

Cites & Insights

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The Front

Some Notes on GOA4

For the last couple of years, two issues of *Cites & Insights* were direct offshoots of the *Gold Open Access Journals* (now *Gold Open Access*) series: one consisting of the first few chapters of the book, the second consisting of a subject supplement, adding more tables on each subject in the book.

I didn't do that for GOA4. The [June 2018 issue](#), consisting of the first seven chapters of *GOAJ3: Gold Open Access Journals 2012-2017*, has had very little readership, and the [July 2018 issue](#), the *Subject Supplement to GOAJ3*, hasn't done much better. In the first case, I conclude that the partial republication isn't serving enough people to be worthwhile; in the second, perhaps the subject supplement doesn't serve much of a purpose. (The 2017 subject supplement has had more than 2,000 downloads to date; the 2018, only 357.) I also wanted to try something different: to see whether brief profiles of publishers with ten or more DOAJ-listed OA journals would be interesting and useful. So I did a third book, [Gold Open Access 2013-2018: Subject and Publisher Profiles](#), combining the subject supplement with similar two-page profiles of about 30 traditional, OA and society publishers and about 100 university publishers.

The jury is very much out as to whether that experiment is worthwhile. It's been less than three weeks (as this is written), so the low download figure of 47 copies (of the subject and publisher book) may not mean anything. I ask for feedback in the book; the presence and nature of that feedback will determine the future of the experiment—if there is a GOA5, that is.

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Meanwhile, some notes on two aspects of GOA4: going through the new Key Facts table in detail, and discussing the low-tech ways I'm able to do the set of books in a reasonable time.

Key Facts

I'd been trying to find a “tl;dr” summary that would show a little of the complexity of gold OA while communicating a lot of information quickly. I came up with the Key Facts table, which comes in two basic forms: one used once per year, the second used as often as needed. It may still be too long and complicated, and for subjects and publishers I found myself using just the first four lines in order to save space. (Subjects would never have more than seven lines, since a subject is necessarily either in Biomed, STEM or H&SS.)

Let's go through the first form: Table 1.1 in *GOA4* (spacing and typography slightly different from the book itself):

| | Journals | Articles | Art% | \$/Art |
|--------|----------|----------|------|---------|
| All | 12,180 | 711,670 | | \$913 |
| Fee | 3,506 | 413,826 | 58% | \$1,569 |
| No-fee | 8,674 | 297,844 | 42% | |
| Biomed | 3,062 | 252,842 | 36% | \$1,296 |
| Fee | 1,519 | 177,287 | 70% | \$1,849 |
| No-fee | 1,543 | 75,555 | 30% | |
| STEM | 3,181 | 289,522 | 41% | \$1,039 |
| Fee | 1,203 | 199,232 | 69% | \$1,510 |
| No-fee | 1,978 | 90,290 | 31% | |
| Hum&SS | 5,937 | 169,306 | 24% | \$123 |
| Fee | 784 | 37,307 | 22% | \$558 |
| No-fee | 5,153 | 131,999 | 78% | |

Going through this row-by-row:

- The full study includes 12,180 journals with 711,670 articles; the average cost per article (all apparent revenues) is \$913.
- **Fees involved:** 3,506 journals; 413,826 articles, which is 58% of all articles; average cost for articles *with fees* is \$1,569.
- **No fees:** 8,674 journals; 297,844 articles, which is 42% of all articles; no fees means no average cost.
- For biomed, the 36% means that biomed articles account for 36% of all articles—but fee and no-fee are both percentages of biomed.
- Ditto STEM and Hum&SS (later abbreviated H&SS).

- The fee and no-fee Art% figures should always add up to 100% (but there can be rounding issues), and the Art% for the three segments should also add up to roughly 100%.

That's fairly simple, but you can pull more out of the figure: e.g., biomed articles cost more than ten times as much on average as H&SS articles.

That table is saved in the master graph matrix (see the next section) to serve as the basis for the “Rel%” columns in the other Key Facts table, the one used, in one form or another, hundreds of times in the books. Let's look at Table 15.1, the key facts for Latin America:

| | Jrn. | Art. | Art% | Rel% | \$/Art | Rel% |
|--------|-------|--------|------|------|--------|------|
| All | 2,291 | 84,491 | | | \$45 | -95% |
| Fee | 148 | 11,739 | 14% | -76% | \$326 | -79% |
| No-fee | 2,143 | 72,752 | 86% | 106% | | |
| Biomed | 305 | 18,125 | 21% | -40% | \$117 | -91% |
| Fee | 43 | 4,071 | 22% | -68% | \$521 | -72% |
| No-fee | 262 | 14,054 | 78% | 159% | | |
| STEM | 479 | 19,989 | 24% | -42% | \$76 | -93% |
| Fee | 77 | 6,284 | 31% | -54% | \$242 | -84% |
| No-fee | 402 | 13,705 | 69% | 120% | | |
| H&SS | 1,507 | 46,377 | 55% | 131% | \$4 | -97% |
| Fee | 28 | 1,384 | 3% | -86% | \$132 | -76% |
| No-fee | 1,479 | 44,993 | 97% | 24% | | |

The two Rel% columns relate this group of journals—in this example, journals in Latin America—to the overall universe of DOAJ journals. They are *relative percentages*: positive or negative percentages relating two figures. The formula for the relative percentage of A to B is $((A/B)-1)$. So for example, if A is 5 and B is 10, the relative percentage is -50%: 5 is 50% less than 10. (Conversely, the relative percentage of B to A is 100%, since 10 is 100% more than 5.)

So, looking at this table, we see:

- The average cost per article for Latin American OA is 95% less than for DOAJ as a whole: \$45 compared to \$913.
- Fee-based articles are 76% lower as a percentage of the whole (14% is 76% less than 58%: if you think of this as .14 being 76% less than .58 it may be clearer), and on average 79% less expensive.
- No-fee articles are 106% *higher* as an overall percentage: 86% is 106% more than 42%.

- And so on, throughout the table. Negative percentages are lower (and can't be less than -100%), with, say, -75% being “a *lot* less”—while positive percentages, which could be very high indeed, are higher: 100%, twice as much, is “a *lot* more.”

Does the Key Facts table help to clarify key facts and comparisons? Or does it just add a layer of confusion? I'm not sure. (As always, feedback to waltcrawford@gmail.com is welcome.)

Here's an extreme case that may or may not help to show how Key Facts work: the last three rows of the Key Facts table for the United Kingdom (from [Gold Open Access by Country 2013-2018](#), page 254):

| | | | | | | |
|--------|-----|-------|-----|------|---------|-------------|
| H&SS | 247 | 6,895 | 5% | -80% | \$703 | 472% |
| Fee | 95 | 3,971 | 58% | 161% | \$1,221 | 119% |
| No-fee | 152 | 2,924 | 42% | -46% | | |

I bolded the figure in the top right corner because it's such a large percentage. What it says is fairly simple: On average, and including no-fee articles, H&SS articles in the UK cost \$703—which is 472% higher than \$123, the corresponding figure for *DOAJ* as a whole. (That is: \$703 is 5.72 times as much as \$123, making it 472% higher.) The table also shows that H&SS makes up a much smaller portion of UK OA (80% less), among other things.

Keeping It Simple, Making It Fast: The Joys of Pivot Tables

If you're an expert Excel user, you can read this and possibly laugh at my naïveté and clumsiness. If you're a novice, you might find it useful. I should preface this by saying that I don't use macros in either Word or Excel; that I'm using a fairly old version (Office 2013); and that I do the GOA work on a four-year-old budget notebook (running a Core i3 CPU).

But First, Consider Vlookup...

I could not have done the *GOA* studies without Vlookup, and Vlookup is both simple and complicated. **Simple:** You're using one item (the value in a cell) to retrieve another item that's in the same row as *another* occurrence of that value—e.g., finding a part name when you know the part number. Or, alternatively, verifying that the item *exists* in the lookup range. **Complicated:** the syntax is straightforward but can seem confounding—and the last argument, TRUE or FALSE, can be confounding.

The syntax is simple enough: **VLOOKUP(lookup_value,table_array, column_number,true/false)**. Let's go through that, using as a real-world case getting the journal name that matches an ISSN from a table that has both. Let's say you're working on the spreadsheet **NEW-JOURNALS**, which has the columns **ISSN** (filled in) and **JTitle** (blank), and has 1,500

rows. You have another spreadsheet, supplied from an external source, that has ISSN as column A and Title as column B of a multicolumn 15,000 row sheet. You've copied that as another sheet in the same workbook and named it JTLIST. You have, *crucially*, sorted both sheets by ISSN—and, by the way, although the Title column in JTLIST doesn't actually have to be adjacent to the ISSN column, it pretty much has to be to its right.

Here's what you might enter into the JTitle cell in the first data row (that is, cell B2):

```
=VLOOKUP(A2,JTLIST!A$2:B$15001,2,FALSE)
```

what you're saying: find the first occurrence of the contents of A2 in the array of cells ranging on the JTLIST sheet ranging from A2 to B15001, and return the value in the second column of the row where the match is found—and it must be an exact match.

The two \$ are so that you can copy that formula and paste it into all 1,500 rows of the JTitle column. Once you do that, you'll get back cells that either contain titles or #N/A if no match is found. If you're like me, you will then copy the column, paste it as values-and-formats (rather than formulas), and proceed.

If you use TRUE rather than FALSE as the final argument, you may get a lot more returns—because it will return the value that's either identical to your lookup value or the *preceding* value (that is, the row above in the array). That can be useful—I use it to find slight title variations, for example—but it's tricky.

Let me add an actual (but nonsensical) example. One of the secondary workbooks in the GOA4 project had two spreadsheets, one consisting of all the titles that I could identify as having continued from GOAJ3 and one consisting of all those that were either new or changed unrecognizably. (That spreadsheet, and another consisting of dropped titles, were the basis for Chapter 3 of GOA4.)

Let's say I create two new spreadsheets, Test1 and Test2, with column A of Test2 being the journal names from the New18 sheet and column A of Test1 being the journal names from the Old18 sheet. In this case, I want to verify that these two tables are exclusive—that no title appears in both of them. There are 9,875 old titles and 2,305 new ones.

I create column B and call it, say, Same. In cell B2 of Test2 I enter this formula: =VLOOKUP(A2,Test1!A\$2:A\$9876,1,FALSE)

I copy-and-paste that cell to cells B3-B2306; since there's no \$ in the first occurrence of "A2," Excel automatically changes the formula appropriately.

I'd do the same in cell B2 of Test1, but change "Test1!" to "Test2!" and change "A\$9876" to "A\$2306."

In both cases, the columns should have #N/A all the way down. Eureka: the two lists are indeed mutually exclusive.

What happens if I change "FALSE" to "TRUE" in the formula? Here's the first few rows of the result in test2:

| | |
|---------------------------------------|---|
| Journal | Same |
| 100-Cs | 027.7 : Zeitschrift für Bibliothekskultur |
| 3D Printing in Medicine | 3C TIC |
| AAOU Journal | A+BE: Architecture and the Built Environment |
| AAPS Open | A+BE: Architecture and the Built Environment |
| ABC: časopis urgentne medicine | Abant İzzet Baysal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi |
| Academia: Архитектура и строительство | Academia y Virtualidad |
| Academic Finance | Academia y Virtualidad |
| ACC Journal | Ação Midiática - Estudos em Comunicação, Sociedade e Cultura |

See what's happening there? In each case, I'm getting the nearest title in test1 *before* the value in test2 (using Excel's idea of Unicode sorting)—which can be valuable, if a little tricky. By the way, you don't always get values. Here's the first few rows of the equivalent VLOOKUP done in test1:

| | |
|--|-------------------------|
| Journal | Same |
| ʾIlm-i Zabān | #N/A |
| #Tear: Revista de Educação, Ciência e Tecnologia | #N/A |
| @tic: Revista d'Innovació Educativa | #N/A |
| [i2]: Investigación e Innovación en Arquitectura y Territorio | #N/A |
| [sic] | #N/A |
| 027.7 : Zeitschrift für Bibliothekskultur | #N/A |
| 19 : Interdisciplinary Studies in the Long Nineteenth Century | 100-Cs |
| 3C Empresa | 100-Cs |
| 3C Tecnología | 100-Cs |
| 3C TIC | 100-Cs |
| 3L Language, Linguistics and Literature: The Southeast Asian Journal of English Language Studies | 3D Printing in Medicine |

See what's happened? Since 100-Cs is the first title in the Test2 table, no value can be returned for the six Test1 titles that come earlier alphabetically.

