Open Access 20 Years after Messina: Progress, errors, and future.

Jean-Claude Guédon

I. Remembering…

On November 4th, 2004 the Rector of the University of Padua, Professor Milanesi, read the « Berlin Declaration on Open Access to Knowledge in the Sciences and the Humanities. Then Professor Tomasello, the Rector of the University of Messina, began the reading of the "Dichiarazione di Messina, followed by the long list of universities supporting the Declaration. In recounting this event, Susana Mornati used strong words to reflect the emotional charge of the event: (with apologies for the accent) "*Una tangibile emozione era dipinta sui volti dei partecipanti consapevoli di assistere ad un evento di grande portata*"[1].

A "tangible emotion" was visible among the participants, and this was not surprising: a large number of universities in an important European country had decided to stand behind the principles published a little over a year before in the Berlin Declaration[2]. In 2004, such a statement was greeted with enthusiasm: the Budapest Open Access Initiative, issued in February 2002[3], was clearly having an effect. A short document was giving rise to a movement that, beyond Berlin, had also seen the important Bethesda meeting take place. Now, Italian universities were also on the move. Open Access was clearly the newly defined and exciting horizon of scholarly publishing. There were several difficulties – legal, economic – that had yet to be solved, but that was exactly the exciting point: the objective was just and clear, and only "minor" points remained to be solved: legal questions, and financing.

Minor points? Really?

Twenty years later, after many bruising debates, conflicts, lost friendships, and the emergence of a very complex scholarly publishing landscape, we can say that Open Access has been and remains extremely significant, but we must also need to admit that we now have flavors of Open Access (and Open Data, Open Software, Open Science) that are not satisfactory. The "unprecedented public good" made possible by the convergence of an old tradition and a new technology would have certainly been unprecedented, had it really become a "public good", but, alas, knowledge is very much entangled with power, and providing access to knowledge is not a necessary and sufficient condition to achieve the

1 Susana Mornati, *Report dal convegno: "Gli atenei italiani per l'Open Access: verso l'accesso aperto alla letteratura di ricerca", Messina, Università degli Studi, 4-5 novembre 2004.* Bolletino del CILEA, 95, December 2004, pp. 40-1.

2 https://openaccess.mpg.de/Berlin-Declaration.

3 https://www.budapestopenaccessinitiative.org/.Text Body

optimal level of communication and interchange that the production of knowledge requires. More, much more, is needed. Let us examine, therefore, what happened. Doing so will perhaps help charting a better path to the future.

II. How Open Access was launched with the wrong spin.

1. Commercial beginnings in Germany (1870-World War II)

The admirably ringing tone of the opening sentence in the Budapest Initiative is not without problems. For one thing, is the tradition of scholarly and scientific interchange as stable as implied in BOAI ? And what is the effect of the "new technology" on Open Access. Taking a look at these simple questions helps revisiting the context within which Open Access emerged.

Let us start with the "old tradition". The Budapest document clearly accepts a thesis that is increasingly questioned by historians of science. The old tradition refers to the use of journals. And the term "journal" may be stable, but "journals" have changed enormously with time. As Alex Csiszar puts it:

> ...we need to stop carrying on as if problems of scholarly publishing are a matter simply of improving the means by which experts communicate with one another and in so doing reap professional rewards.[4]

Printing in its time and now the Internet have indeed improved communication between researchers, but these technologies were also adopted for reasons reaching beyond the researchers' desire to communicate. The actors involved in such a transition are many and their interests have not not always aligned with each other.

The commercialization of scientific publishing is another false constant. It never was a given. Commercial publishing began with indices, bibliographies, reviews, not primary research journals. Selling subscriptions to esoteric, highly specialized, documents to a limited number of specialists is simply not easy. Knowing how to run a publication was far easier. When scientific, engineering and professional societies struggled with deadlines, or tried to reach broader readerships, a commercial publisher like Springer in Germany could offer its services. That is how commercial publishing originally gained a foothold into scholarly publishing.

