scholarly publishing and modern communication practices, creating an environment to capture readers' attention (OP14). Perhaps this American professor captures the general attitude most accurately:

> I think that innovation comes in a number of ways. One is innovation and access, so moving beyond the model of the paywall or moving beyond the model of

subscriptions to get scholarship out there […]. Two, there is innovation in terms of modes of scholarly output, incorporating images incorporating websites, etc., into scholarly output. (OP24)

One could risk the hypothesis that what scholars consider innovative depends on the horizon of possibilities they see thanks to their experience, needs, and the types of sources they deal with in their research. Researchers more engaged with digital methods tend to consider innovation in three dimensions. Firstly, in terms of facilitating access to digital resources. Secondly, regarding form, as new technological affordances for scholarly expression. Thirdly, in reaching out to new audiences through popular formats. Let us discuss them in greater detail.

Access

First of all, the innovation is considered in terms of providing access to more traditional types of outputs. According to interviewees, this is the most tangible form of innovation because it responds to a more basic scholarly need to access content regardless of its form or features. In the words of a Croatian professor:

> I see that most innovation has been done in the area of the distribution of scholarly work and sharing scholarly work, either between people or between machines. That part is actually pretty innovative compared to previous phases or stages of scholarly communication. (OP32)

In principle, open access means "peer-reviewed academic research work that is free to read online and that anybody may redistribute and reuse, with some restrictions."[33] The *Academic Book of the Future* project arrived at similar conclusions – "it is true that scholars (indeed all writers) write to be read and to that extent welcome wide dissemination and access for their work is an enormous benefit to research, and to broader communities, including the developing world."[34]

Interestingly, this form of innovation is usually described in "negative" terms, that is as removing some of the obstacles rather than providing new value: "moving beyond the model of the paywall or moving beyond the model

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33   Martin Paul Eve, *Open Access and the Humanities: Contexts, Controversies and The Future* (Cambridge: Cambridge University Press, 2014), 1.

34   Deegan, *Academic Book of the Future Project Report*, 45.

of subscriptions to get scholarship out there. I think that's innovative" (OP24). The innovation lies in platforms providing seamless, non-paywalled access to scholarly content, be it ResearchGate (OP11), Sci-hub (OP13), or an institutional repository: "you can just browse the journal and look at those articles. And this is not the most visited one. So there are a couple of thousand, a few thousand visits, a few thousand readers. And this is the enormous advantage of open access online scholarly publications – that they can find readers" (OP19). Using citation metrics and usage statistics is also considered innovative, as they allow for quality assessment and the measurement impact of the scholar's work.

Almost all of our interviewees unreservedly supported open access to scientific publications. The researchers highlighted several benefits, including ease of finding publications, free access, savings for the institution, and improved visibility, readability, and citability. An information science professor claims that open access "should be standard nowadays. It is a commodity; we as researchers expect to have access to research publications, so I wouldn't connect it with prestige – it's a prerequisite" (OP32). Thus, as this French historian put it, openness is viewed as a systemic factor, "which should improve the current scholarly communication system: That everything would be accessible for free" (OP27).

Respondent supported the changes that have occurred due to the pandemic, during which they have had significantly more open content available, but also expressed concerns about going back to the old "normal," that is, paywalls and closed access. As one British literary scholar observed:

> ou know, that's the world I dream of: [it – M. M.] is just one where there's, you know, some piece of scholarly research and I can just get it without it being a problem, without having to encounter paywalls, without having to go through a billion and one hoops to get my university to purchase it. (OP03)

Some respondents highlighted the vital role of scholars in changing the system of scholarly communication and the fact that only scholars have the power to influence change. Examples of institutional initiatives show how scientists, in collaboration with funders and editors, can build a modern publishing platform to avoid paying the high open access fees to large publishing houses. Still, some scholars are very conservative when it comes to prestige, which has a massive impact on publishing choices. Although researchers can shape the publishing landscape, "it is still controlled by the publishers" (OP06). Scholars' conservative perception of prestige and reliance on it in assessing the quality of outputs still has enormous influence, but this is not what is moving publishing forward (OP04).