If you're like me, you'll get VLOOKUP wrong the first few times you use it. But it can be incredibly valuable. Oh, and here's the thing: What if you want to merge *ten* columns from a new datasource into an existing workbook, based on a unique identifier that both sources have? Sure, you could write ten VLOOKUPs, but that would be dreary. Instead, write *coupled* VLOOKUPS, basically like the example: then you can select out the rows of both sheets that have values in the result column and confidently merge information.

I had to do more matching than that, and I believe that I missed some matches where the “wrong” pieces of information had changed, but it worked well. This year, I’ve stored either the e-ISSN or the ISSN of each journal; that may make matching easier if there’s a GOA5.

If you found this explanation more confounding than helpful, my apologies. Now, on to some notes on the power of pivot tables...

The Basics

A pivot table (Microsoft’s trademarked name is PivotTable but I’ll use the generic term) summarizes a table of data. There, that’s simple, isn’t it? It’s also useless. Here’s a simple example—in multiple sheets of a single workbook, since retrieving data from external sources is way above my pay grade. (I’m using “sheet” and “spreadsheet” interchangeably.)

You want to track your household spending by category and you’re too cheap to use Quicken or Mint or whatever, or find them confounding. So you create a simple spreadsheet that has a row for each transaction and three columns: date, category, and amount. (You control the contents of Category by using a lookup table...). You enter each item as needed—or, maybe, once a month you look at credit card statements and summarize each category for the month.

If you do the latter and have ten categories, after a year you’ll have 120 rows, a bit clumsy to go over. So instead, you add a second sheet and create a pivot table referring to the three columns on the first sheet. The pivot table has **Category** as rows and **Amount** as a column. As it stands, that will give you a nice neat table showing how many occurrences there are for each Category. But if you change the value specification for **Amount** from **Count** (the default) to **Sum**, you’ll suddenly have a nice neat summary of your spending—totals and all.

(Why the Date column? So you can look at a subset of spending—or, for example, so you can track a rolling year’s spending by deleting the first few rows before adding the current month.)

That may be crude, but it’s useful.

In the GOA project, I can and do use instant pivot tables all the time to test various things—for example, copying the Country row to a blank sheet and creating a pivot table will tell me how many journals there are for each country and, more importantly at the project’s beginning, whether there are misspellings or other data entry problems.

But for the data analysis, I use a more elaborate construct: a matrix workbook consisting of some fifteen sheets. That matrix workbook is what makes creating the tables for the three books so fast and consistent—so I can spend my energy seeing what the results show, since GOA is a data-driven descriptive project rather than a Proper Research project (where I have a theorem and attempt to prove or disprove it).

The key here is that, once you’ve identified a *set of named columns* as your data source, the pivot tables based on those columns don’t care

whether there are five rows or 15,000 rows of data and whether it's the same data as before: right-click on the table, choose Refresh, and you have a new table.

Here's part of how a given year's matrix works:

- The first sheet is **base**; it's just a copy of all or part of the trimmed master dataset (trimmed to ignore data that isn't used in tables, such as journal name and URL). Whatever is in **base** is what gets turned into tables and graphs; the order doesn't matter (true of pivot tables in general).
- **temp** is used as a holding area—for example, if I'm doing the subject chapters for STEM subjects, **temp** starts out with all of the STEM rows, arranged by subject; I copy each subject to **base** and delete it from **temp** as I go. **temp** is not referenced elsewhere.
- **keyfacts** uses the segment as rows (values M, S and H), status (fee or no-fee) as primary columns, and three secondary columns: a count of **status**, a sum of the 2018 article counts, and a sum of the 2018 revenue. But that's not the table I use. Instead, there's a secondary table that references the pivot table and gives me the table I want to use—and if you look at Table L.1 in *GOA4*, you can probably figure out what's going on. I save that first **keyfacts** table off to one side; all other **keyfacts** tables build on both the pivot table and the overall **keyfacts**. So, for example, here are the formulas for the third row of a regular key facts table, which is cells A12-G12, starting with B12: **Jrn.:** =B7 (taken directly from the pivot table, the total count of fee journals); **Art.:** =C7 (the total count of fee articles); **Art%:** =C12/C11 (it could equally well be =c7/i7); **Rel%:** =(D12/L12-1) (that is, this percentage over the equivalent whole-dataset percentage, -1 so that it's a relative percentage); **\$/Art:** =D7/C7 (D7 is revenue for all fee articles); **Rel%:** =(F12/M12)-1. There, isn't that simple?
- **jayr:** Journals and articles by year. The pivot table has rows for status (F and N) and, for each year column (containing article counts), a count and a sum—that is, the total number of journals that published articles that year and the total number of articles. That gets turned into a table of articles and journals by year (with no-fee percentages calculated along the way and, in later usage, a change from year to year percentage calculated in the table) and the article graphs used in *GOA4*.

You get the idea. For article volume, I'd added a column to the master spreadsheet containing 1-5 for the five size brackets; similarly for fees and revenue; and so on.

Yes, this has to be used with some caution: except for subjects and countries, missing rows may require some effort (e.g., cases where there are no Smallest journals). But those problems are also obvious, and if the missing cases are common, I can add additional derivative tables covering the common exceptions.

Here's the thing: I can take *any* set of rows from the trimmed spreadsheet, copy it into **base**, and in a minute or two I have tables ready to go. (In practice, I copy tables into intermediate workbooks as values-and-formats rather than going directly into Word, but that's because I'm cautious.) So, for example, let's say I think it might be worth looking at the characteristics of large journals that aren't *too* large and aren't from the most actively high-APC countries (UK, Netherlands, Switzerland). Let's define "large" for these purposes as from 100 to 600 articles *in 2018*, rather than the peak value normally used. I'll do that sample as I'm writing this.

It took about two minutes to select the data—one to sort the trimmed master list by 2018 count (descending) and select out 600-100 as a range, one to sort those results by country (descending) and delete United Kingdom, Switzerland and Netherlands. There are 621 journals remaining. And, with one click per table, here are the results:

Key Facts

| | Jrn. | Art. | Art% | Rel% | \$/Art | Rel% |
|--------|------|---------|------|------|---------|------|
| All | 621 | 116,709 | | | \$574 | -37% |
| Fee | 310 | 65,921 | 56% | -3% | \$1,016 | -35% |
| No-fee | 311 | 50,788 | 44% | 4% | | |
| Biomed | 304 | 58,893 | 50% | 42% | \$755 | -42% |
| Fee | 151 | 34,398 | 58% | -17% | \$1,293 | -30% |
| No-fee | 153 | 24,495 | 42% | 39% | | |
| STEM | 196 | 37,265 | 32% | -22% | \$537 | -48% |
| Fee | 112 | 23,075 | 62% | -10% | \$868 | -43% |
| No-fee | 84 | 14,190 | 38% | 22% | | |
| H&SS | 121 | 20,551 | 18% | -26% | \$120 | -2% |
| Fee | 47 | 8,448 | 41% | 87% | \$293 | -48% |
| No-fee | 74 | 12,103 | 59% | -24% | | |

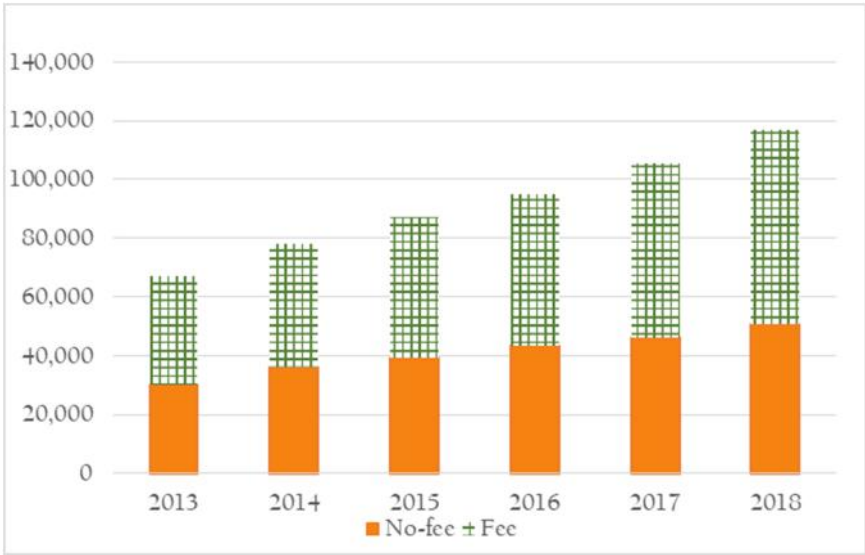
So this subset averages 37% cheaper per article than the universe at \$574 per article; it has a slightly lower percentage of fee articles and a slightly higher percentage of no-fee; it's relatively much richer in biomed (but

much less expensive and with a considerably higher no-fee percentage), and somewhat leaner in both STEM and H&SS—and, interestingly, H&SS is the one area where fee articles are relatively *more* common than in the whole study.

Articles and Journals by Year

| | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 |
|----------|---------|---------|--------|--------|--------|--------|
| Journals | 621 | 617 | 606 | 589 | 558 | 521 |
| Articles | 116,709 | 105,271 | 95,148 | 87,111 | 78,075 | 67,316 |
| %No-fee | 44% | 44% | 45% | 45% | 46% | 45% |
| Change | 11% | 11% | 9% | 12% | 16% | |

This subset has been growing fairly consistently.



Starting Dates



Revenue

| | Articles | Revenue | \$/article |
|---------------|----------|--------------|------------|
| \$1,400+ | 21,627 | \$49,491,284 | \$2,288 |
| \$600-\$1.399 | 10,487 | \$9,445,095 | \$901 |
| \$200-\$599 | 18,846 | \$6,855,677 | \$364 |
| \$0.20-\$199 | 14,961 | \$1,192,243 | \$80 |
| No fee | 50,788 | | |
| Total | 116,709 | \$66,984,298 | \$574 |

Region

| Region | Journals | Articles | %No-fee | \$/article |
|-----------------|----------|----------|---------|------------|
| Latin America | 125 | 19,709 | 65% | \$136 |
| Asia | 119 | 23,154 | 44% | \$354 |
| Eastern Europe | 115 | 19,426 | 42% | \$185 |
| Pacific/English | 105 | 24,985 | 18% | \$1,661 |
| Western Europe | 78 | 15,594 | 52% | \$584 |
| Middle East | 71 | 12,354 | 55% | \$118 |
| Africa | 8 | 1,487 | 16% | \$310 |

...and so on.

In short (hah!), pivot tables can be huge time-savers and assure consistency throughout a long project. And that's enough about that.

Intersections

Economics and Access 2019

Two years ago, “Economics and Access 2017” took up the entire [July 2017 Cites & Insights](#), and there were major roundups on open access economics in April 2015 and February-March 2016. It's time for another one, probably the last in the series, covering mostly items from 2016 through early 2019.

As usual, the grouping of items is somewhat arbitrary and the order of items within a group is usually direct chronological (oldest first). The set of tagged articles began with 91 (I've become far more selective in tagging and am deliberately avoiding the plethora of PlanS items); in the process of retagging for this essay, that came down to 61 because of 404s, deciding not to follow a couple of sources I find too consistently extreme to be useful (one of which wants journals to be abandoned entirely and trashes OA in the effort), and items that belonged elsewhere. The final count is 42 (I think), but that includes one item that was added after I started doing the roundup.

Quick Facts

If you haven't yet downloaded or purchased [Gold Open Access 2013-2018: Articles in Journals \(GOA4\)](#) or the companion reports [Gold Open Access by Country 2013-2018](#) and [Gold Open Access 2013-2018: Subject and Publisher Profiles](#), you really should. The hyperlinks in the book titles are to the trade paperbacks, each priced at the nearest \$0.50 above production costs; if \$6 to \$7.50 is beyond your means, you'll find the free PDF ebook versions at [the project page](#), <https://waltcrawford.name/goaj.html>. That page also links to the dataset; the dataset and books are all CC-BY.

