Digital Scientific Communication. Identity and Visibility in Research Dissemination

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Digital scientific communication is the new standard and identity and visibility are important parameters in research dissemination. It is therefore not surprising that these are the keywords in a recent publication that includes interesting contributions from specialists mainly from Spain, but also from many other non-native backgrounds. It includes three more theoretical overviews and eleven empirical analyses covering a wide variety of digital scientific communication practices.

The volume is prefaced by a "Prologue: State of the Art of Research Dissemination" by Marina Bondi, who adds the wider perspective that academic publishing is influenced by today, i.e. "by the rapid expansion of digital means of communication and by the global extension of the participation framework provided by the web" (p. v) and "in the light of the present-day nature of publishing as a massive commercial industry, with the inevitable marketisation of knowledge and the need for self-promotion" (p. vii). Of course, the pandemic has accelerated the process, when scholars were asked to transfer the results of their research not only to professionals, but also the wider public. The demand for open science and open data emphasised research transparency and accessibility. Bondi also "takes all the affordances of digital discourse into consideration— multimodality, hypertextuality, interactivity, anonymity" (p. vii). However, affordances also increase the complexity, in extreme cases "researchers need to produce a range of texts or textual clusters addressing different audiences and to adopt different textual strategies that may respond to the needs of different readers" (p. ix). This includes different levels of writer engagement and a wide cline of entertainment, information and empowerment of readers – and this volume covers all these new contexts, new formats, new genres, new sensitivities, etc.

Part I "An Introduction to Scientific Research Communication Through

Digital Media" includes only one contribution by Pascual, Plo-Alastrué, and Corona on "Digital Scholarly Practices in Scientific Communication: Paths and Goals in Research Dissemination". Here the authors sketch different historical models and practices. They also clarify central concepts of the volume like "scientific communication" (among equals) vs. "science communication" (unidirectional to non-scientists; p. 4), "dissemination" vs. "popularisation" (again to the general public; p. 8), the complexity of author identity (p. 11) including their visibility (p. 13) and the diversity of their audience (p. 14). Then they provide a detailed account of the rationale and context of the individual contributions to the volume. Finally, they emphasise "three overriding purposes" (p. 26): "the construction of researchers' digital identity and on the visibility of their work, their disciplinary background and their professional concerns", "emerging conflicts arising in various research scenarios related to online science communication", and "avenues of communicating science to the general public through digital practices".

Part II "Scientific Discourse and Professional Practices" starts with informative views related to the COVID-19 pandemic, when many people became aware of issues of science communication, such as knowledge claims in online discussions (by Breeze) or in research and popular articles (by Benelhadj) and analyses more generally technology disclosures (by Sancho-Guinda) and Weblogs (by Diani & Freddi).

Part III "Visibility and Dissemination in Scientific Research Contexts" brings together views on new dissemination practices. Naturally, Bocanegra-Valle presents the danger of predatory journals particularly dramatically. Engberg constructs an enlightening cline "Between Infotainment and Citizen Science: Degrees of Intended Non-expert Participation Through Knowledge Communication", especially in "Fig. 7.3 Policy concepts and knowledge communication concepts related to participation in science" (p. 165). Dontcheva-Navratilova investigates research visibility in a small specialised corpus comprising video and printed abstracts of 16 research articles in the field of mathematics published online in the *Journal of Number Theory* and shows how "the video abstract recontextualises the printed abstract by refocusing and often extending its content by presenting the author(s), personal storytelling or commenting on mathematical equations to enhance the visibility of the researcher, establish proximity with the audience and facilitate knowledge comprehension" (p. 188). Ruiz-Madrid and Valeiras-Jurado investigate the recontextualization of four popular science

videos using a multimodal annotation tool (MMAV), exemplifying Engberg's concept of blending education and entertainment.