Many authors will prefer a closed approach or even a printed version of their publication if they could publish with a prestigious book publisher or in a prestigious journal. Prestige paired with research assessment criteria seems to be blocking this form of innovation, which is neatly summed up by a professor in Education studies: "I would very much like if all my work was openly available, and I would very much like to be able to prefer and submit only to such journals, but there are not many in my fields that are recognized as very valuable journals" (OP30). The long operational history of a publisher is perceived as a confirmation of quality and the basis for an undeniable reputation within the scientific community, despite the often very conservative ways of publishing, which do not take advantage of digital technologies or ensure effective distribution of content. Hence, engaging with innovative access approaches is a form of a trade-off, as an English studies professor describes it:

> I mean, for me personally, I think open access is absolutely crucial. But I recognize that there are scholars out there who still believe that open access publications can't have the same prestige […] But because of those ingrained ideas, I think for many scholars, the prestige of open access publications is still lower than that of the closed-access, traditional journal that's been around for one hundred years. (OP04)

So, while new publishers are emerging in scientific publishing, with modern approaches to publishing high-quality content and innovative business models that ensure low prices or free open-access publishing, such venues are often not considered prestigious enough. Even when scholars want to publish with them, they fear that this could impair their chances of employment, diminish the value of their CV, or reduce their career prospects. Open-access publications offer endless possibilities for connecting open content and taking full advantage of hypertext and web technologies.

Form

Apart from innovation in providing access, another kind is the innovation of form. Interviewees saw formal innovations as more than mere digital recreations of traditional genres: "an e-book is not automatically different from an ordinary book. Or the database handbook is not different from the handbook itself – content-wise" (OP23). Innovation is thus part of the general process of the slow evolution of communication forms, as one historian stressed:

> Each field has its article model, and these models evolve over several decades. That is to say that today, in the humanities and social sciences, it is not quite the same

texts as 50 years ago, 100 years ago, but it is an unconscious, collective, and very slow evolution that is not the subject of specific deliberation. (OP25)

Importantly, this is viewed as an evolutionary process that does not replace older forms but opens new "niches" (OP30). So, every change needs to address the values and traditions of the field to become accepted "and [to – M. M.] show that these can still be met in this new format" (OP24). Innovation, in fact, does not need new technologies as it can be played out in traditional formats. One of the interviewees gave Punctum publications as an example of such works; these are written in conventional form and published as PDFs but retain innovative potential: "often it's still a contained book format, but it can still be radical" (OP03). However, in most cases, our interviewees referred to the technological aspects of innovation.

Innovation allows for new types of interaction with the text. Fitzpatrick coins the term "database-driven scholarship" to describe formats which escape the limitations of the mere representation of the genres, as described above.[35] In this proposition, the "database" is a platform allowing for linking various materials and engaging users. But first and foremost, it leads to a change in our perception of what constitutes a text. In this case, it is not only about the features of scholarly writing (i.e. what makes writing scholarly), but rather a more general understanding of what the text could be. Creating hypertextual connections to other texts and materials seems to be a primary innovative feature that is recognized by researchers, turning the text into a gateway to different materials: "your text could actually be a kind of reading guide across the digital space on the issue you were addressing" (OP25). However, the digital medium has a greater potential for the radical disruption of this understanding. This conclusion was shared by many other interviewees, namely, that contemporary scholarly text goes beyond simple verbal expression, incorporating different, new types of content.

The following quote from a digital humanities professor is lengthy but vital in conveying the gradual sense of innovation in writing. It starts by linking the text and data and then suggests an even more radical mode in which the text becomes executable, allowing for dynamic interaction with its content.

But let's say that most people regard what you see on the screen or what you read on the page as the text, you know, it's those characters in those sentences. That's the text. But now imagine if we can convince people that something like code, programming code, is also a text. On a philosophical level, people never have any problems with acknowledging that. Yes, that looks like a text, and it's sort of the same thing as text.

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35   Fritzpatrick, *Planned Obsolescence*, 100.