Some of the quick facts for 2018 gold OA as defined by inclusion in the [Directory of Open Access Journals](#), noting that gold OA includes both fee and no-fee journals (sometimes referred to as Diamond or Platinum OA):

- 11,465 active gold OA journals published 711,670 articles in 2018.
- Most gold OA journals (70% of those active in 2018) do not charge fees (APCs, submission fees, required memberships)—but the 30% that do account for 58% of the articles.
- If someone says APCs average \$3,000, they're either wildly misinformed or simply wrong. The average cost per article for articles with fees in 2018 was \$1,569. Narrowing that to biomed

doesn't make it \$3,000, although it does increase it to \$1,849. (The figure for STEM is \$1,510, and for humanities and social sciences it's \$558—but only 22% of H&SS articles involve fees.) Only 18,890 articles appeared in journals with fees *at or above* \$3,000: that's 4.6% of articles with fees, or 2.7% of all gold OA articles. More on this later in the roundup...

- Revenue from author-side fees *might* have been as much as a bit over \$649 million.
- More than 297,000 articles appeared in no-fee gold OA journals.
- How sustainable would a complete flip to OA be, assuming around three million articles a year split among subjects roughly as they are now: 35% biomed, 40% STEM and 25% H&SS? I suggest that \$5 to \$6 billion is sustainable (that the current situation is *not* sustainable for academic libraries). The final chapter of *Gold Open Access by Country 2013-2018* provides a thought experiment with twelve possible scenarios. The results range anywhere from \$189 million (current breakdown of fee vs. no-fee but with costs/fees being equal to the average of those in Brazil, Indonesia and Iran) to \$13.7 billion (all journals asking for the same fee as the average of the three most expensive journals in their segment, based on fees in Western Europe and the United States). There are clearly *plausible* scenarios in which the all-OA landscape could be sustainable—but there are somewhat more *likely* scenarios in which it would be far more expensive than it is already. I refer you to the book, pages 261-266, for more details.

Costs

These discussions are generally about measurable costs of running journals or related issues, as opposed to fees (APCs) imposed by journals.

The costs of open access, as calculated on a napkin.

Allana Mayer posted this [on June 29, 2017](#) on her blog *Allanamayer.tumblr.com*. She had tried a crude calculation of the costs of running an OA journal in 2016 but didn't publish it, so thought she'd try again.

[One journal calculates](#) that, with an entirely volunteer staff, hosting and DOI and Crossref costs about \$3.50 per paper if you're publishing 200 papers a year (which, in my field, is very high, but that's a good and healthy goal, so we'll leave it).

Following the link gets you to *The Journal of Open Source Software*; tabbing to “Cost and Sustainability Model” gets this—which is different from what Mayer quotes because it’s part of an updated page:

In the spirit of transparency, below is an outline of our current running costs:

- Annual Crossref [membership](#): \$275/year
- JOSS paper DOIs: \$1/accepted paper
- JOSS website domain registration: \$10/year
- JOSS website hosting (Heroku): \$19/month

Assuming a publication rate of 300 papers per year this works out at ~\$2.70 per paper $(275 + 300 + 10 + (19 \times 12)) / 300$.

That’s a little lower per paper partly because it assumes a higher publication rate. It apparently uses the same fixed costs, \$513, which means it would yield about \$3.56 per paper for 200 papers. In case you’re wondering, this journal had 160 articles in 2017 and 227 articles in 2018. Now, back to Mayer’s discussion (noting that 200 articles per year is a fairly ambitious figure for humanities and social sciences, where only about 15% of OA journals have 150 or more articles per year.)

In Mayer’s case, not only is the labor all volunteer, the hosting is donated by a university, reducing those costs to \$275 per year plus \$1 per paper. But Mayer has in mind something more ambitious:

Regardless, I would like to think about an even better use-case: paying professionals for their expertise. While we generally think of peer-review as a “pure” task worked into academics’ salaries so that money can’t corrupt the process, the truth is that there are lots of fields using peer-review labour from practitioners and students and others without that “compensation” available to them. Still, I think peer-review could stay volunteer, and so could the editorial board. Where I want money to be spent is on professional copyediting and professional design...

Where could the costs be? I would say, *worst case scenario*:

Paying a layout and graphic designer - Two weeks full-time pay per issue – so, assuming quarterly publication, two months of work. \$60,000FTE (generous!) / 6 = \$10,000 a year

Similarly, paying a qualified fact-checker and copyeditor = \$10,000 a year.

That’s worst-case scenario – if you paid well and the work was hard. (Most journals I know do not require the services of a talented graphic designer. Often they’re creating PDFs using Microsoft Word.)

So let’s be *really* precious and round up to \$25,000 a year to include hosting, honouraria, DOIs, Crossref membership.

I'll admit that I'd be surprised to find most small OA journals, especially in H&SS, either paying or needing to pay a layout and graphic designer for two weeks of work on each issue. I suspect that her parenthetical comment is more the rule, and in many cases journals either provide Word templates or LaTeX (or \LaTeX if you want to get fancy) templates and expect them to be used. But hey, it's her desiderata, and I believe it would be nice to have a good copyeditor and someone to at least touch up layout on articles.

Ah, but even a modest-scale operation may gain efficiencies:

Now, let's assume we can cut those costs down by centralizing: say, a library houses a number of journals and pays one in-house copyeditor and one in-house designer a full-time wage to work on as many journals as they can (obviously this involves some schedule-staggering). Assuming two weeks per journal per quarter, that's maybe seven journals per editorial duo. Seven journals for \$120,000/yr for staff expenditures, plus let's again round up a bit to cover the other expenditures - \$5,000/yr * 7 = \$155,000. So, just over \$20,000/yr/journal.

And she's assuming much smaller journals: quarterlies averaging 20 articles per issue or 80 per year. By her calculations, that gives you about \$280 per article.

Mayer seems to like the idea of *lots* of fairly small university-published journals, and concludes that the costs of serials subscriptions in Canada alone would pay for about 10,000 “high-quality, sustainable Open Access journals” (that is, about 800,000 articles).

For the life of me I can't figure out how many academic journals are actually published by Canadian organizations, but I have this strange feeling it might be less than 10,000

In gold OA, the 2018 figure for Canada was 149 journals with 4,925 articles, 62% of them no-fee and 46% on H&SS—but that's just current gold OA in *DOAJ*. Some 75 of those journals (1,484 articles) are published by universities, and essentially none of them (2%) have fees.

Mayer works on *Partnership* (full title [Partnership: The Canadian Journal of Library and Information Practice and Research](#)), a Canadian journal in library science; it's ranged from 15 to 50 articles per year in recent years.

At \$280 per article, three million articles per year would cost \$840 million. I think “affordable” is a fair description of that cost. And I rather like Mayer's back-of-envelope calculations and approach. Heck, double it for really solid archiving and cloud hosting, and it's still a sustainable number. Getting there, though...

We'll come back to JOSS at the end of this section.

The running costs of eLife 2.0

Paul Shannon posted this discussion [on November 2, 2017](#) on *eLife*'s blog.

Continuum is the platform that powers *eLife* 2.0. The first question I'm often asked is: "how much does it cost?". The short answer: "it's free". Continuum is available as free open-source software and licenced under an [MIT licence](#), meaning that you can use it as you wish, even for commercial purposes. However, like any software, even though its ticket price may be zero, there are still running, maintenance and people costs involved.

The more granular nature of the services in Continuum means that costs can be easily broken down with regard to the scale, diversity and needs of any publisher. There are three main aspects to the costs of running *eLife* 2.0 on Continuum: the cost of the computers (or instances) that run the software, the cost of the bandwidth that people use to access those computers and the cost of the people used to ensure those computers work as expected 24 hours a day, seven days a week.

Shannon then discusses various operating expenses. The journal uses Amazon Web Services to host its Continuum instance and pays around \$1,710 a month for those services (broken down in the article). Notably, the journal "over-provisions" to provide redundancy and easy scaling.

He discusses labor costs but doesn't actually provide them. He's more interested in showing how much another publisher might spend to use Continuum as its platform.

The variables that will most influence the costs with Continuum are the number of visitors, number of articles published per month and the levels of resiliency you'd like to build into your hosting infrastructure. For *eLife*, these values are:

- Visitors: 500,000
- Articles published: 120
- Resilience level: good

Having more visitors will increase bandwidth usage in a proportionate way, and compute power will increase in a more stepped way. Publishing more content will also increase compute power needs, as well as the amount of storage/messaging needed.

He offers five use cases and the associated monthly cost, and adds a spreadsheet so you can calculate examples—which also won't include people costs. There's more, to be sure, and it's likely to be quite valuable for a would-be publisher.

As far as I can tell, he's making the case that *eLife*'s data services will amount to about \$14 per new article in costs. Of course, there's a modest gap between \$14 and \$2,500—but this article is only covering one aspect of costs.

Why the term ‘Article Processing Charge’ (APC) is misleading

This essay by Jon Tennant, [posted on April 22, 2018](#) at *Green Tea and Velociraptors*, is moderately long and covers a bit more ground than its title suggests. It’s also CC-BY (as you’d expect), so I could quote the whole thing (and am mildly tempted to do so), but won’t.

I will, however, quote sizable chunks where I think Tennant makes the case better than my summary could. I’ll take APC as acceptably well-defined (although issues with that assumption are one reason I now use “fee” rather than “APC”). Tennant:

I think that the term APC itself is incredibly misleading. Furthermore, I believe that this misdirection occurs in favour of publishers, to the detriment of all other parties. Hopefully in this post, I can explain why, and offer a potential solution to it. [Quotes Wikipedia definition.]

The average APC for hybrid journals has been calculated to be almost twice as high as APCs from full Open Access publishers, and APCs range from around \$8 to \$3,900. This charge must cover two main aspects:

1. The *indirect* costs of running a publishing business. This includes salaries, web-hosting and maintenance, advertising, and marketing, among other things.

1. Note that this section also includes profits, which are removed from any of the internal processing and costs by shareholders. For example, with a profit margin of 30%, and an APC of \$2100, \$630 of that APC goes straight into shareholder pockets.

2. The *direct* costs of processing and publishing an article (e.g., editorial work, copy editing, typesetting).

I removed a hyperlink in that discussion because it leads to another case of odd sampling and “extrapolation” by a scholar who seems to have a habit of this (and, of course, of refusing to admit to erroneous results). Indeed, there’s that phony “\$3,000 standard APC” very early in the document.

Tennant notes some of the problems with taking APC as an actual article-related charge and notes that, in practice, APCs are expected to cover both direct and indirect costs. (His analogy in an unquoted section with auto repair charges breaks down here: clearly, a repair shop must charge enough for each repair to pay for its total operational costs.)

He notes and points to Ubiquity Press, which offers a fairly transparent breakdown of its costs and resultant fees (average \$525 at the time; the average per article across all Ubiquity journals in 2018 was \$697 when fees were involved, \$550 overall). He notes other estimates (much higher than Ubiquity and asks “Can it be done more cheaply?” At this point, of course, the definition of “it” becomes important. But...

Yes, absolutely. Let’s look at some simple examples.

1. The Journal of Machine Learning Research has an [average per-article cost of \\$6.50](#). It does not charge an APC for this, and is supported by outside donations.
2. arXiv. Costs about [\\$800,000](#) a year to run, with average costs coming to around \$10/article (EDIT: for updated statistics, see [here](#), thanks to [Phil Gooch](#) for pointing this out).
3. Discrete Analysis: *“The absolute worst that could happen is that in a few years’ time, we will have to ask people to pay an amount roughly equal to the cost of a couple of beers to submit a paper, but it is unlikely that we will ever have to charge anything.”* (Supported by the University of Cambridge for now, costs around \$10/article).

All of these include the direct and indirect costs. There are many more examples than these few too...

Another [study from 2016](#) showed the following: “We found that an end-to-end scholarly communication solution can be provided exclusively by a combination of vendor services. Based on price data from 15 vendors, we found that the marginal cost of scholarly communication was between \$69 per article and \$318 per article. We found that these costs were not impacted by the different input formats used by authors (e.g., Microsoft Word or LaTeX).” (bold emphasis from me).

