



## Bronze, free, or fourrée: an open access commentary

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### Introduction

Open access publishing, where readers do not pay to access articles, became possible due to the electronic publishing revolution that is the Internet [1]. The seminal definition of open access, and one upon which most literature still draws, is that of the “Budapest Open Access Initiative” (BOAI):

By “open access” to this literature, we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited [2].

To achieve this free access to scholarly literature, the BOAI recommends two complementary strategies. The first is self-archival of scholars’ work in dedicated online archives. The second calls for the establishment of open access journals that ensure immediate open access to the articles they publish without any access restriction or subscription fees to readers.

There are many other definitions of open access, and Bailey [3] gives a useful overview of others and of the evolution of terminology in this space. However, the BOAI still contains the fundamental principles and goes hand-in hand with Creative Commons which provides the most prevalent licensing architecture that enables open access.

The evolution of open access first centered around gold and green options. Green open access, or “the green way to open access,” is modeled on the practices of physicists who, from as far back as 1991, began archiving personal versions of their papers prior to publication on a central archive called ArXiv [4]. Gold open access, by contrast, refers to articles that are made available immediately at the point of publication by the publishing journal itself and as the manuscript’s final version of record. Such articles are “born free” [5]. How gold access comes about can vary. Authors may pay an article processing charge (APC), and this may be to a journal that is completely open access. The rise of open access mega-journals exemplifies an innovative form of a journal that successfully pursued this model [6]. Journals have also taken

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a “hybrid” approach, continuing to publish closed-access articles available only via subscription but alongside fully (gold) open access articles for which authors have paid an APC. Additionally, some open access journals do not charge any APCs. “Diamond open access” is one term posited to define this form of non-APC open access:

In the Diamond Open Access Model, not-for-profit, non-commercial organizations, associations or networks publish material that is made available online in digital format, is free of charge for readers and authors and does not allow commercial and for-profit reuse [7].

“Platinum” offers an alternative term to “diamond” for a journal that charges no APCs to authors. Regarding consistency of terminology, it has the advantage that platinum, like gold, is a metal and that it is more valuable than gold. Both diamond and platinum are now used and mean broadly the same thing. However, it will be a new term—bronze open access—that the remainder of this paper focuses on.

### Bronze, Free or Fournée?

Following a study of over 300,000 articles, Piwowar et al. [8] posited the term “bronze”:

We also add a novel subcategory, Bronze. Bronze shares attributes of Gold and Hybrid; like both, Bronze OA articles are publisher-hosted. Unlike Gold OA, Bronze articles are not published in journals considered open access in the DOAJ. Unlike Hybrid, Bronze articles carry no license information. Although this lack of identifiable license may not be intentional, without an identifiable license, the articles are free to read but do not allow extended reuse rights beyond reading.

Notably, the term “bronze access” also appears in a tweet from Ridgway as far back as 2014 [9].

A central finding of the Piwowar study was their suggestion of strong evidence for the existence of an Open Access Citation Advantage. Open Access Citation Advantage postulates that open access articles get cited more than their closed counterparts. It is difficult to prove this decisively in the absence of randomized controlled trials, as authors could conceivably only choose to publish their best work open access, particularly if high author fees are involved, but increasing evidence points in this direction [10]. Moreover, all other things being equal, it is hard to see how articles that have limited access can be read and cited as widely as those with no access restrictions.

So-called bronze articles also enjoy the benefit of greater citation. Piowar et al. [8] found that half of bronze articles ap-

pear in “hidden Gold” journals: i.e., journals that look and act like open access journals in many ways but fail to reflect this in their licensing. In many parts of the world, the intellectual property legal architecture that is Creative Commons has yet to take hold. Creative Commons provides a comprehensible and accessible way to add open licensing to written works. It now operates as the de facto legal lingua franca of free access. Interestingly, research on the growth of medical journal publishing in Korea found a correlation between the adoption of Creative Commons by journals and their use of technical standards, such as DOIs, Crossmark, Funder Registry, ORCID ID, and XML languages that aid article discoverability and description by research indexing services such as journal article tag suite (JATS) XML [11]. Hence, it can be useful to think of open access as a socio-technical concept. It has roots in a philosophical movement to widen access to the heritage of human knowledge but is intertwined with the development of a set of technologies and standards that allow data to be described and shared by computers. Moreover, this could suggest a possible confounding factor to the open access citation advantage that has not been hitherto considered by researchers; i.e., that technologies generally found alongside Creative Commons may aid article indexation and discoverability. However, this is not to imply that some parts of the world are necessarily playing catch-up to others regarding open access. Many journals in the global north remain fully closed or even offline. Meanwhile, initiatives such as the SciELO (Scientific Electronic Library On-line) project in Brazil have made massive advances in open access publishing in Latin America and the Caribbean before spreading to Portugal, Spain, and South Africa [12].