So, yes, it's a text. [if this is agreed, can we then read a text that is code? – M. M.]. Then you get two types of people: you get the ones that say, no, that's not a scholarly article; [it – M. M.] is simply not because it doesn't have the form and format that we as scholars expect as the hallmark of how we do things – how this whole scholarly process works and how we report about it. So, that's not a scholarly text. And then, on the other hand, there are the people, obviously like me, that say no; that's an interesting innovation of how text could also be a mechanism of reporting your research. So why not accept a text that can actually execute itself as a scholarly text? And if you go in that direction, we haven't even produced anything innovative because all the things that we produce until now are still basically those things that we just read; they are on a screen. And sometimes they are supported by some data repository or a code repository, but we don't have anything that executes, you know, that creates itself by you executing or running the text, as it were. (OP08)

Based on this perspective, we may distinguish three kinds of formal innovation emerging from our interviews, which resonate with some remarks made by Sari Kivistö and Sami Pihlström in their essay accompanying an exhibition on the monograph.[36] First, there is an essential move beyond the mere written word, that is, accepting expression in other media forms as valid scholarly outputs. They note that digital monographs can become non-linear databases encompassing extensive supplementary material and consisting of diverse non-textual elements like illustrations, audio files, music, video clips, film clips, data sets, databases, entire libraries of secondary reference and archival material, related essays, critiques, reviews, and even search tools for that content:[37]

Everything that moves away from text, other media – it is innovative to consider them as a possible way to transmit a scholarly reflection. For instance, video, sound, podcast […] Everything that is moving away from traditional writing processes. (OP21)

This multimodality may also entail the very loose understanding of scientific text as a transmedia practice for delivering content through a range of various utterances in different media. Greta Thunberg's activities were recalled in this context:

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36   Sari Kivistö and Sami Pihlström, *The Monograph. An Old-fashioned Publication Forum or an Ultimate Scholarly Achievement?* (University of Helsinki, 2015), retrieved March 8, 2023, from https://silo.tips/download/the-monograph-an-old-fashioned-publication-forum-or-an-ultimate-scholarly-achiev#.

37   Ibid., 17.

She is innovative because she is multi-channel. And she communicates through
many channels. But she wants to acknowledge the scientific truth, right? I mean,
her main message is: you don't listen to me, and you don't listen to scientists. (OP14)

Second, the text can be linked to data that allows access to the source ma-
terial of a given study, be it data or code. As Sari Kivistö and Sami Pihlström
argue, following Fitzpatrick's ideas, "a computer-generated or born-digital
monograph can become a database, which can incorporate vast bodies of
(supplementary) material and consist of a variety of texts rather than of
a single text."[38]

[In our team – M. M.] we are discussing exactly that: how do we publish something
that is telling a story so there is a narrative, but then also include how the research-
ers got to the story, the analytic part, and then what dataset they used to do that?
So that's a three-way approach to the whole thing, and that's not easy. (OP23)

Multimodality means acknowledging that scholarly writing should al-
low access to the underlying content for validation, replication, or further
interaction.

I think the vast majority of scholarly texts in my field are still text, right; they're
still sort of paper-shaped; they come out in PDF, or they still pretend to be printed
on paper even when they're not. But I think there are more and more options and
more ways in which publications and the kinds of scholarly texts that I rely on are
starting to break those boundaries. (OP04)

Finally, the third dimension could be treated as an enhancement of the
previous one. If we connect text and data, we should also consider providing
a novel level of interaction, which is impossible in static texts. It is frequently
noted that "the new reading audience which has grown in the digital age is no
longer used to the linear, text-based reading associated with the monograph,
but prefers browsing visual and multimodal contents."[39] As this archaeology
scholar mentioned:

I'd like to see more powerful and intelligent ways of connecting research findings
and research claims with evidence, […] [allowing – M. M.] people to construct
research artefacts, online publications that are more dynamic. (OP15)

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38   Ibid., 17.

39   Ibid., 18.

Such outputs may range from dynamic visualizations to the generative text envisaged earlier in this section. This type of innovation also changes the way we think about scholarly argument and its authorship. One interviewee discussed how experimentation undermines

> the history of the last 50 years of [a – M. M.] kind of liberal, humanist, Western thought, which is you write a text that's yours. […] And obviously, that's bad for a number of reasons, that it ingrains certain ways of thinking, certain kinds of linear, rational ways of thinking [about] that kind of work against the other ways. (OP10)

If the knowledge becomes generative and interconnected, how should we measure contribution: "if you post something online and I write something that relates to what you said but creates a new idea, how can I claim this as part of my scholarly output? I cannot connect it with other things that I produced" (OP15).