The only times in which higher estimates are made (usually in the ballpark of [\\$5000](#)), this is based on the total number of published articles divided by the total amount of revenue publishers derive. This is not an estimate of the cost of article processing, but of the average amount of revenue generated per article. Therefore, it is an estimate of how much it would cost to sustain that revenue stream through ‘APCs’, which would be decoupled from the cost of article processing.

That last point is vital, since it’s abundantly clear that “flipping” is seen by publishers (and far too much of the UK, apparently) as precisely that: a way to sustain the current revenue stream.

Tennant goes on to suggest that the global research community could publish two million articles per year for somewhere between \$20 million and \$200 million. Then comes the fun part:

Now, people are going to argue against this price calculation, usually using several common angles. Let’s deconstruct them here to save some time:

- “This doesn’t take into account the cost of rejecting articles.”
- “This doesn’t take into account the cost of managing peer review.”

Well, folks, if we’re spending 99% of our global publishing budget on rejecting science (on solid or unsolid grounds, this ratio cannot be known due to editorial opacity) and managing a process where virtually the entire workforce are volunteers, then we are doing a pretty terrible job.

Another common counter-argument will be something like:

- “APCs are based on what the market can bear.”

Well, this is actually quite deceptive, as there is no actual market for research articles. Markets work when there is price variation based on competition. However, that does not exist for scholarly publishing, as every single research article is unique, and therefore comprises a mini market in itself, with its owner having a mini monopoly on it. For example, if a research article costs \$40 to access in one venue, you have to pay that, as that article is only available there; you cannot go to another vendor and pay a lower price for a similar article, because each research article is unique.

This argument is also just another way of saying ‘We charge you as much as we can get away with. We like money.’

An extension of this is usually something like:

- “APCs reflect market value to researchers, based on the prestige/brand of a journal.”

Seeing as this is decoupled from any real sense of scholarly value (e.g., real world impact), and the facade that corporate journal brands should mean anything in a rational research ecosystem, this point is also null. In fact, if what we are paying for is prestige (which [research](#) suggests we are), then we are basically being duped, and deserve to be in this pretty crap state of affairs. But upon recognising this, we should also get ourselves out of it, pronto.

I won't quote the “Where is all the money going?” section, but it's well worth reading.

The rest of the article suggests things that should be done, barriers to change (he leaves out “researcher apathy,” probably the biggest barrier of all), and a proposed alternative term that is lovely in its own way: the SPF, or Sustaining Publishing Factor—which is the actual “APC” divided by a reasonable true cost of publishing.

For example, PLOS ONE has an “APC” of \$1,495; but this is not an actual APC, as we have no idea what their indirect or direct costs are. Hopefully the arguments above have made that clear. However, if we estimate that the actual cost of article processing is around \$100 again, then PLOS ONE would have an SPF of 14.95. Nature Communications, with an “APC” of \$5200 (before tax) would have an SPF of 52.

Here, the higher the SPF, the less value for money a journal offers, the more divergent they are from the true cost of publishing, and the more misleading their advertised “APC” is.

I'll suggest that there's a direct but inverse correlation to the more familiar meaning of SPF: that is, the higher the SPF, the *more* you're getting burned.

All in all, quite a nice piece. Read the comments, but carefully and a bit skeptically.

What is the Museum Anthropology Review Business (Labor) Model?

This piece, posted by Jason Baird Jackson [on June 17, 2018](#) at *Shreds and Patches*, doesn't include quantifiable costs but does offer a detailed discussion of how one small university-published no-fee H&SS journal operates.

It's an interesting discussion and does a good job of supporting its "alternate title": *How to give away \$99,000 worth of articles*. To wit, at the time of writing, the journal in question had 33 published articles—and the fee at one directly competitive traditional-publisher's journal was \$3,000.

Worth reading. I'm a little troubled that the journal in question does not appear to be in *DOAJ*, but that's a separate issue.

The Cost of the Open Journal of Astrophysics

This post by Peter Coles appeared February 1, 2019 on *In the Dark*. It's a bit hard to read, as Coles plays on the title of the blog by making the text white-on-black, but that's irrelevant to the content.

It's a clear and concise discussion of the costs of the *Open Journal of Astrophysics*, a very low-volume journal running on Scholastica and using Peer Review to handle peer review.

The actual cost per paper therefore depends on how many papers we publish. If we had 25 papers submitted in a year and published 10 the net cost per published paper would be $(\$250 + \$1188 + \$10) / 10 = \144.80 , but that reduces as the number of published papers increases. For 50 submissions with 20 published it would be $(\$500 + \$1188 + \$20) / 20 = \85.40 , and so on.

Some publishers argue that Open Access publication justifies an Article Processing Charge of several thousands of dollars. I think I've demonstrated that it doesn't. Any charge over a hundred dollars or so is pure profiteering, bearing in mind the huge economies of scale inherent in large organizations...

There's a bit more there, along with some useful comments.

Unfortunately, this journal is *also* not in *DOAJ*.

Assessing the size of the affordability problem in scholarly publishing

This is mostly a quick note that a long paper, by Alexander Grossmann and Björn Brembs, became available at *PeerJ Preprints* on or before [June 18, 2019](#). This paper was not yet peer-reviewed.

Here's the abstract:

For many decades, the hyperinflation of subscription prices for scholarly journals have concerned scholarly institutions. After years of fruitless efforts to solve this "serials crisis", open access has been proposed as the

latest potential solution. However, also the prices for open access publishing are high and are rising well beyond inflation. What has been missing from the public discussion so far is a quantitative approach to determine the actual costs of efficiently publishing a scholarly article using state-of-the-art technologies, such that informed decisions can be made as to appropriate price levels. Here we provide a granular, step-by-step calculation of the costs associated with publishing primary research articles, from submission, through peer-review, to publication, indexing and archiving. We find that these costs range from less than US\$200 per article in modern, large scale publishing platforms using post-publication peer-review, to about US\$1,000 per article in prestigious journals with rejection rates exceeding 90%. The publication costs for a representative scholarly article today come to lie at around US\$400. We discuss the additional non-publication items that make up the difference between publication costs and final price.

Beyond that...well, it's a long article, hasn't yet been peer-reviewed, and I have little doubt that there will be articles and posts attacking or at least strongly questioning the cost estimates. I was a bit gobsmacked by the authors' estimate of *three million* STM articles each year: that's by far the highest estimate I've seen (and apparently excludes the humanities). But I have no way of proving or disproving the number. I'll just point to the article as an item of interest.

Apparently, one of the first "responses" to disprove the model here was a bit too clear: it basically said that yeah, the *costs* are right, but they don't include all the *profits* and other money we want to make, so it's wrong...but I don't have access to the response, so this is hearsay.

Cost models for running an online open journal

Let's end this section with a clear and worthwhile post by Daniel S. Katz, Lorena A. Barba, Kyle E. Niemeyer and Arfon M. Smith posted June 2019 on the *Journal of Open Source Software Blog*—and *JOSS*, discussed in the first piece in this section, most definitely is in *DOAJ* and has no fees.

The piece is so clear and terse that I'd quote the whole thing—but it doesn't carry any explicit license that I can find. I've already quoted (in the earlier discussion) the fixed costs, which net out to \$2.71/paper if there are 300 papers per year.

Services that are currently unpaid include the platform development (mostly volunteer and a small grant) which they estimate at \$50,000 or \$50/paper over the first 1,000 papers; about \$5,000/year for ongoing feature development; paper and review hosting (currently on GitHub); and financial services that could cost \$10,000/year if paid. That could add about \$70 per article for 300 articles per year.

We depend on a set of volunteers to run *JOSS*. These include

- 1 Editor-in-chief working 4 hrs/week (0.1 FTE)

- 4 Associate Editors-in-Chief (including the EiC), working a total of 10 hours/week, where the 4 rotate, so only one is on duty in any given week (0.25 FTE)
- 27 Editors (including the AEiCs), working a few hours per week (~1.5 FTE)
- 651 reviewers (as of 30 May 2019), working when assigned a paper

JOSS does not pay any of these people. Nor are these roles in other scholarly journals paid positions (with rare exceptions), whether open access or not, whether the publishers are for-profit or not. We are [aware](#) that some publishers/journals pay stipends to the editor-in-chief (ranging from a few thousand dollars to in some cases ten to twenty thousand), and a couple of publishers/journals have in-house salaried editors.

JOSS relies on authors to produce “camera-ready” copy and doesn’t do heavyweight marketing.

Then there’s the summary—and I’m reminded that software people apparently come very expensive:

Here are all the costs associated with running JOSS, assuming 300 papers/year:

- Costs we now pay: \$813/year
- Services for which we don’t currently pay: estimated at \$20,600/year
- Volunteer editor services: 1.85 FTE effort or \$370,000 (@\$200,000/FTE)
- Reviewer time (not paid for in almost all journals, nor costed by JOSS)

This would lead to a valuation of the work required per paper of about \$1,300 (excluding reviewer efforts), but given current practices regarding editor compensation, including just \$10,000 as editor stipend (likely on the high side of today’s practices), we obtain a total annual operating cost of \$31,413, requiring an article processing charge (APC) of about \$100 per paper.

If we were a for-profit organization, we would also add a profit margin. While 10% is considered a good profit margin in many industries, 30-35% is more common in scholarly publishing. This would still only lead to an APC of about \$140/paper.

A very clear statement.

Fees

Call them APCs or, better yet, call them fees. Once you *do* call them fees, you may start to recognize that quite a few subscription journals *also* have fees such as page charges or color plate charges.

Do I believe author-side fees are an appropriate or viable future for an all-OA publishing world? No...but then, I'm convinced that an all-OA publishing world within my lifetime is either impossible or untenably expensive, as long as the existing players make the rules. Meanwhile, fees are with us, at least for a majority of biomed and STEM OA *articles* in the global north, so we may as well look at them.

Article processing charges in 2016

This piece by Katie Shamash appeared [August 23, 2017](#) at *Jisc scholarly communications*; see the next item for a more recent view. Each year, Jisc Communications asks UK institutions to submit data on fees (APCs) paid.

This year, like last year, the number of APCs paid increased dramatically. Expenditure increased even faster due to the continued increase in APC prices.

Last year we [hypothesized](#) that the spurt of growth stemming from the introduction of the RCUK block grant mid-2013 would begin to slow now that the budget had been in place for several years. This does not appear to be the case, as the number of APCs has increased by more than half since the previous year. The strong growth becomes even more apparent when we remove one outlier, a research institution with a large open access budget who reduced their APC spending significantly in 2015 and therefore account for the dip in this year.

The graph shows a 57% increase in fee-based articles from 2015 to 2016, to something over 4,000—and a 47% increase in fees spent, to *well* over £8,000,000. Was more than \$2,500 the “average” fee in 2016? Possibly for UK universities, since the UK seems to be a consistently pricey area certainly *not* for OA as a whole, where the 2016 average was \$803 overall or \$1,403 for fee-based journals. Jisc figures tend to be viewed as typical of OA, I believe—and they're not.

Indeed, as becomes clear a bit later, Jisc figures are misleading because they specifically *omit* no-fee OA (as well as prepaid fees). It's also worth noting that Jisc figures include “hybrid” journals, which notoriously tend to have much higher fees—and, indeed, for 2016 “hybrid” articles accounted for *three-quarters* of APCs (despite some evidence that they represent less than 10% of all OA).

It seems clear that the Jisc attitude toward fees and their desirability is different from that expressed elsewhere, and may help retain the UK's premium-cost position. To wit:

The explosive growth of APCs paid in the past year is a promising sign for the move towards gold open access. It reflects the success of funder mandates and block grants encouraging immediate open access.

With both the number and cost of APCs rising, institutions will increasingly need to rely on offsetting deals to keep costs down. Jisc will continue to [investigate the effectiveness](#) of offsetting deals and support those that aid the community. When publishing with publishers who don't offer offsets, institutions may find that they increasingly need to go down the green route in order to mitigate rising costs.

The costs of publishing in fully open access journals are also expected to rise slightly, as these journals bring their pricing more in line with their hybrid competitors. However, we expect fully open access APCs to remain well below those of hybrid.

I must admit that I've rarely seen an explosive growth in fees seen as a *positive* sign!