The rest of the story is neither straightforward, nor simple, but, to cut to the chase, German firms came to dominate scientific publishing until World War II. They managed to do so because they observed where new fields or research were appearing, where good scientists could accept to collaborate. They also learned how to handle the international sales of books and journals, in particular to university libraries. The latter gradually replaced individual subscribers, and selling subscriptions became much simpler.

4 Alex Csiszar, *The Scientific Journal. Authorship and Politics in the Nineteenth Century (University of Chicago Press, 2018), p. 3.*

2. Robert Maxwell and Eugene Garfield.

By the end of the World War II, the German publishing industry was in shambles. New players were anxious to take advantage of this situation. Robert Maxwell, among others, decided to become a major publisher of primary scientific journals. By adopting the very recipes of the German publishers, he met with success. He also took advantage of the enormous increase in research money that coincided with the Cold War, and was further stimulated by Sputnik in 1957. From 1945 until the early 1970s, commercial publishers benefited from unusual financial circumstances. So did libraries. Journal prices rapidly rose, but library budgets kept pace, particularly in the USA. However, researchers – the actual users of the literature – found buying individual subscriptions increasingly difficult. As a result, their economic role disappeared; they were reduced to petitioning libraries for the journals they could no longer afford. Meanwhile, the multiplication of journals helped respond to a new academic injunction: "publish or perish".

The very nature of journals changed with the Science Citation Index and, particularly, the *Journal Citation Reports* (JCR) in 1975. Suddenly the reputation of journals could now be expressed as a precise figure – the impact factor – that, in an unclear manner, pointed to the scholarly or scientific quality of journals. Being listed in JCR also became a must for journals; rankings followed. Eugene Garfield, the man behind these ambiguous innovations, had created an indicator that could deal with both intellectual value (whatever that means in this context) and commercial value – i.e. pricing. Publishers could now operate in a structured market with clear rules of competition.

Faced with tighter budgets after 1975, libraries began to rely on the JCR rankings to guide their purchases, which helped increase the credibility of the impact factor. But rankings also meant that most libraries tended to buy the same, highly-ranked, journals, rather than the journals most needed by their specific set of researchers. For the publishers, this raised an opportunity and a new problem. On the opportunity side, the presence of journal rankings tightly defined the way in which journals were to compete, and competition was limited to the journals listed in the Science Citation Index. Once a journal managed to be incorporated in the club of journals selected by Garfield's company, citation chasing lay at the heart of its business plan.

The advent of the Internet, as a result, emerged in a context of "serial crisis". In 1989, an electronic newsletter by that name was even launched by Marcia Tuttle[5]. Libraries were desperately looking for solutions to fast-rising prices. With the Internet, librarians hoped for cheaper ways to publish and disseminate scholarly journals. Everybody's' eyes were focused on finances.

3. Publishers, Internet, and intellectual property.

Publishers saw the rise of the Internet with concern. Their primary objective was not to improve the research infrastructure, but rather to protect intellectual property. They were also thinking about business plans suited to the new technological environment. As an example, Elsevier in 1991 was exploring the possibilities of going digital with a project named TULIP or "The University Licensing Program". Obviously, the very name of the project gives the game away: digital documents did not

5 This newsletter can still be consulted at: http://webdoc.sub.gwdg.de/edoc/aw/nspi/.

have to be sold; like software, they could be licensed. As a result, copyright constraints such as the first-sale doctrine could be neatly sidestepped. Contracts could be crafted to fit the desires and objectives of the publishing houses. Librarians rapidly discovered that publishers had defined a new role for them[6]: rather then buying documents and preserving them, librarians had become brokers of access licenses for their institution. And they had to negotiate with powerful multinationals from a relatively weak position within their own institution.

A second innovation – the "portal" - helped publishers solve another problem. With a portal, publishers could offer access to all their journals through a single entry point. And it was simpler and cheaper to do so in one big bundle. Moreover, this approach also solved the difficulty of selling low ranking titles. This is how the "Big Deal" emerged in 1996[7]. The publishers' argument was that the price per title had decreased. The important metric for libraries, of course, is the cost per use, not the price per title, but the publishers' "Big Deal" remained largely unchallenged[8]. Instead, libraries began to form new kinds of consortia that aimed at negotiating "Big Deals" on an even bigger scale, seeking clout in size. But that helped publishers deal with a simpler market structure with reduced transaction costs. Individual libraries, for their part, lost a bit more of their specificity, locked as they were within a consortium.