However, another of Piwowar et al. [8]’s significant findings was a high prevalence of bronze articles in many traditional closed and hybrid journals. This would appear to be an increasing trend with major publishers, but not a lot is known about this phenomenon. A casual perusal of the prominent hybrid journals from the biggest commercial publishers can reveal that several articles are marked as “free.” Yet this “free” label may mean that it is free to read only on the journal website. The publisher can, in theory, revoke this access at any time. Harnad [13] has derided this practice as “peek-a-boo open access.” The value of this free access is clear to the publisher: It can make some articles free, such as those that it thinks will drive readers, attention, and citations to its journal. This increases the reputation of the journal, but because it does not make all of its articles free all of the time, it can still charge subscription fees to institutions and readers.

These “free” or Bronze open access articles grant no reuse rights. It may not even be clear that the articles can be legally downloaded from the journal website and retained. There are certainly no rights to share or redistribute them. Combined



Fig. 1. The open access logo icon.

with the fact that the “free” access may cease at any time on the publisher’s whim, it is clear that there are limited uses to these articles. For instance, they cannot be used as open educational resources with students in a teaching scenario. A “free” article cannot be shared with students, such as a PDF in a learning environment, as there is no license to allow this. It cannot be reliably linked to either, as the publisher could revoke access at any time, leaving a broken link. Indeed, the words “free,” “bronze,” and even “open access” seem less relevant the more one examines the issue.

The terms *gratis* and *libre* [14] sprang from the free and open source software movements to distinguish between two types of access: *Libre*, where rights are only granted to read articles, and *Gratis*, which gives rights to use and reuse literature. Hilton et al. [15] and Wiley [16] have expanded these terms to detail the five Rs of Open, which grant rights to reuse, revise, redistribute, remix, and retain a given work. This last addition, the right to retain a work, brought the original four Rs to five and is interesting because the inability to retain a copy of a “free” article is problematic, as we have discussed.

It is worth going back, however, to an earlier example from the debate over the difference between “free” and “open.” The Free Software Foundation gave simple but evocative metaphors to distinguish between “free” and “open.” They contrasted “free beer” with freedom of speech.

“Free software” means software that respects users’ freedom and community. Roughly, it means that the users have the freedom to run, copy, distribute, study, change and improve the software. Thus, “free software” is a matter of liberty, not price. To understand the concept, you should think of “free” as in “free speech,” not as in “free beer.” We sometimes call it “libre software,” borrowing the French or Spanish word for “free” as in freedom, to show we do not mean the software is *gratis* [17].

There is another useful phrase we can draw on here, which is of uncertain provenance, but dates back at least to the 1970s [18], when it was used regarding television advertising: “If you are not paying for it, you are the product.” What might this mean in relation to “free” articles? Publishers may gain many advantages of extra traffic to their website that results from “free” articles. Because articles cannot be redistributed, it perhaps the only way one can share them legally is via links. Hyperlinks to articles can increase the search engine optimization of a journal website, given that a key component of the Google search engine algorithm is that pages with more incoming links appear more prominently in search results. Increasingly, journals now feature “most viewed” or “most accessed” tabs on their homepages. Views clearly matter, and publishers seek ways to maximize them.

An interesting feature of such articles in hybrid journals is that they often include an icon of an opened lock. This appears to directly mimic the open access symbol created by PLOS One (Fig. 1). If so, it could be classified as an example of “openwashing” [19]. “Openwashing” refers to an arguably deceptive practice, insofar as it purports to be open but does so only to make itself more attractive. In reality, it does not adhere to a majority of the principles of openness. It is derived from “greenwashing,” where vendors opportunistically label their products “green” in the hope of increased sales. With the increased focus on open access, we may expect not just an increased commodification of openness [20], but also more confusion as associated concepts, symbols, and language are co-opted or copied by various actors.

Free lunches are hard to come by. Theoretically, a publisher could deprive me of access to a “free” article before I had finished reading it; i.e., at any time. Hence, “bronze” seems too strong a word. We need something that captures the fleeting, unfair, and asymmetrical nature of power that this type of access embodies. One that shows that individuals—both readers and authors—derive benefits only when and for as long as they serve those of the publisher. Perhaps the “fourrée,” the ancient Greek or Roman term for counterfeit coin? A *fourrée* comprised base metals coated in gold or silver. It was crafted to fool an unsuspecting purchaser too eager to trust a gleaming exterior. It may prove an apt metaphor for so-called bronze or free access articles.

## Conclusion

Whatever we call these articles—bronze, free, or *fourrée*—it is vital that we have an open and critical debate about what they are and whose purposes they most serve. The language and concepts of both freedom and openness are contestable, and we would do well to engage critically in this debate. This essay has sought to shine a light on some of the issues involved and hopefully stimulate further discussion amongst scholars and publishers about this pressing topic.

## Conflict of Interest

The author is the lead editor of the *Irish Journal of Technology Enhanced Learning*, the journal of the Irish Learning Technology Association, and an associate editor of the *Australasian Journal of Educational Technology*, the journal of the Australasian Society for Computers in Learning in Tertiary Education. Both journals are gold open access, charging no article processing charges to authors. Except for that, no potential conflict of interest relevant to this article was reported.

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