I didn't find a more recent version of this report—but I *did* encounter [OpenAPC](#), which aggregates fee reporting from quite a few institutions, not only in the UK but also Europe and elsewhere. Let's look at some figures for 2017 and 2018, all reported in GBP (and changed to dollars at \$1.2686 per £, the rate as I type this):

2017: Overall (171 institutions), 22,666 articles with a mean fee of \$2,620. Gold OA accounts for 12,946 articles with a mean fee of \$2,180 while “hybrid” mean fee is \$3,196. (Worldwide weighted average gold OA fee, when fees were charged, was \$1,557; \$876 across *all* gold OA.) UK institutions paid an average of \$2,944: \$3,227 for “hybrid,” \$2,473 for gold OA.

2018: Overall (103 institutions—I'm guessing delayed reporting), 7,214 articles with a mean fee of \$2,322. Gold OA accounts for 5,439 with a mean fee of \$2,050 while “hybrid” mean fee is \$3,161. (Worldwide weighted average gold OA cost: \$1,569 when fees were charged or \$913 across all gold OA—that is, roughly 100 times as many articles as are covered here.) UK alone (or GBR in the graphs): an average of \$3,032--\$3,282 for “hybrid,” \$2,538 for gold OA.

Those numbers are interesting—but it's worth noting that they're scarcely representative of gold OA as a whole. Worldwide from GOA4, increases were pretty trivial: just over three-quarters of one percent where fees were involved, and just over four percent overall. Looking at UK/GBR figures, I realize that the strengthened dollar in 2018 may throw off my converted amounts. Expressed in pounds, the mean fees paid went up in 2018, but no more than 3%. (Worldwide in pounds from OpenPAC, for whatever reasons, average cost actually *declined* from 2017 to 2018: down 6.4% for gold OA, down 1% for “hybrid,” and down 11.1% overall. And yes, these numbers seem incommensurate—I'm not sure how the overall decline can be larger than either of its components—but that's what I'm seeing.

Measuring Cost per Use of Library-Funded Open Access Article Processing Charges: Examination and Implications of One Method

This peer-reviewed scholarly article by Crystal Hampson and Elizabeth Stregger appeared [September 20, 2017](#) in the *Journal of Librarianship and Scholarly Communication*, a no-fee gold OA journal (that is in DOAJ, has been around since 2012, and typically publishes 20 to 30 articles each year in what's probably the most sensible online-journal method: articles posted as they're accepted, with an annual "issue" at the end of each year).

Here's the abstract, which includes key findings:

INTRODUCTION Libraries frequently support their open access (OA) fund using money from their collections budget. Interest in assessment of OA funds is arising. Cost per use is a common method to assess library collections expenditures. OA article processing charges (APCs) are a one-time cost for global, perpetual use. Article level metrics provide data on global, cumulative article level usage. This article examines a method and discusses the limitations and implications of using article level metrics to calculate cost per use for OA APCs. **METHODS** Using different APC models from two publishers, PLOS and BioMed Central, this article presents a cost per use formula for each model. **RESULTS** The formula for each model is demonstrated with available data. The examples suggest a very low cost per use for OA APCs after only three years. **DISCUSSION** Several limitations exist to obtaining article level data currently, including the nature of open access and accessibility of the data. OA articles' usage levels are high and include use from altruistic access. Cost per use comparison with traditional publishing models is possible; however, comparison between different OA expenditures with very low costs per use may not be helpful. **CONCLUSION** Article level metrics can provide a means to measure cost per use of OA APCs. Libraries need increased access to article level usage data. They will also need to develop new benchmarks and expectations to evaluate APC payments, given higher usage levels for OA articles and considering altruistic access.

Given that BioMedCentral and PLOS are certainly not among the least expensive fee-based journals, "The examples suggest a very low cost per use for OA APCs after only three years" is a useful statement,

The article is 20 pages long and I won't discuss it in detail. It includes appropriate caveats, e.g.

The purpose of this method is not to assess the value of individual funded articles, as these are expected to vary; this paper does not intend to propose that libraries should select the articles they fund based on an anticipated cost per use for that article. Neither does this article intend to compare specific APC models or publishers; the data used does not support such a comparison. As funding OA publication continues to evolve, processing individual OA APCs as micropayments

may continue or may be supplanted in whole or in part by other, macro-level payment models, such as offsetting hybrid journal subscription payments based on amount of APCs paid to the same journal(s). This paper considers APC-model payments only. Different funding models may require different methods for assessment.

You'd need to read the article more completely than I did to gather its full significance. I'll just note what "very low cost per use" may mean: \$0.35 for PLOS ONE, \$0.22 for PLOS Biol, and \$0.41 for BioMedCentral. But that's far too simplistic. An interesting study, worth reading.

The Revenues of the Open Access Article Publication Market Lag Behind its Output, Despite Growth

I suppose I should admit up front that I find that title, for Pablo Markin's [November 12, 2017](#) post at *OpenScience*, absolutely infuriating, as it seems to imply that OA will only be really successful if it costs as much as traditional publishing—but maybe, given that *OpenScience* is part of de Gruyter, that's the whole point.

My personal response to the title is "Well, yes, which is as it should be." But that's pretty clearly not Markin's intent.

As recent [projections](#) peg the value of the global Open Access market to reach over half a billion USD in 2018, should its growth dynamics be maintained, empirical data, nevertheless, indicate that, whereas Open Access articles have constituted 20% of all those published in the year 2016, the contribution of Open Access publications to journal industry revenues has ranged between 4% and 9% in the same period. At the same time, since these figures only refer to Gold Open Access publications, it can be surmised that Green and hybrid Open Access journals are likely to demonstrate higher revenue performance levels than their Gold Open Access counterparts. Even though these findings can be interpreted as indicating the slow pace of the global Open Access market maturation, given that the [Budapest Open Access Initiative](#) has been inaugurated in 2002, its continued growth, such as that of 21% between 2015 and 2016, also demonstrates the vitality of this publication market's sector.

The numbers may be about right. The GOA studies for probable maximum revenue from fees, excluding waivers and discounts, come to about \$493 million for 2017 and \$649 million for 2018. That latter figure is probably around six or seven percent of the global revenue for scholarly journals—and with more than 710,000 gold OA articles in 2018, gold OA must certainly represent more than 20% of the scholarly output (20% would mean 3.55 million articles overall, so that's a pretty modest percentage).

To Markin, I believe, that's a missed opportunity. To me—and to anyone else who wants a *viable* future in which libraries and research institutions can cope with costs—it's a good thing. One point of OA *should*

be to reduce total expenditures for scholarly literature; the current spending is not sustainable.

Perhaps worth noting: there is no such thing as a Green OA journal; there are journals with green OA policies, but they *should* not receive additional revenues for those policies as long as they're still charging subscriptions—and I regard most “hybrid” OA as double-dipping.

I found the rest of the post confusing. While I would like to think that I'm wrong in suggesting that *OpenScience* believes fees should be three or four times as high as they are now, later Markin posts suggest that I'm not.

Authors and APCs: 5 Things Academic Journal Publishers Should Know

Perhaps the subtitle tells you what you need to know about this (unsigned?) piece posted [on July 24, 2017](#) on the *Scholastica* blog: it's for publishers. Maybe that's why there's an enormous blind spot in the discussion. You may spot the blindness as we go along...

The intro:

Many academic publishers are adopting article processing charges (APCs) to fund the publication of open access (OA) research in their journals. Yet, as some of the burden of paying for article production shifts from library subscription fees to author-side fees, insight into how it's affecting authors is somewhat limited. How are authors paying for APCs? Do they have access to the funds that they need? And what is the author's experience with APCs like? These are just some questions to be addressed on a wider scale as the shift towards OA publishing continues.

The post discusses “key findings” from a white paper by Knowledge Exchange based on surveying 1,069 European researchers. The key findings:

- Authors receive varied APC funding options with some uncertainty
- Administrative work around APCs poses challenges for some authors
- Authors prefer publishing in OA journals for various reasons
- Authors surveyed prefer Gold OA
- While libraries are becoming a source of information on APCs, authors still rely on publishers

Here's some of the discussion of the third and fourth points:

The Knowledge Exchange report found that many authors are now favoring OA journals. Among researchers surveyed who prefer publishing in OA journals, many said publishing OA is a way to ensure their research reaches as wide an audience as possible and helps to

boost its impacts beyond academia, such as leading to increased usage of medical findings among practitioners. In the UK, in addition to authors' desire to publish their research in journals that will give them as much exposure as possible, the Research Excellence Framework's (REF) emphasis on the impacts of research beyond academia is a key factor in many author decisions to publish in OA journals...

Other reasons authors preferred publishing in OA journals were having the ability to freely republish and distribute their articles. Additionally, researchers surveyed said that they publish in OA journals for ideological reasons, because they believe research should be made as accessible as possible...

In selecting OA options, the majority surveyed said that they prefer Gold OA, though some said Green OA is an alternative that they use. Respondents who said they prefer Gold OA consider Green OA less desirable because it takes longer to verify copyright allowances with publishers and deposit research into a repository. Some also said that they believe that scholars prefer published versions of articles, so they do not see Green OA as a sure means of increasing readership and citations for their articles.

The fifth point seems odd—apparently publishers need to be clear about their fees and policies *because libraries aren't doing the job*. Huh?

What I found missing: even the slightest awareness that gold OA might not be synonymous with fee- or APC-based OA. As far as I can see, this post treats APC-OA and Gold OA as essentially synonymous.

News & Views: Open Access Charges

This piece, by Dan Pollock on [March 5, 2018](#) at the *Delta Think blog*, is another case where the discussion is influenced heavily by the source: a company that “supports academic publishers of all sizes” and, given that perspective, sees OA as a matter of marketing, pricing and strategy—that is, how a publisher can get the maximum income for its OA journals.

The lead paragraphs seem clear enough given that slant:

Our latest survey of Article Processing Charges (APCs) shows a complex and immature market, with pricing set at random and not yet aligned with demand.

Over the last few years all the major publishers have added open access offerings to the bulk of their journals. Typically, existing journals are made hybrid by established publishers, in contrast with the fully OA portfolios of the newer publishers. The main money flow in open access boils down to levying APCs on individual accepted articles (self-archiving and sponsored models generate relatively little revenue). Whatever the nuance of payment flows (author or funder) and

discounts, pricing patterns and drivers give a good read on how functional the marketplace is.

If you're looking for any consideration of *costs* as part of pricing, you won't find it here. Also clear: they dismiss what many of us think of as the most appropriate future for gold OA—"sponsored models" of some sort—because those models "generate relatively little revenue."

The actual numbers are reasonably predictable: "hybrid" fees are higher than gold OA fees—and this:

There is little relationship between impact and price, with some of the most expensive APCs being levied for journals with relatively modest impact metrics.

In other words, some publishers are failing to charge *as much as the market will bear* (and then, given the history of subscription pricing, just enough more so that they can get away with it). They even take this further to look at "average impact per journal" vs. average fee. It's not enough that actual usage and worth of an article (not necessarily reflected in citations) should be abstracted to the journal level: let's abstract that to the *publisher level*.

Elsevier should love the resulting Figure 2—or be disappointed that they're apparently not charging enough, since Elsevier appears to have the highest "average SNIP" of the Big Five but the lowest average fee (Elsevier publishes quite a few sponsored OA journals with no fees).

In case you think I'm overstating the extent to which Delta Think is All About The Moolah, consider the last three paragraphs of the post:

Looking forward, open access represents a shift to a demand-side model, so we would expect pricing patterns to shift...IF the market was exercising choices based on price! With no discernible factor(s) currently driving price, it seems there is potential for publishers to consciously optimise prices to match demand.

And with demand in this market apparently driven solely by perceptions of quality, with authors seemingly blind to price points, publishers may choose to optimize price based on Impact Factor and/or a strong brand. In fact, in such a marketplace, a [5-figure APC](#) is potentially achievable for a top flight journal. Put another way, would an OA-advocate funder pay \$10,000 or even \$25,000 to have the results of their multi-million dollar project published in Nature or Science? They might.

Given the supplier-driven nature of the market, it's perhaps not as crazy as it sounded a few years ago.

MDPI pricing (thanks to MDPI CEO Franck Vazquez, PhD)

This entry on May 16, 2018 at *Sustaining the Knowledge Commons*, is an interchange between Heather Morrison and Franck Vazquez relating to MDPI's pricing and especially an average increase of 27% from 2017 to

2018 for forty MDPI journals (about one-quarter of MDPI's OA portfolio at the time).