4. How researchers tried to innovate and publishers resisted.

The researchers were the ones innovating at a fast pace. Using computers to produce journals had been discussed since at least the 1970s, and experiments with electronic journals multiplied in the late 1980s. Marcia Tuttle's newsletter founded in 1989 was an "electronic" journal even though it was not a scientific primary journal. Stevan Harnad, an important figure in the history of Open Access, founded *Psycoloquy* in 1990. The following year, Paul Ginsparg launched ArXiv, an electronic heir to the older exchange system of particle physicists[9]. The same year 1991, my colleague Bill Reading and I launched a modest, FTP-based, scholarly publication on cultural studies, *Surfaces* which lasted ten years and is now archived on the Érudit platform in Canada[10].

Predictably, commercial publishers remained focused on protecting their business. Beside the licensing of access discussed earlier, the creation of the Digital Object Identifier (DOI) was pushed by the Association of American Publishers in 1994, mainly to protect intellectual property on the emerging Web. Similar concerns accompanied other experimental publishing projects in the early '90s. Most notably, the UK-based SuperJournal project led by *Nature*, included a linking scheme called "Carbon Fibre" which raised a great deal of interest in 1996 at the Frankfurt Book Fair. Carbon Fibre went nowhere, but it influenced later linking-related projects.

---

6 Ann Okerson, "The LIBLICENSE Project and how it Grows", *D-Lib Magazine*, 5 (9), September 1999, https://www.dlib.org/dlib/september99/okerson/09okerson.html.

7 http://poynder.blogspot.ca/2012/10/open-access-in-uk-reinventing-big-deal.html.

8 One notable exception was Kenneth Frazier, "The Librarians' Dilemma. Contemplating the Costs of the Big Deal", *D-Lib Magazine*, 7 (3), March 2001, https://www.dlib.org/dlib/march01/frazier/03frazier.html.

9 L. Addis, « Brief and Biased History of Preprints and Database Activities at the SLAC Library 1962-1994 », https://www.slac.stanford.edu/spires/papers/history.html

10 https://www.erudit.org/en/journals/surfaces/.

In 1999, commercial publishers faced a new and dangerous threat. Harold Varmus, the director of NIH, had reasoned that the ArXiv route followed by the physicists could be transposed to the bio-medical fields under the E-biomed label. The announcement of E-biomed created a deep sense of anxiety among publishers, and they regrouped at the Frankfurt Book Fair in 1999. CrossRef emerged in the early days of 2000 as a result[11].

By then, money matters were occupying center-stage, and financial issues began to preoccupy open access advocates: if OA is to gain traction, what is its best "business plan"? The question of financing is legitimate, of course, but phrasing it as a "business plan" is highly debatable. Financing issues should have fallen out of the objectives of open access, rather than preceding them.

The notion of "business plan" was to affect the course of the emerging OA Movement deeply. It was inserted into the general debate extremely cleverly. In 2000, a new commercial project emerged. Named "Biomed Central", confusingly echoing Varmus' E-biomed project[12]. Launched by Vitek Tracz assisted by Jan Velterop, it was the first commercial open-access venture. Very importantly, its "business plan" rested on what is now widely known as the Article Processing Charge (APC). The APCs, it was argued by Velterop, would create a competitive market that would remain squarely in the hands of the authors, and thus contribute to lowering the publication prices of scholarly journals. The future soundly refuted this bit of real (or acted) *naïveté*, but the convergence of OA principes and business plans was sealed. For some people at least, so long as it was OA, it was good, no matter the business plan. Publishers could not have agreed more.

5. BOAI

The Budapest Open Access Initiative emerged in the midst of deepening tensions between the research world and the commercial publishers. In 2000, an open letter signed by Harold Varmus, Patrick Brown and Michael Eisen was published included the following statement:

> We believe, however, that the permanent, archival record of scientific research and ideas should neither be owned nor controlled by publishers, but should belong to the public and should be freely available through an international online public library[13].