If we were to propose some systematization here, Janneke Adema, Toby Steiner and Simone Bowie[40] provide an extended typology of innovative writing genres, together with relevant examples. As we are focusing here on less experimental outputs, we will survey the field along a three-element typology of non-print books proposed by Deegan: ebooks, enhanced ebooks, and enhanced monographs, which correspond with the level of innovative (non-print) features. An ebook "is a digital version of print, delivered in a standard publishing format (PDF, ePub, etc.)," which doesn't have any advanced functionalities beyond searchability or links.[41] Enhanced ebook has more features like "maps, diagrams, narration, multimedia," and sometimes featured through a book app.[42] Finally, according to the Mellon Foundation definition applied by the author, the enhanced monograph should be fully interactive and searchable online with primary sources.

These non-print formats correspond to what was earlier dubbed as an enhanced ebook (a traditional post-print format with some added features. In our interviews respondents tend to mix various innovative features that Adema, Steiner and Bowie tend to understand as defining features of separate genres: (a) computational book, which "include or incorporate code as part of their critical content or that execute or run code as part of their knowledge production or publication process"[43]; (b) enhanced book, that is, standard

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40   Janneke Adema, Toby Steiner and Simon Bowie, *A Typology of Experimental Books* (Pub-Pub, 2021), https://doi.org/10.21428/785a6451.cd58a48e.

41   Deegan, *Academic Book of the Future Project Report*, 72.

42   Ibid.

43   Ibid., 3.

codex format "that have been enriched with additional information, including open, online available data sets, resources, and other multimodal and interactive content (e.g., audio and video)"[44]; (c) database book "where a database of resources forms the central element (i.e., not as an enhancement to a text-based book) around which the book is formed. These can be non-linear, with multiple access points."[45]

Our interviewees, lacking more specialized terminology in this regard, often spoke about more advanced forms of linking data and text within a publication, going beyond the mere depositing discussed in the earlier section on access. This idea opens the book to be connected to other outputs like data, code, or supplemental materials. A website is the main format mentioned by our interviewees in the context of innovation due to its flexibility in handling different genres. Here is how a post-doc in biblical studies describes her involvement in a web book creation:

> It was thought of as a book publication, but only for [the] Internet. It is not like an e-book, which can be both paper and e-book, and its purpose is not to imitate a printed book but only to have HTML pages. […] The idea is to keep it light and easily manageable. It can be a sub-type of a website. But the idea is still to make a book, to keep [it as – M. M.] a long text. It was our conviction that we should still be able to carry out long-term research and reflection. It's an added value in humanities research compared to other scholarly texts. (OP21)

Thus, a web book seems to remediate the book by preserving the long scholarly argument on the one hand and opening it to use by different media on the other. Some interviewees discussed a similar concept, which we distil here as a computational essay, an article, or a book that focuses on linking the text with underlying data:

> So you've written some research in a programming notebook, and not only have you done that, but you provide it in a format that also leverages that functionality. So, for example, people can see that there's a parameter in an experiment that's been used to produce a graph, and they have a little checkbox that they can use to make the parameter vary and see the graph update. That sort of thing for me is innovative, not in terms of technology, because it's quite old, actually […]. It's just that publishing systems don't use it. (OP17)

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44   Ibid., 4.

45   Ibid., 9.

It is important to note that it is not only about providing the data but rather linking them with the outputs in a dynamic, interactive way, allowing readers to engage with the scholarship at a deeper level. This archaeology professor compares such a publication to discovery research "in which the relation-ship between the claims that are made and the warrants for these claims – typically data used as evidence – would be clearer. […] Instead of just being given a diagram, I might be given a pivot table that I can sort of play with and see how they came to that conclusion" (OP15). These functionalities provide readers with new means of interacting with the content, offering new ways of understanding the data: "It is one thing for me to write a paragraph that talks about the conclusions of the data, but it's quite another thing for the reader to actually get into the data. So I think the digital format allows that greater flexibility" (OP24).

The computational essay also leverages the web format to establish links with external materials and sources: "delivering a text through HTML on the Web allows you to create links instead of citations, and think about the embedding of images, or charts, or of other kinds of media forms within the frame of that text. So I think that the text, the notion of the scholarly text, is starting to open up a bit" (OP04). Computational essays stem from the ten-sion between the traditional writing genre and novel methods that demand different forms of engagement with underlying data.