Here's what Vazquez responded regarding MDPI fees and increases:

Adding up the data summary for MDPI to the picture:

- 164 journals with numeric data in 2017 (average APC 438CHF) and 2018 (average APC 533CHF)
- 107 journals (65.2%) with no change in APC, including 40 journals free (average APC 375CHF)
- 40 journals (24.3%) with APC increase of 6% – 142% (increase range from 100 – 500CHF; average APC increase 219CHF; average percent increase 27.3%)
- 17 journals (10.3%) free in 2017, introduced APC in 2018 (250CHF-550CHF; average APC 370CHF)

Let's look at *GOA* figures—and given that the CHF is worth about \$1.01 (\$1.0062 on June 13), I'll just use dollar figures. *GOA4* shows MDPI with 181 journals, of which 141 have fees and 40 do not; the average *cost per article* for journals with fees was \$1,489—and, since the no-fee journals are *much* smaller, the average *cost per article* across MDPI was \$1,412.

How do you get from 533CHF to \$1,489? The answer helps explain why I look at *average cost per article*, and regard average fee per journal as frequently misleading. To wit, I see this for MDPI:

- 40 no-fee (for now) journals with 3,377 articles in 2018.
- 51 journals in the \$300-\$355 range with 4,553 articles.
- 24 journals in the \$550-\$555 range with 3,191 articles.
- 16 between \$653 and \$855 with 2,549 articles.
- 16 between \$1,004 and \$1,105 with 3,231 articles.
- 15 between \$1,407 and \$1,708 with 18,716 articles.
- 14 at \$1,809 (presumably 1800CHF) with 27,400 articles.
- Two at \$2,010 with 2,533 articles.

Look at those last three: a mere 31 journals—but more than 48,000 articles. Thus, the “average fee per journal” is about \$797 across fee-charging journals—but the average fee *per article* is nearly twice as much. (The 533CHF figure may involve other issues, but I do show an average of \$653 per journal for the previous year—that is, 2019 prices appear to average about 22% higher than 2017 prices, a fairly aggressive growth.)

That's a long digression, to be sure—occasioned because I found the cited average fee for MDPI journals improbable, which it is once you factor in journal size. If PLOS published 99 specialty journals with \$1 fees and

10 articles per journal and one megajournal with \$1,500 fees and 19,010 articles, it would be technically correct to say the publisher's average fee per journal was \$15.99—but *meaningful* to say the average cost per article was \$1425.80, which is just a skosh higher. MDPI's average fee per journal is about \$618 (including no-fee journals), but its average cost per article was \$1,412 in 2018, considerably more than twice as much,

Morrison raised some questions about the figures and especially the rapid increase for a quarter of the journals. Part of the response:

Our decision to introduce or increase the APC of a journal depends on many factors including the field of research, the reputation (visibility, citation, indexing), and volume (=age) of the journal. It is not always possible to cover the cost of our work directly and from the beginning. The newest journals are free for a few years, typically three years; researchers would not be able to raise funding to cover the APC of these journals. Also, some journals which support research fields in which OA funding remains marginal do not introduce an APC, even after Volume 6 or more, as it is the case for the journals /Publications/, /Arts/, or a few others. Therefore the costs associated with publishing in these journals must be subsidized by the APC of established journals.

The “average 27.3% APC increase for 40 journals” we talk about here results in a mild increase in the average of these journals. Average increase is 219 CHF, from 802 CHF in 2017 to 1020 CHF in 2018 for these 40 titles. This is on the lower end of APC distribution for international publishers: <https://treemaps.intact-project.org/apcdata/openapc/#publisher/>

So he's saying that pricing basically depends on what the market will bear (the first sentence), that an average 27% increase is “a mild increase” because, hey, it's only around \$220 per article, and that MDPI isn't as avaricious as other international publishers (which may be true depending on your definitions).

Morrison's response is friendly but does raise some mild objections. Portions:

What you are describing is normal business practice. In ordinary everyday terms, businesses of all kinds often start out with below-cost pricing (introductory special offers for example), in order to attract customers, then raise prices. When average people sell their homes or other goods, the default is to seek market value (the most I can get for this), rather than cost-based pricing...

The inherent conflict stems from the desire of for-profit publishers to derive the maximum value from their work, in contrast to the cost-conscious, accountability focused customer (universities and funding agencies). In subscriptions publishing for many decades there has been an inelastic market, with publishers expecting to raise prices beyond

inflationary rates year after year while university-customers do not have corresponding revenue growth to support this. In North America in the last few decades the trend has been flat or declining budgets. Hence the serials crisis, periodic breakdown such as Germany's Elsevier cancellations and France's Springer cancellations, and strong desire to change the system which is one of the drivers behind the OA movement, although not a motive shared by all...

Another way to express this: when your library has to deal with budget cuts, or, at best, a flat budget (typical in North America), you are not likely to have much sympathy for a publisher raising prices by 27%, regardless of how rational this might be as a business practice...

I submit that “but it's only \$220 per article”—combined with factual but somewhat misleading averages—is probably not a wholly satisfying response.

Sustainability of Article Publishing Charge to Further Open Access

This post (by Prathima Appaji, I believe, although that's not quite clear) appeared [June 11, 2018](#) on the *infojustice.org* blog. It's CC-BY, and it's a clear and fairly concise discussion of a primary problem with fees or APCs as the basis for OA. I'm going to quote the whole thing and interject a couple of minor quibbles.

In the field of academic publishing, there are a variety of models. Many journals use ‘reader-pay’ model wherein readers pay a fixed price to access to read. Increasingly, open access journals and hybrid journals are using an ‘author-pay’ model where the author pays a fixed Article Publishing Charge (APC) and the article is made accessible to all readers for free.

I would submit that traditional journals use an *institution-pays* mode, especially where big deals are involved: direct reader payment on a by-the-article basis is, I suspect, pretty rare. Hybrid journals do *not* use author-pays (quite apart from the fact that it's not usually the author paying): they work both channels. And, of course (push the replay button) *most OA journals, 70% of the serious ones in 2018, don't charge author-side fees.*

The desire to make articles easily available to readers stems from the movement for open access to public knowledge. High subscription prices for premium journals restrict access to read articles and in-turn, limiting access to knowledge. For many in the open access movement who sought to bridge these gaps in accessibility of academic knowledge, APCs became the funding model of choice, though not all open access journals have APCs.

The first sentence seems a bit redundant: the desire for OA stems from the desire for OA? But never mind. The last sentence is more troublesome:

given that most OA journals do *not* have fees, it is simply incorrect to say that APCs are the funding model of choice for gold OA.

In some sense, charging authors for editing and distributing their work makes sense: they gain significant alternative benefits from getting published – their credibility and renown increases, they receive tenure track benefits, and more. At the same time, producing journals takes time, effort, and skill, and the scholars working at that level also deserve to receive benefit from their labor.

However, in many cases, APCs have grown from a small fee to a major one. While APCs at open access journals range from \$8 to \$3,900, a [research study](#) found that large open access publishers such PLoS and BioMed Central charged high APCs between \$1,350 and \$2,250. For a few of the more popular journals, APCs were reported to be as high as \$2,900. What happens when APCs are high, and what does it mean for authorship, open access, and one's ability to read articles?

Higher-ranking universities and institutions have access to more funding and can afford to pay APCs in order to publish their research in open access and adopt an open access policy. Papers published as open access reach a wider section of the population, and is cited more often than papers published in traditional journals. More quality research published in open access helps further build these tier-1 schools' credibility, and reputation. Stronger reputation attracts new funding, thus feeding into this inequitable cycle.

Similarly, prominent academic careers and tenure teaching decisions are significantly impacted by quality and quantity of publications. Requiring high APCs to publish a work disproportionately hinders the ability for academicians from developing and poor regions of the world to publish their articles and research in reputed journals. As a result, they are less likely to be promoted at or hired into high-level institutions – furthering equity gaps and entrenching colonialism in education.

Furthermore, higher APCs can also lead to less diversity in publishing. Requiring that authors pay for circulation of their work makes it more difficult for disadvantaged or oppressed populations to tell their narrative, and means that learners of similar background are less likely to see their perspectives represented in scholarship. It can also be argued the consequence of this in the long run can be a diminished wealth of knowledge that is not diverse and less critical of itself.

Having access to knowledge is very different from having the ability to publish. Restricting the ability to publish can centralize the production of knowledge in the hands of a few wealthy institutions, thus obstructing the opportunity for various perspectives and points of view to be heard and read. This is '[the danger of a single story](#)' as popularly stated by Chimamanda Adichie.

The case for open access to research is not weakened by these arguments – rather, these are concerns over the way progress is being made toward the goal. We must be mindful that high APCs can exclude a substantial portion of the academic world – particularly from disadvantaged communities – from making their knowledge public, and we must be mindful that this funding model for open access has the potential to entrench the status quo and even create [new institutional hierarchies](#) and inequities.

I have few quibbles with these paragraphs. I believe they make a sound case against fees as the primary model for funding OA—but not, of course, for subscriptions as a preferred alternative.

APCs—Mirroring the impact factor or legacy of the subscription-based model? This article by Dr. Nina Schönfelder was [posted September 18, 2018](#) in *Publikationen an der Universität Bielefeld*. Here's the abstract:

With the ongoing open-access transformation, article processing charges (APCs) are gaining importance as the dominant business model for scientific open-access journals. This paper analyzes which factors determine the level of an APC by means of multivariate linear regression. With data from OpenAPC, APCs actually paid are explained by the following variables: (1) the “source normalized impact per paper” (SNIP), (2) whether the journal is open access or hybrid, (3) the publisher of the journal, (4) the subject area of the journal, and (5) the year. The results show that the journal's impact and the hybrid status are the most important factors for the level of APCs. However, the relationship between APC and SNIP is different for open-access journals and hybrid journals. The journal's impact is crucial for the level of APCs in open-access journals, whereas it little alters APCs for publications in hybrid-journals. This paper contributes to the emerging literature initiated by the “Pay It Forward”-study conducted at the University of California Libraries. It sets the foundations for the assessment whether the large-scale open-access transformation of scientific journals is a financially viable way for each research institution in general and universities in particular.

As usual, I take issue with this phrase: “article processing charges (APCs) are gaining importance as the dominant business model for scientific open-access journals.” Even if most *articles* involve fees, it is simply not true that fees represent the *dominant business model*—even in STEM, there are more no-fee journals than fee journals. (Also true in biomed, although there are *almost* as many fee as no-fee journals there.)

Setting that grumble aside, it's an interesting study: basically, “impact” may matter for setting a gold OA fee, but not for double-dipping.

It's a 41-page article (21 pages of text followed by references and graphs). I didn't read it in full, and lack confidence that I could criticize

the statistical work properly: I have no reason to doubt that, for the population studied and the conditions stated, it's sound.

The case made is that, at least for the population studied, "hybrid" journal fees are much higher than gold OA fees, and the fees seem to have much less relationship to journal "impact." Here's a portion of the conclusion:

[G]enuine open-access publisher (as PLoS and Frontiers) tend to charge less than traditionally subscription-based publisher (Elsevier and Springer) for comparable journals. APCs for publications in life and health sciences are more expensive than in physical sciences and least expensive in social sciences and humanities.

To sum up, hybrid journals tend to be more expensive and are less sensitive to their citation impact than open-access journals. With reference to the title of this paper, one can say that APCs are mirroring the impact factor in open-access journals, especially at genuine open-access publishers, but are a legacy of the subscription-based model in hybrid journals, often at Elsevier, Springer and co.

To get an idea on what the two pricing patterns imply for the financial aspects of the open-access transformation, I calculated two hypothetical scenarios. What would have been the total APC-amount if all articles recorded in OpenAPC had been charged as if they were published in open-access journals? And what would be the sum if they all were published in hybrid journals (other journals characteristics leaving unchanged)?

The calculations show that the UK higher education and research system would have saved almost EUR 8 million if all journal had been charged according to the open-access pricing-pattern. In contrast, all countries would have spent about EUR 17 million more on APCs, if all articles had been charged according to the hybrid-pattern.