The letter, generally known as the Public Library of Science was signed by around 34,000 researchers from all over the world. It included a deadline of September 2001 after which date signatories were supposed to deal only with the journals that granted "...unrestricted free distribution rights to any and all original research reports that they have published … within 6 months of their original publication date." Why 6 months? A possible answer is that this clause was added as a poorly-conceived attempt to placate the publishing industry. These puzzling concessions have plagued the history of open access.

The aftermath of the petition is forgettable, but the December 2001 meeting in Budapest that preceded the publication of BOAI in February 2002 can be interpreted as a regrouping of forces when it became clear that publishers were ignoring the petition.

11 "The Formation of CrossRef: A Short History", https://www.crossref.org/pdfs/CrossRef10Years.pdf.
12 For an analysis of this name change, see
13 https://plos.org/open-letter/.

BOAI launched the OA movement but it too includes some ambiguities, particularly on financial matters (and I speak as a guilty party because I was involved in its drafting). For example, BOAI rightly underscores that OA "gives readers extraordinary power to find and make use of relevant literature", but it immediately turns to what is "economically feasible". Other parts of BOAI also show that the Internet, by making dissemination costs disappear almost entirely, is taken for the magical solution to financial issues. In the end, BOAI lists a mixed-bag collection of potential financing schemes that could not convince publishers or researchers:

> There are many alternative sources of funds for this purpose, including the foundations and governments that fund research, the universities and laboratories that employ researchers, endowments set up by discipline or institution, friends of the cause of open access, profits from the sale of add-ons to the basic texts, funds freed up by the demise or cancellation of journals charging traditional subscription or access fees, or even contributions from the researchers themselves.

Obviously, the OA movement worried that the absence of a clear business plan would be used against it. If early advocates had focused on the importance of OA for the healthy production of knowledge, and had subordinated financial strategies to this primary concern, they could have insisted on the fact that publishing is a necessary phase of research, and that it requires financial support just like research and as research. When the young National Science Foundation, in the USA, wondered whether researchers could apply parts of their grants to pay for page charges in traditional print journals, it gave a very clear answer: a research that is not published is not completed. Consequently, researchers could pay for the page charges. This also means that the financing of research publishing, just like the financing of research instruments, assistants, etc., is part of a research policy, not the result of a business plan.

By working at keeping "business models" and the "market" at the center of all discussions, publishers stood on their own turf and sought outcomes aligned with their objectives. The result has been the emergence of a dominant discourse that relies on notions such as sustainability – read "stable or growing profitability" –, or academic freedom, or the benefits of competition, etc. Meanwhile, the building of a better infrastructure designed to serve research has remained on the back burner, and commercial publishers have used this discursive structure to defend their role as if it were fundamentally, even ontologically, central. A wrong spin was thus put on OA right off the bat, and it has led to over twenty years of wasted time.

We are still with it!

Subsequent declarations harbor similar confusions: the research benefits of OA are repeatedly constrained by the "needs" of commercial publishers. This is clear in the timid and placating statement inserted within the Bethesda declaration (April 2003):

> We realize that moving to open and free access, though probably decreasing total costs, may displace some costs to the individual researcher through page charges, or to publishers through decreased revenues, and we pledge to help defray these costs.

The Berlin declaration (October 2003), likewise, acknowledges the existence of financial and legal difficulties. However, and to its credit, it subordinates solutions to a clear goal: facilitating optimal use and access.

The Messina Declaration, and that is its deeper importance, sealed the public existence of Open Access, written this time with capital letters. Italy, in effect, had decided to support Open Access. The Declaration took the public form of support for the Berlin Declaration, the Budapest Initiative and the Bethesda Statement. Most notably, it involved several dozens of universities. In short, by the end of 2004, Open Access had many problems to resolve, but its existence as a movement could no longer be ignored or laughed at. The meeting in Messina, in effect, perfected the instituting of OA as a movement. Other countries and other institutions, from this point on, had to grapple with the political and policy implications of joining, but the foundation for doing so was laid.