Audiences

Finally, thinking of innovation in terms of audiences bridges the aspects of form and access we discussed earlier. Innovation may improve the commu-nication of research findings by broadening the readership and, thus, the per-ception of research in society.

> And I do think that […] scientific publishing should go in the direction of using more blog-like things and that we should be publishing and speaking of our re-search ideas, our research progress, research intermediate results, and our research failures. We should speak more frequently, timely and openly in order to speed up [and – M. M.] improve scientific work worldwide in any way. We don't exchange enough information and not well enough, and that's wrong. (OP30)

Unconventional formats allow for reaching new audiences and help recon-nect research and society, showing the importance of the work being done in academia and how the taxpayers' money is spent. According to a cul-tural studies post-do, "the more people understand that academics are not in an ivory tower, then the more likely you are going to see funding for the

humanities, funding for research is not a waste of time and money" (OP01). Thus, innovation allows us to communicate with audiences attractively, attuned to the contemporary media landscape. In other words, thanks to innovation, research speaks the same language as the public, he adds, "these are non-conventional academic texts that are being read by the public, and they're much more accessible than your standard research paper" (OP01).

However, finding a suitable language accessible to various audience types is challenging. A history scholar working on the innovative dissemination of her project results through an interactive website describes the issue of navigating between the level of scholarly detail and accessibility for wider audiences. Hence, the aim "is to speak in a general way that the public can understand, but also [in a way that – M. M.] academic people will be interested in it. But it's not too dumbed down for the academics, but not too, kind, of highbrow for the general audience" (OP28).

Reaching new audiences means making scholarly content available to countries and communities in which traditional forms of scholarly communication, which are closely bound to the market, are inaccessible for economic reasons.

> When you start to take the book out of the marketplace or take scholarship out of the marketplace, then you realize that the audience can be whoever you want it to be. And that's simply because you're no longer writing for [a – M. M.] financial kind of gain, or for the publishers to gain financially, or for the book to look like it [is – M. M.], sort of, a commodity. (OP10)

Hence, new modes of publishing may increase the readership and societal impact of scholarly outputs.

Blogs are frequently considered an innovation that allows ideas to reach wider audiences, as they do not try to remediate scientific articles or monographs but rather serve as a vehicle for lighter and shorter texts. As Fitzpatrick observes, "what made blogs so immediately popular, both with readers and with writers, was the very fact that they changed and developed over time, existing not as a static, complete text but rather as an ongoing series of updates, additions, and revisions."[46] They may be used as an entry point to research or, also, to other disciplines. A folklore and digital humanities scholar observes:

> I also like very much reading blog posts and not so much from my narrow field of research but from other fields that are not too familiar to me, which explain things to me in a bit more [of a – M. M.] popular way; so for me to see if it works for me

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46   Fritzpatrick, *Planned Obsolescence*, 68.

or not, or what directions I should go to find some connection with my research
and so on. (OP18)

In this context, blogs serve as popular abstracts of more complicated
works. As a psychology postdoc put it plainly:

> That's why you have things like blogs and portals and scientific outlets […] They
> take the scientific [paper – M. M.], which has twenty pages of tables and graphs
> and data and stuff like that, and they boil it down to two. (OP29)

Apart from making research more accessible, blogs may serve as a place
to communicate early thoughts and to work on ideas. A postdoc in informa-
tion studies, interestingly, treated his blog as a humanities equivalent of an
open notebook: "I keep this kind of open notebook, in which I'm just sort of
sharing my thoughts regularly about my research and eventually the book that
I'm writing will be based on all of these different snippets. But none of the
actual blog posts will be in the book – I quite like just releasing my thoughts
as I have them" (OP10).

Audio and audiovisual materials perform a similar function. They are also
treated as lighter versions of traditional scholarship but require a particular
talent and competence, as indicated by a sociology professor:

> I look with interest at such forms as short podcasts and short video forms, which
> are terribly difficult for scientists. Because scientists generally don't know how
> to express themselves in such an engaging, relatively light way – that is a rare
> talent. […] This alone would also require investment on the part of the institu-
> tions, and not just on the shoulders of the scientists themselves – as usual –
> to learn these different speaking techniques, just as politicians can be taught.
> (OP12)

Videos were also mentioned as providing a supplement to one's work.
For instance, a PhD candidate in digital humanities produced a documen-
tary based on her research (OP06). A professor of information processing
mentioned, in this context, short talks on one's own research that may serve
as TED-talk-like trailers: "twenty or thirty seconds video, like a commercial,
as a marketing tool, explaining to you what you could find in this paper, maybe
something to be considered. […] a real person can make you interested in
a paper much more than abstract" (OP30).