That assumes, of course, that publishers do not engage in a "race to the top" in which all journals in all countries charge fees comparable to the most expensive UK/Western Europe journals (or, worse, the "hybrid" fees). In that case, the change would indeed be incredibly expensive.

Article Processing Charge Hyperinflation and Price Insensitivity: An Open Access Sequel to the Serials Crisis

This peer-reviewed article by Shaun Yon-Seng Khoo appeared [May 9, 2019](#) in *LIBER Quarterly* 29(1), and the author wins a cheer from me right off the bat, in the second sentence of this abstract:

Open access publishing has frequently been proposed as a solution to the serials crisis, which involved unsustainable budgetary pressures on libraries due to hyperinflation of subscription costs. The majority of open access articles are published in a minority of journals that levy

article processing charges (APCs) paid by authors or their institutions upon acceptance. Increases in APCs is proceeding at a rate three times that which would be expected if APCs were indexed according to inflation. As increasingly ambitious funder mandates are proposed, such as Plan S, it is important to evaluate whether authors show signs of price sensitivity in journal selection by avoiding journals that introduce or increase their APCs. Examining journals that introduced an APC 4-5 years after launch or when flipping from a subscription model to immediate open access model showed no evidence that APC introduction reduced article volumes. Multilevel modelling of APC sensitivity across 319 journals published by the four largest APC-funded dedicated commercial open access publishers (BMC, Frontiers, MDPI, and Hindawi) revealed that from 2012 to 2018 higher APCs were actually associated with increased article volumes. These findings indicate that APC hyperinflation is not suppressed through market competition and author choice. Instead, demand for scholarly journal publications may be more similar to demand for necessities, or even prestige goods, which will support APC hyperinflation to the detriment of researchers, institutions, and funders.

Let me repeat that (with “OA” being assumed before “journals,” I believe: **“The majority of open access articles are published in a minority of journals that levy article processing charges (APCs) paid by authors or their institutions upon acceptance.”**)

That’s exactly right, and makes me wonder why so few writers are able to state it correctly (or even acknowledge that no-fee gold OA exists)?

Unfortunately, what’s being said here is almost certainly right: although fee increases are at nothing *close* to subscription price increases (so far!), they’re nonetheless—at least for the big players—much higher than inflation and almost certainly not sustainable.

There is already evidence that APC hyperinflation is a real phenomenon. Data from 2005 to 2018 on the APCs paid by European institutions ([Figure 1](#)) shows that from a mean APC of €858 in 2005, APCs have nearly doubled, to over €1,600 in 2018 ([Aasheim et al., 2019](#); <https://treemaps.intact-project.org/apcdata/openapc>). However, inflation as reported by the United States Bureau of Labor Statistics or the European Central Bank would only have increased the 2005 APC to a 2018 APC of €1,100 and €1,046, respectively. While this is not as severe as the nearly 5-fold increase in serial unit-costs between 1986 and 1998 ([Houghton, 2001](#)), it is an increase three times higher than what would be expected based on present economic conditions and suggests that the market for open access publications is not as competitive as [Pinfield \(2013\)](#) predicted.

The actual average cost per article for fee-based articles in 2018 was \$1,569, which is about €1,400. That this is not as high as the average paid

by European institutions is not at all surprising (the average in the UK was \$2,048 or €1,827; the average across Western Europe and the US was \$1,889 or €1,686—*very* close to the figure in the article): fees outside Western Europe and the US are generally *much* lower. (For all fee-based OA *except* Western Europe and the US, the average or mean fee was \$374 or about €334.)

That authors don't seem to be price-sensitive is unfortunate but also not at all surprising, especially when the fees don't come out of their pockets (just as most scholars haven't concerned themselves with rising subscription costs).

A mild caveat: the author seems to have used the GOA3 dataset as a source of data on "historical APC" from 2012-2018—but since I only look at the *current* fee for journals, that only works for recent years (I have no fee data at all prior to 2015, for example). But I was contacted by the author while the research was being done, so I believe my work was used properly.

There's a lot in this article, worth reading on its own, and I'm only mentioning a few points. Here's a chilling but not implausible paragraph—indeed, I'd say it's most probable:

The results of the present study also suggest that publishers are aware that they are able to set prices without adversely affecting their market share. For example, Springer Nature's open access mega-journal, Scientific Reports, overtook the non-profit PLOS One as the largest mega-journal in 2017 (see [Figure 5](#)), despite PLOS One charging a lower APC. Similarly, Frontiers and MDPI enjoyed the greatest growth in article volumes per journal and also increased their APCs by the highest margins. Publishers have freely admitted that they do not price on the cost of production, but rather on the economic value of their journals ([Morrison, 2018](#)), consistent with commentary in the scholarly publishing literature ([Houghton, 2001](#)). For example, once a journal is assigned an impact factor, its prestige value increases and it can therefore command a higher price. As open access journals become more established, this should concern funders and institutions because it will drive further hyperinflation in the scholarly publishing market unless funders and institutions leverage their negotiating and policy-setting power to decrease costs ([Else, 2018a](#); [Gaiand, 2019](#); [Vogel & Kupferschmidt, 2017](#)).

And here's the conclusion:

Open access publishing has been suggested as a potential solution to the serials crisis because journal costs are theoretically more exposed to price competition. However, examination of journal article volumes when article processing charges are introduced or increased over time shows no evidence that authors avoid journals that introduce or increase APCs. Instead, it appears that once authors are willing or able

to pay an APC, that they are willing to pay them with little regard to the size of an APC. This data suggests that publishers are adept at pricing journals according to the prestige value of the title and the funding available to authors in each market. Unless funders and institutions leverage their negotiating and policy-setting power to constrain costs, author price insensitivity will ensure that APC-funded open access will merely be a sequel to the serials crisis.

If gold OA—and OA in general—is to succeed in either or both of its primary aims (making articles openly available and making published scholarship affordable), this trend must not continue unabated.

Funding

Notes related to funding models for open access journals. As elsewhere, I prune as I go along, in some cases because I find the piece unconvincing but not worth arguing about.

Transparency agendas are being used to legislate against consortial open-access models even though it has good cost outcomes.

Given that Martin Paul Eve wrote this piece, which appeared on [June 3, 2018](#) on Eve's blog, I'm a bit surprised by the lack of agreement in the title ("models" and "it")—but Eve writes British English, which is a different language. And I'm nitpicking.

Getting past the nitpicking, this is a meaningful piece raising real issues, and given my general discomfort with the scare term "neoliberalism" I give Eve full credit for including a definition. Since the piece is CC BY and not very long, I'll quote the whole thing.

Some open-access advocates argue that transparency and accountability are key for open access (meaning: the removal of price and permission barriers to reading academic research). Indeed, this is one of the many points when the discourses of neoliberal* governmentality intersect with open academic publication. For, it is argued, by opening up and ensuring that bodies are accountable, we will ensure the lowest prices for the "customer" and the best use of public funding. It is particularly important, it is often argued by those of a more libertarian persuasion, that governments are accountable for the way that they spend their taxpayer dollars. This is indeed why, again, some argue, taxpayer-funded research should be openly available (for the record: I think such research should be openly available, but I also think all university research – even that only funded by the institution – should be openly available for the benefit of humankind).

Peter Suber has [written before about the taxpayer argument for OA](#) and the refinements and specificities that are needed to make it work. Yet there is a deeper problem with the taxpayer argument: it is embedded

within a specific economic regime that has emerged over the past 40 years that states that markets are the best and only true practical arbiter of all aspects of social life and will determine the best price outcome for participants.

I disagree with this assertion. In the work that I have done with [Caroline Edwards](#) on the [Open Library of Humanities](#) we have demonstrated a [remarkable return on investment](#) for participating institutions inside [a non-classical economic model](#) that works for the public good. We have given a medium-scale example in which a better, more cost-effective and equitable outcome for open access is achievable in the scholarly communications space. This is achieved through institutions working together – collectively – to fund a platform on a not-for-profit basis. 240 or so institutions recognize this at present and we continue to grow, flipping journals to open access, with no author fees, and therefore providing author equity, as we go.

Yet that spectre of accountability haunts us. We were initially funded by the [GALILEO consortium](#), which saw our cost-effective solution as a good investment for their group of many many university libraries. Yet, they do not fund us now. Never mind that the annual fee for our 23 journals is less than a single APC from a for-profit publisher, though. When legislators saw that State-funded universities were paying for things that others receive for free, they decreed this an unlawful use of taxpayer dollars. The State of Georgia can now no longer fund open-access initiatives such as OLH, Knowledge Unlatched, SCOAP3, or even the arXiv, at the State level, because it is not a *market competitive* use of state funding.

The same goes elsewhere in the world. Germany has a problem with the state-accountability measures of how they fund government-disbursed money. Often, when German institutions approach us, they say: we need you to give us a direct benefit so that we can tell our government that we were paying for something that we wouldn't otherwise get. So forget the fact that we are cheaper and offer better value, to both society and libraries, it becomes necessary for us to sell something, so that the transparency and accountability agendas can be fulfilled. I suspect the trend of this spreading will continue.

This all frustrates me immensely. Certainly, we'll work around it and find a way to continue to get support from these institutions, which have mixed-revenue streams from public and private sources. (I'm not known for giving up easily.) But this is a concrete example of the ways in which open access that tries to avoid neoliberalism gets caught up in the terminological slippages of "open"/transparency/accountability. This problem is a *direct* side effect of the insistence on economic efficiency, markets, and taxpayer accountability – sometimes even from OA advocates – as the best way to determine the pricing and practices

of scholarly communications. I perceive what we do at OLH as a move to position education and research *outside* of market exchange, even while understanding that we must pay people for their labour so as not to be exploitative under the capitalist systems within which we exist. Thus we have a revenue stream founded on an understanding of collective self-interest in the long-term from economic actors within a non-classical system (much like a system of taxation that provides public benefits).

We at OLH do, of course, operate within some “market-like” principles. I assume that institutions choose to support us not only out of the goodness of their hearts but because we also demonstrate an advantage to their budgets (cheap and cost-effective). It is, in this sense (if you want to have a revenue stream that isn’t state-funded taxation), very difficult to escape all competitive proxy-quantitative matters of judgement that can then be re-synthesized into the metaphorical context of “the market”. Yet scholarly communications works as such a poor financial “market” already, mostly because its primary suppliers are also its readers, but not its payers (that’s the library), even while the prestige economy of publication serves as a positional good. It doesn’t work in the way that the market fundamentalists want and so, according to their logic, they must restructure it so that it does. This leads to the type of legislation against non-classical economic models. I believe we should do the opposite: we should restructure the way we pay for scholarly communications to cease pretending that competitive price pressure will emerge and, instead, work together – even if economically – to fund a new infrastructure.

For those working on the intersections of neoliberalism and OA, I hope this proves an instructive example of real-world damage/difficulty. For those who support what we do, I hope it will help to temper the more damaging ways in which competition and markets are advocated for within OA circles.

* I understand neoliberalism to mean, following William Davies, the disenchantment of politics by economics; the extension of economic techniques to govern all facets of social existence, even while the state continues to need to intervene to structure the market to function, and to structure itself (the government) to function like a market (Foucault’s “state under the supervision of the market”).

This strikes me as well-reasoned and a fundamental problem with *consortial* OA funding by public institutions, at least as things stand. It’s an issue that needs to be dealt with if equitable funding models are to be found.

Open Access Translates into Revenue Streams, As Scholarly Associations and Funders Enter into Framework Agreements

This post, by Pablo Markin on [July 4, 2018](#) at *OpenScience*, makes a lot more sense now that I recognize that Markin and OpenScience are All About The Money, looking for ways to assure that publishers get at least as much revenue from OA as they would from subscriptions. This is, of course, a perspective I find unpleasant, but one worth noting.

The tease also makes sense if read from this perspective:

As hybrid Open Access models fuel the uptake of Open Access among researchers, publishers roll out experimental agreements that combine subscription charges with Gold Open Access, as part of institutional memberships, while adding to model sustainability.

Um. But then, I wonder about more, such as this:

While the share of articles published in Open Access with global publishers, such as Elsevier and Springer Nature, continues to range from 2% to 4%, even if their Open Access output growth will remain in single digits, this could lead to significant revenue increases, given their large journal portfolios, e.g., over 2,000 titles in some instances.