The Declaration of Messina, indeed, starts with the needed premise:

> **CONSIDERATA** l'importanza fondamentale che la diffusione universale delle conoscenze scientifiche riveste nella crescita economica e culturale della società;

The focal point of the *Dichiarazione* is the good one, the only one: scientific knowledge is fundamental for the economic and cultural growth of society; moreover, the economic dimension invoked here is not the well-being of publishing houses, but that of the whole society.

III. From Messina 2004 to Messina 2024.

1. The tedious battles around business models

The following twenty years, on the whole, have been somewhat boring. From the perspective of the Open Access movement, the fundamental question was whether the publishers would try to kill it, or would try to control it. The launching of PLOS Biology and PLOS Medicine had shown that, with Open Access, new journals could become viable in roughly half the time needed by subscription journals. This may be the argument that tilted the scales in favor of control, and the multiplication of business models.

All kinds of business plans have appeared since 2000. Sometimes presented as a transition strategy, the idea of creating an option for authors came early, around 2004 within Springer. It was cleverly called “Open Choice”. Later, it took on the name of “hybrid journals”, and it became a highly contentious issue when libraries and funding agencies began to take a look at what it implied. “Double dipping” became the rallying cry against a solution that publishers – and some researchers – have adored all along. Then other business models followed. At the very least, multiplying them could usefully muddy the waters, and so, their number have kept growing. A recent article[14] lists over thirty variations on this theme: the author – a publishing consultant – concludes with: “There is a plethora of business models available, suitable for both books and journals.” “Plethora” is indeed the word, and publishers will keep

14 Tasha Mellins-Cohen, “Classifying Open Access Business Models”, *Insights*, 37 (15), 2024, 1-16. https://digitalcommons.unl.edu/scholcom/331/.

exploring ways to seduce “customers” rather than support services for researchers. The problem is that researchers are not – I repeat “not” – customers. They are participating in a grand, worldwide conversation where they need documents that have been temporarily stabilized to conduct their debates in a structured manner. They are deeply entangled in the production and dissemination of research results. They are not buyers of stuff.

2. Evaluation issues

The impact factor is both central to the debates about open access and open science, and absurd in its essence. As a tool for sociologists to analyze networks of researchers, it is an interesting idea. As an indicator of value, it simply does not work. Alas, its reach has grown further and further: beyond journals, citations can be applied to individuals, as the h-index does. Then individuals are aggregated into laboratories, institutions, and … countries. Citation chasing has become the universal concern of researchers. World rankings have locked up the world research system into an obsessively competitive structure that is affecting the behavior of just about any researcher, research administrator, and even political entities such as higher education or research ministries.

World rankings appeared in 2003 with Shanghai’s ARWU, and 2004 with the Times Higher Education, that is to say about the same time that Open Access was coming into plain sight. Given the importance of citation data in those rankings, the strategic importance of journals and their own rankings has been reinforced. Curiously, this is done when both both the Internet and the portals reveal the derivative essence of journals. But no matter: journals, and through them commercial publishers, have managed to position themselves at the very heart of the research structure of the world. As a result, from the publishers’ perspective, Open Access can now be relegated to an accessory issue, so long as they maintain their stranglehold on research evaluation through journal rankings.

Proving this point is easy. In 2018, when Springer unsuccessfully attempted an initial public offering of its stock, it issued, as required by law, a prospectus informing investors about both opportunities and risks. One of the risks identified by Springer deserves being quoted here as it fits perfectly with my thesis:

> A decrease in the importance of the traditional impact factor would affect the way scholarly communities make their research funding, purchasing, publishing or usage decisions. Any such decrease in the prominence of impact factor could also be to the detriment of traditionally highly-ranked journals, where we have a strong position, which in turn could negatively affect our business, financial condition and results of operations[15].

