



New Communication Channels:

Electronic Clones, but Probably the First Steps Towards a New Paradigm

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Abstract

New technology often implies progress, but it does not always bring something fundamentally new. As more and more academic disciplines become interested in the communication patterns in high energy physics as a result of to the tremendous success of arXiv, it might be worth while to recall that this communication pattern has been around for more than 40 years. New technology has, however, significantly speeded up communication and reduced its costs.

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It will soon be 40 years since Luisella Goldschmidt-Clermont, at the time working as a librarian at CERN, wrote the article "[*Communication Patterns in High Energy Physics*](#)". The article was intended to be published in *Physics Today*, and was accepted as such by the editor. However, things do not always turn out as they should: the editor was changed and his successor had quite different priorities, so in the end the paper was never published and has remained a preprint ever since - though only having been distributed to a very limited number of colleagues. The paper has, however, been referred to throughout the years, more or less as a private communication, but with the developments of scholarly communication patterns over the last few years, it became a requirement for the community to make the paper available for research purposes. Embarrassingly enough the preprint was no longer available in the CERN Library, the only trace of it was an old catalogue card with the obscure reference "Ex 6603". Library colleagues around the world were contacted to retrieve this, now even more important preprint, but with no positive results. Louise Addis, ex associate chief librarian at SLAC, replied: "*Tried to find some actual documentation from that early period but it may have disappeared along the way. Sic transit...*" High-energy physics librarians clearly did not apply their own avant-garde methods to managing their own contribution to the literature... The classic solution was eventually to contact the author herself and she still had an archival copy which now is being published online and will hopefully remain accessible to the world for ever.

Luisella Goldschmidt-Clermont was actually the first librarian to look into how libraries could set up an infrastructure to make some sense out of the jungle of preprints which was floating around, a part of the literature that up to then had mostly been ignored by the library community and still is in many disciplines, even many years later. Her contributions turned out to have a strong impact on both sides of the Atlantic. In the 1960s she was central to the development of the CERN preprint list

and the SLAC Library preprint handling system which ultimately led to both services being ready to move into computerized systems so early.

Louise Addis writes the following about those pioneering days: *"At the time she was advising us, librarians really didn't have any idea of the importance of preprints in certain scientific fields. Preprints were indeed the greyist of 'grey' literature... mimeographed or dittoed (oh the horror). The idea of keeping them at all, let alone filing a catalog card for each of the 100+ authors on an experimental paper was radical. Authors had to be persuaded even to send them to a library. And, on top of that, to track where preprints were published and annotate the catalog with the journal reference and then actually purge the physical copy of the published preprint, while it made perfect sense, was truly unorthodox. The physics community, i.e. the library users, greatly admired what Luisella was able to do for them at CERN, and we being new and unfettered by any traditions were able to take all her advice to heart and carry the process even further. She was and is a person of great competence, clothed in immense personal charm. We felt so lucky to be the recipients of her advice."*

Forty years later we are celebrating the first 10 years of arXiv which is often credited for having revolutionized scientific communication. ArXiv has without doubt improved the efficiency of scholarly communication and strongly challenged the well-established publishing industry. At present the archive contains 190 000 papers, augmented with some 100 new papers every day. ArXiv is estimated to distribute about 25 000 daily e-mail alerts and there are probably at least 35 000 distinct daily users via the Web. This is all well and good, but doesn't it still remain an 'electronic clone' of what was carefully set up by Luisella Goldschmidt-Clermont and her colleagues in the early 1960s?

In 1996 Paul Ginsparg, the creator of arXiv, said at a UNESCO conference *"Another lesson is that authors are unlikely to accept "electronic clones" of print journals (i.e. electronic versions identical in content, functionality, methodology and appearance, to paper versions), whether transmitted via CD-ROM or via the network. The electronic medium should not be constrained by any former print incarnation and, in particular, easily implemented quality appraisal mechanisms in the electronic realm will be dramatically superior to the binary (i.e. one-time, all-or-nothing) procedure employed by the print medium, which in turn frequently conveys inadequate signal."*

So the question now is what would be the required catalyst to make the academic community ready to leave the PDF era. It is first by reaching that day that scholarly communication will be close to its paradigm shift.

References

- [1] *Brief and biased history of preprint and database activities at the SLAC Library, 1962-1994.* - Louise Addis. - <http://www.slac.stanford.edu/library/Papers/history.html>
- [2] *Electronic publishing in science.* - Paul Ginsparg. - <http://arXiv.org/blurb/pg96unesco.html>

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