Part IV "Engaging the Audience Through Science Bites" is a very coherent section as all three contributions deal with "science bites" in the relatively new form of three-minute talks (3MT). The time constraints are also prominent in related genres like Elevator Pitch (60 seconds) or PechaKucha (20 times 20 seconds) —which all allow presenters to focus on one or few ideas and showcase their presentation skills. Here nonverbal clues, such as posture and gestures, play a special role in identity construction in addition to the well-known verbal metalanguage features that establish a persona. Beltrán-Palanques study 54 presentations from an EAP workshop for doctoral students from diverse disciplines, Palmer-Silveira and Ruiz-Garrido examine FameLab talks, which have become an international event over the last 20 years, Rowley-Jolivet and Carter-Thomas compare video abstracts and research group videos, all use a wide range of textual and variables. This part is particularly valuable, as it is always interesting to see how norms develop or are recontextualised and how they spread through disciplines.

The final Part V "Scientific Digital Communication for Research Dissemination: What Lies Ahead?" again only contains one chapter, "Challenges and Future Directions in Digitally Mediated Research Publication and Dissemination", where Vijay K. Bhatia comments on issues in this volume from his personal standpoint. He summarises the experience from the COVD-19 pandemic in positive (speedy publication on prepublication servers) and negative ("low-key acceptance of what is known as ethically questionable practices" p. 316) perspectives and points out, for instance, the important differences between specialised and popular research dissemination: "Preprints are useful for discussion and review, but not for extended dissemination on social media" (p. 315). As a logical trend he identifies "opportunities to develop multiperspective and multidimensional frameworks often leading to a more comprehensive and insightful understanding of discursive and professional practices particularly in the context of the present-day digitally mediated global world" (p. 321). Additionally, collaborative research contributes to international visibility. Bhatia ends with a great plea: "to reform or reframe research design processes, peer-review practices, encourage multiperspective interpretations of research findings, inspire better management of data collections processes and procedures and discourage undermining of research standards and ethics" (p. 324).

Many analyses in this volume are comparative, e.g. on conceptual metaphors in popular and in research articles (by Benelhadj), on weblogs by law scholars and scientists (by Diani & Freddi), on video and printed abstracts (Dontcheva-Navratilova), on three-minute thesis (3MT) presentations by doctoral students (i.e. novice researchers) and research group videos by (senior) researchers in university laboratories and STEMM (science, technology, engineering, mathematics and medicine) vs. SSH (social sciences and humanities) disciplines (by Rowley-Jolivet & Carter-Thomas). Readers will find this inspiring for data collection, analysis and interpretation. The empirical basis of the volume is clearly visible from the number of tables and figures that nicely display illustrative examples and research results. Many complex figures are in colour, e.g. in the chapter on technology disclosures (Fig. 3.3), a relatively new and underresearched genre that became important during the COVID-19 pandemic. Some complex figures might be better readable with less colour (e.g. Fig. 3.4), others with more (e.g. Fig. 10.1-4 Annotation density plot in ELAN). All empirical analyses are usually based on stimulating textual and, more and more, multimodal corpora, which can serve as an inspiration for future studies.

A great advantage of the volume is the detailed four-page index, which clearly shows the focus of the volume (audience, communicative/semiotic modes, engagement, identity, filmic modes, multimodal ensembles, participatory ambition, research articles, social media, 3-minute-talk/3MT presentations and visibility refer to many pages). Twitter and particularly Facebook and TikTok are not particularly prominent, but there are recent volumes in this developing vast field that can complement the present volume (e.g. Metag, Wintterlin & Klinger, 2023). This is another timely contribution related to InterGEDI, one of Zaragoza's research groups (e.g. Plo-Alastrué & Pérez-Llantada, 2015, Luzón & Pérez-Llantada, 2019, or Mur-Dueñas & Lorés, 2022), again an important scholarly addition to the vital field of scientific communication in theory and practice. This volume really provides fresh insights into emerging practices and allows us to follow the tectonic shifts the discipline underwent in recent years —and this should be of interest to every scientific writer.

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