Predictably, evaluation issues have surfaced in the last twenty years. A recent and impressive manifestation of this concern is COARA[16]. Its commitments are clear, in particular its refusal of inappropriate metrics such as the impact factor and the h-index, its emphasis on qualitative evaluation, its refusal to use rankings, in particular the rankings of research institutions. It also advocates committing resources to reform research assessments, but, alas, this is exactly where lies the rub. What

15 SPRINGERNATURE, Prospectus Dated April 25, 2018. Prospectus for the Public Offering of 112,999,554 newly issued ordinary bearer shares…, p. S-16 https://web.archive.org/web/20180507134223/http://proxy.dbagproject.de/mediacenter/ressourcen/pdf/emissionen/springernature_prospectus.pdf.

16 https://coara.eu/.

COARA is – rightly – advocating is taking the time and the money to evaluate research results or proposals correctly. However, evaluation is a thankless task. Rankings and indices allow to pretend "evaluating" quickly and cheaply and therein lies also their seductive power. However, it is not through rational arguments alone that the evaluation stranglehold of publishers will be loosened. While they are useful to lay the ground work, the crucial struggle is and has to be political. To this I turn now to conclude.

IV. Beyond Messina 2024: the way forward.

The landscape described earlier demonstrates that Open Access has been strongly influenced by forces that have little or nothing to do with its fundamental objectives. The desire to be "realistic" – a desire regularly expressed in declarations, remarks and analyses of the movement – , amounts to subordinating the basic goals of the OA Movement to the imperatives of business plans and the objectives of the commercial sector. Attempts to correct the situation by nibbling at the edges can only lead to further decades of wasted time and a further deterioration of the research atmosphere: the present modes of evaluation through citations, and the privileges granted to out-and-out competition, have led to gaming, cheating, retractions in journals, and a variety of scandals that have not helped the public trust the honest efforts of researchers. I would, therefore, suggest that a more active approach be tested.

The first idea is that strength lies in numbers. The approach suggested here would rely on a number of good research institutions which, after all, could be the very universities that first signed the Messina declaration in 2004. I take it for granted that the courage displayed by these institutions in 2004 is still present today.

Imagine the following:

1. The original signatories of Messina – the courageous institutions of 2004 – officially set up a network of serious, trusted, respected research institutions;
2. In parallel, their libraries go "inside-out", meaning that their role is to project the works coming from their institution to the world, rather than simply acquiring rights of access;
3. This new network of institutions takes on the tasks associated with publishing : **registering**, **certifying**, **preserving** and **disseminating**.
4. The network creates a joint platform. Diamond journals, connected to communities, are set up on the platform.
5. Individual institutions **certify** the works produced in their midst – essentially granting them the status of serious preprints;
6. The preprints are reviewed openly. Reviewing is a form of co-authorship. New versions of the original document can emerge. The platform keeps a record of versions (not one version of record). Reviewing is part of the Great Conversation of knowledge production: it goes on indefinitely.

7. The funding agencies have an interest in incentivising reviews of OA works that they financed and are present on the platform;
8. The network also houses the data relating to the proposed research results, as well as the software used to handle the data;
9. In dealing with the careers of their researchers, institutions privilege the publications that are on the platform;
10. The network is not a closed system. It can accept new members, nationally or beyond. Other networks can and should also emerge elsewhere. They themselves should network.

The point of these recommendations is that the research communities everywhere need to regain control over their publishing environment. Its “health” depends on this move. Presently, and sadly, open access is largely a matter of commercial journals using an APC business model, and resting on a prestige system structured around citation chasing. Presently open access is awkwardly grappling with treating research articles as merchandise. All this reflects the fact that our collective attitude has not yet sorted out its priorities correctly. Knowledge, its production, and its reliability, trump the profits of commercial publishers, but this is not the present situation.

One of the most important duties of human beings, in my opinion, is producing reliable knowledge about the world and ourselves. If we do not do so correctly, and soon, we may face situations, such as desertification of large tracts of land, or the acid level of the oceans, that may threaten the very core of our civilization. Trying to preserve and comfort the business models of the commercial publishers is hardly the best way to meet these enormous challenges. And nibbling at the edges, as we have done for twenty years, is pathetically insufficient.