Podcasts are generally thought to serve a similar role, as this sociology
professor remarked: "presenting it in such a concise way, a cool way, if it's just

for a short podcast, but a really short one, a quarter of an hour at the most. In fact it's probably five minutes, as a teaser […]" (OP12). The production of scholarly podcasts may have intensified during the pandemic. As a French PhD student in information science noted, many of his colleagues had "started to record not only lectures but sometimes a review of an article or a book. One of my colleagues started – it was just, like, a side project. And he's actually in his 12th or 13th episode" (OP17). This format is described as particularly engaging because listening does not seem to require one's full attention or much screen time and allows for other activities in the meantime: "I probably would also use podcasts, just listening and not even looking at the picture, but just listening to the voice" (OP18).

Finally, the use of social media was reported in the context of audience outreach. Scholars inform others about their work on social media and often use it to communicate their talks, which they later turn into blogs or articles. So, we see an interesting communication loop here, in which the thought is discussed and elaborated continuously with peers and a wider audience. A postdoc in linguistics described her use of these channels, pointing out that they often allowed her to reach different audiences:

> I'm trying to make blog posts out of my Twitter threads. Sometimes referring to the tweet, but […] I feel like a lot of content gets lost, and I really like Twitter. And I also know that people who actually follow me on Twitter and read my stuff don't go on my blog so they don't read my blog. (OP02)

A specific innovation on the intersection regarding engagement with audiences is the living book, which allows for the fluidity of the text and versioning on the one hand and user interaction on the other. As this postdoc in biblical studies pointed out:

> The idea is that we keep track of variations and make this information visible. As for the difference between a book and a web book [WB – M. M.], the idea is to keep a regular publication rhythm. I publish as soon as I have written a chapter. The peer review will come at the end of the process after the WB is published online. And the WB will be modified following the peer-review comments, and thanks to the versioning, the modifications will be visible. (OP21)

Living books change the approach to publication from something finished and closed to an output that makes the changes transparent and accessible to readers. Living books spark community discussion, allowing for comments and replies.

Challenges

The disruptive potential of innovation opens up new possibilities but also appears challenging on many levels. The actual uptake of novel communication forms is impeded by various factors, among which quality assessment, prestige, competencies, and the lack of established standards for referencing novel forms are critical.

In their report on the new units of scholarly communication, Burton et al. highlight that we often mistake complex sociotechnical challenges for purely technical hurdles. In other words, it is not only about the availability of the tools and platforms but also about institutions that would back and sustain them.[47] The main problem with innovation is that there are novel communication services, but not many quality-assessment mechanisms have been built upon them. Traditional assessment forms often seem incompatible with innovative outputs' needs and challenges.

The lack of recognition of innovative forms as scholarly texts impedes innovation. "If you're doing something so new and different, there is, by definition, no audience to say: 'yes, this is a good thing to do,' or 'no, this is not a good thing to do'" (OP24). So, the question boils down to assessing whether a publication is scholarly or not. As one interviewee put it:

> The barrier comes with the question: what is recognized as scholarly writing in academia, and lets you obtain a position? Until recently (but maybe it is changing) the digital, and especially what is not peer-reviewed, does not count as scholarly writing, at least not for career advancement. (OP22)

One feature frequently pointed out in the interviews is the need to provide a scholarly apparatus to correspond with the established conventions of academic writing, like "citing your peers, knowing the state of the art", and adding "footnotes, references, data, which are, as far as possible the most accessible, so that one can dive into the text" (OP25). As this digital humanities researcher in biblical studies put it bluntly: "my innovative publications will be taken seriously only if they are accompanied by a traditional bibliography" (OP21). The same goes for integrating "a form of scientific validation" (OP21) into the innovative publication. As Samuel Moore and Janneke Adema observe that experimental and multimodal forms are not always taken into equal consideration as traditional outputs by such important bodies as "hiring, tenure, and promotion committees."[48]

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47   Ibid.

48   Samuel Moore and Janneke Adema, *COPIM Experimental Publishing Workshop – Part 1: Inhibitions Towards Experimental Book Publishing* [Blog, 2020], https://copim.pubpub.org/pub/experimental-publishing-workshop-part-1/release/2.

The prestige attached to traditional forms tends to have a cooling effect on innovation, as this postdoc puts it: "our reward structures are so embedded in us that I have to write a book that looks like a book" (OP10). A professor of English studies adds: "many scholars tend to be conservative in going where they see prestige, and, so, that reliance on prestige is still of enormous influence" (OP04). This prestige economy leads to a peculiar situation in which the format of the work influences the assessment of the quality of its content. One interviewee observes that "it could be cutting edge work with amazing results, amazing data, and it's completely relevant. But they might not be cited because it's just a thesis" (OP06). That, in turn, creates a vicious circle in which scholars are afraid to experiment because they want to publish in prestigious venues, resulting in fewer innovative works and low prestige. There is also the issue of competencies required to engage with such formats, which many scholars may not possess (OP12) or even be reluctant to invest the time in gaining such competencies: "I don't think of myself as a particularly digitally literate person. And I think I know, and I am familiar, and I work with things that are probably already quite established" (OP19). On the other hand, researchers invested in innovation cannot understand why some scholars refuse to use innovations that could facilitate their work: "despite my presentation of Zotero, despite it becoming pretty much universal and students using it, many of my colleagues don't. They do things by hand […]" (OP30). Competencies are closely linked to the need for infrastructure, as a lack of relevant technology may block innovation.

Finally, researchers grapple with the need for established standards for referencing novel sources like tweets, blog posts, and YouTube videos in scholarly work (OP03, OP06). Generally speaking, the issue of how novel sources should be included in an academic text is one of the challenges of twenty-first-century scholarly writing. While citing novel forms as primary sources, for example datasets does not raise many concerns, the academic acceptance for referencing scholarly arguments in such formats seems lower (OP18, OP29). While blog posts resembling academic papers are generally accepted as citable, social media posts are viewed with more skepticism (OP18). The need for referencing software and tools arises to ensure proper credit for scholarly code developers while also recognizing the contribution of research infrastructure (OP16, OP24).

The challenges of novel forms push scholars toward some stopgap practices that allow researchers to have their cake and eat it, too; that is, to take advantage of innovation while retaining some signs of prestige. We call these practices double referencing and double publication, that is using a traditional format instead of an innovative one to retain the prestige of the conventional form. These can be considered harmful for innovation or, more positively, as

supporting the transition – as stopgap practices during the transformation phase. Double referencing means that one feels pressure to find and use traditional forms of publication for referencing, even if they consulted the innovative version for their research: "if you cite something innovative (a video, a recording of a talk), we still feel that we have to cite another traditional publication" (OP21). The same interviewee prepared a digital edition of their thesis, which had to be presented in a traditional form (OP21). One advantage of double publication is that authors have the best of both worlds – the prestige of the publication but also faster delivery and the content better.

To conclude, Flusser, quoted in the introduction to this paper, viewed innovation as "faster and faster quills," that is improved tools for better communication of thought and ideas. In this paper, I tried to sketch how scholars understand innovation, referring to seamless access, formal features, and new means of contacting audiences. All this innovation is not happening in vain, as it needs both infrastructural support and systemic recognition in academia, which seems to be the critical obstacle slowing down our quills.

Abstract

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Faster and Faster Quills: Innovation in Scholarly Writing

This paper investigates the multifaceted concept of innovation in scholarly writing, drawing upon qualitative data from semi-structured interviews with 33 participants representing diverse roles within the scholarly communication landscape. The study, part of the Horizon 2020 OPERAS-P project, explores how stakeholders perceive and experience innovation in their respective domains. Findings reveal that innovation in scholarly writing is not limited to technological advancements but encompasses a complex interplay of factors, including seamless access to research outputs, evolving formal features of scholarly texts, and new avenues for engaging with diverse audiences. Moreover, the study underscores the importance of infrastructural support and systemic recognition within academia to foster and sustain a culture of innovation in scholarly communication. This research contributes to the ongoing discourse on the changing nature of scholarly writing in the digital age and provides valuable insights for researchers, practitioners, and policymakers involved in shaping the future of scholarly communication.

Keywords