Say what? In 2018, Elsevier had 370 gold OA (DOAJ-listed) journals that published 36,154 articles. I am pretty nearly certain that 370 is more than 4% of Elsevier's total journal portfolio, unless it publishes at least 9,250 (that's nine *thousand* two hundred and fifty) journals. (Last time I checked, Elsevier said 2,960 journals, making gold OA 12.5% of its portfolio.) For that matter, I find it improbable that Elsevier published more than 900,000 scholarly articles (that is, 36,154 times 25) in 2018: it's big, but not *that* big. I will grant that it's quite possible that OA fees accounted for less than 4% of Elsevier's total 2018 journal revenue, but that's a different question (and doesn't take into account the fact that half of Elsevier's gold OA journals are sponsored and generate non-fee revenue. (When I say "half" I mean precisely that: for 2018, there were 185 fee journals with 20,035 articles and 185 no-fee journals with 16,119 articles.)

SpringerNature? Well, looking at parent Holtzbrinck (so as to include Frontiers), it had 626 OA journals and 104,788 articles in 2018—and I will absolutely 100% *guarantee* that Holtzbrinck did not have 15.650 journals or publish 2.6 *million* articles in 2018. The percentages are simply ludicrous. (Holtzbrinck has the highest average cost per article of any OA or traditional publisher with ten or more OA journals; their total OA revenue could have been as high as \$242 million, which I'm pretty certain is more than 4% of their total journal revenue.) Eliminating Frontiers does reduce the article count by 28,460 and the journal count by 56—but the results are still wildly at odds with the post.

Frankly, the more I look at this piece—and especially the seeming idea that it's *reasonable* to ask for subscriptions *and* “membership” *and* author-side fees, the less inclined I am to take it seriously.

Presenting Two and a Half Low Cost Solutions to the Open Access Publishing Problem in Science.

This piece by John P. Mills appeared [September 14, 2018](#) on *Medium*. The lede:

Let me start by explaining the academic publishing system. If you're not an academic, grab the popcorn, pull up a chair and consider how researchers found themselves freely giving away their labour and manuscripts only to then spend billions of dollars buying the latter back.

It's a lovely brief history about Robert Maxwell and Pergamon, and I'll quote two key paragraphs:

Maxwell also understood that the more journals he created, the more subscriptions he could sell. By the 1970s this rapid expansion in the number of journals available led to another of the ills in today's publishing climate—journal rankings. Rather than publishing in, perhaps, the most suitable outlets, scholars now sought to publish in *prestigious* journals to aid their career prospects. Journal editors went from curating knowledge to influencing the direction of future research; as academic curiosity became tempered by a need to meet the aims and scope of a desired journal.

You have to give Maxwell credit, the business model he developed continues to generate higher profit margins than Apple, Coca Cola, and pretty much any other business you can name. Great for the company, but terrible for everyone else. Why you ask? The obvious answer here is that monetising research limits who can access it. I don't know about you, but I want health researchers to be able to freely access research that may help shape their future research decisions. I want MDs and patients to be able to access research that may help them understand medical conditions. I want research participants and taxpayers more broadly to be able to access the work they contributed to/paid for. Hell, I want anyone who is interested in the work to be able to read it. Publicly funded research should be available to all. Maybe this is all [rainbows and unicorns](#), but I don't think it has to be and I will show you two and a half solutions as to how I think existing technology may help solve this problem.

The link is to a Twitter thread in which Mr. Gunn exemplifies why Elsevier is so, um, loved by the community. (If you've never encountered the thread, do take a quick read.)

So on to the solutions. The first is actually three possibilities for cheaper infrastructure. The first is WordPress—and he offers an example of an OA journal using WordPress as a platform (unfortunately, the journal

is *not* in DOAJ). It's an interesting notion, with links to explanation of how one journal is doing it. The second and third are Github and the Public Knowledge Project. It's a briefer discussion (and in part of it the author insists on muddying the waters by using Diamond Open Access for no-fee Gold OA).

Next up? Overlay journals. It's a clear discussion; there are examples of OA journals that act as overlays to subject repositories (and at least one overlay journal is in DOAJ); and there's a rightness to avoiding duplication of infrastructure and archiving costs while assuring that there's no confusion of versions.

I'm not sure what the final half solution is, but I'll quote the first two paragraphs of "final thoughts":

Although the options presented here tackle some of the problems associated with academic publishing, there is still some way to go. I see two main issues. First, although I believe you could start a journal for under \$1000 (or in other words, less than the Article Processing Charge for publishing one manuscript in any of the major publishing house owned journals), it would be tough going and require a fair amount of technical knowledge. There is no doubt in my mind that the skills and resources to achieve what I have outlined here sit within our institutions, but the expertise is not always obvious nor the support forthcoming. For me, universities should be doing more to capitalise on the current wave of positivity around Open Access publishing. [Linnaeus University](#) have supported Diamond Open Access journal [Meta-Psychology](#), [Discrete Analysis](#) receive funding from the University of Cambridge, but more needs to be done and fast to support this revolution.

Second, there is the expense in paying Editors, Associate Editors and potentially Reviewers for their time. We could look to universities to pay this too, but I believe a simpler solution would be to collectively acknowledge peer review and editing as a professional service and for universities to agree to factor time spent on such tasks into their respective workload models. Editors, Associate Editors and Reviewers can then be drawn primarily from a pool of individuals that receive a benefit for their service. I say primarily, as I would not wish to exclude those who wish to contribute, but equally, I am against utilising [free labour](#) as standard.

It's probably worth noting here that there may be some cultural bias at work in the last part of the first paragraph: while universities accounted for 12% of 2018 OA articles in Western Europe (and that includes Cambridge and Oxford University Presses) and, well, 12% of 2018 OA articles in Pacific/English countries, they accounted for 79% of OA articles in Latin America, 49% in Asia, 64% in Eastern Europe and 60% in the Middle East.

So, yes, universities in the Moneyed West could definitely step up their game—and they'd have thousands of examples around the world to draw from.

Hybrid vs APC fee-based vs no-fee (diamond) OA

This thing, begun “7 months ago” (presumably in [November or December 2018](#)) by Dmitri Zaitsev at *GitLab*, is as much an ongoing discussion as an article—and as the latter, it's mostly comments on a Peter Suber post.

On one hand, it's an interesting discussion—and I'm increasingly inclined to agree that fee-based OA is neither fair nor sustainable. On the other, it's marred by the insistent repetition of one of the fashionable synonyms for no-fee Gold OA, namely Diamond OA—and maybe I'm sensitive to this because I suspect some people who could benefit from my series of studies of DOAJ-listed journals are ignoring them because they are called *Gold Open Access*... followed by something.

I think that's a shame, and I find proliferating colors to be distracting (in the case of “bronze” OA for practices I regard as not being OA at all, I find it hard to regard the distraction as accidental). And I'm afraid the hammering repetition of the term (it appears 31 times on the page) succeeds: it distracts me from evaluating the meat of the discussion.

I guess I'll just point to it and note that it may be worth reading—as is at least one discussion linked to within this discussion.

If Research Libraries and Funders Finance Open Access: Moving beyond Subscriptions and APCs

Unless I'm mistaken, this article by John Willinsky and Matthew Rusk, published in [College & Research Libraries 80:3 \(2019\)](#), is a newer version of a *PeerJ* article that I chose not to discuss. (*C&RL* is a no-fee Gold OA journal, by the way.)

Here's the abstract:

Following the examples of SCOAP3, in which libraries fund open access, and eLife, in which funding agencies have begun to directly fund open access scholarly publishing, this study presents an analysis of how creatively combining these two models might provide a means to move toward universal open access (without APCs). This study calculates the publishing costs for the funders that sponsor the research and for the libraries that cover unsponsored articles for two nonprofit biomedical publishers, eLife and PLOS, and the nonprofit journal aggregator BioOne. These entities represent a mix of publishing revenue models, including funder sponsorship, article processing charges (APC), and subscription fees. Using PubMed filtering and manual-sampling strategies, as well as publicly available publisher revenue data, the study found that, in 2015, 86 percent of the articles in eLife and PLOS acknowledge funder support, as do 76 percent of the articles in the largely subscription journals of

BioOne. Such findings can inform libraries and funding agencies, as well as publishers, in their consideration of a direct-payment open access model, as the study (a) demonstrates the cost breakdown for funder and library support for open access among this sample of X articles; (b) posits how publishing data-management organizations such as Crossref and ORCID can facilitate such a model of funder and library per-article open access payments; and (c) proposes ways in which such a model offers a more efficient, equitable, and scalable approach to open access across the disciplines than the prevailing APC model, which originated with biomedical publishing.

And...I'm afraid I'm mostly going to point at it rather than discussing it at any length. I have problems with the "cost" models used as example, and didn't really see any pushback at those supposed costs; as a result, I find that I have problems with the proposed solutions, as I believe it involves several times as much money as should reasonably be required. I find myself wholly unconvinced by the paragraph that comes closest to addressing this issue:

A second and related limit to this model is that it starts with publishers' existing pricing structures in calculating publishing costs for open access. Some find this an unacceptable limit to our model, given the profit margins currently being extracted from scholarly publishing by some publishers. We hold that the best hope for changing what is unsustainable about the current combination of subscriptions and APCs is to start with current pricing, in good faith, to then establish the means for funders, libraries, and publishers to negotiate a new set of arrangements based on paying for publishing services rather than for access to content. This might lead, in turn, to a rationalizing of article costs, while continuing to improve publishing standards (given the current considerable discrepancies even within publishing communities, as noted with table 11). Many considerations will need to figure into these deliberations among public and private, nonprofit and commercial operations, not least of which will be the researcher rights to publish were they to think it best for the work and field. Still, one can see the use of fair pricing and transparency incentives, as well as spending caps, following SCOAP3's example. Other strategies could be drawn from the literature on U.S. Medicare and Medicaid struggles with centralized purchasing programs.

Maybe you'll find the article more convincing.

Profit

Maybe this sequence makes sense for an economics-related roundup: costs, then fees, then funding—leading (in some cases) to profit.

Pushing costs upstream and risks downstream: Making a journal publisher profitable

Cameron Neylon posted this on [September 8, 2017](#) at *Science in the Open*. Although it's CC0, it's a bit long to quote in its entirety. I suppose it's about cost as much as profit. It's interesting, and I'm not sure what to say about it. Neylon takes issue with attempts to define the "true cost" of publishing an article, and it's true that (a) there isn't one "true cost" across all journals and (b) there *probably* isn't a single cost per article *within* a single journal.

There is a real problem with assigning a "true" cost. There are many reasons for this. One is the obvious, but usually most contentious, question of what to include. The second issue is the question of whether a single cost "per-article" even makes sense. I think it doesn't because the costs of managing articles vary wildly even within a single journal so the mean is not a very useful guide. On top of this is the question of whether the marginal costs per article are actually the major component of rising costs. One upon a time that was probably true. I think it's becoming less true with new platforms and systems. The costs of production, typesetting and format shifting for the web, should continue to fall with automation. The costs of running a platform tend to scale more with availability requirements and user-base than with the scale of content. And if you're smart as a publisher you can (and should be) reducing the costs of managing peer review per article by building an internal infrastructure that automates as much as possible and manages the data resources as a whole. This shifts costs to the platform and away from each article, meaning that the benefits of scale are more fully realised. Dig beyond the surface outrage at Elsevier's patent on waterfall peer review processes and you'll see this kind of thinking at work.

Put those two things together and you reach an important realization. Driving per-article costs to platform costs makes good business sense, and that as you do this the long tail of articles that are expensive to handle will dominate the per-article costs. This leads to a further important insight. It will be an increasingly important part of a profitable journal's strategy will be to prevent *submission* of high cost articles. Add back in the additional point that there is no agreement on a set of core services that publishers provide and you see another important part of the strategy. A good way to minimise both per-article and platform costs is to minimise the services provided, and seek to ensure those services handle the "right kind of articles" as efficiently as possible...

Neylon discusses *Nature* and the extent to which its "selectivity" (and profitability) comes about not just because its editors are good at selecting out candidates for peer review—but also because authors do much of the work for them, by only submitting their "best" stuff. (There's more to this discussion, and I have no useful comment to add to it.)

If one solution to reducing costs is pushing the upstream, then another is clearly pushing them downstream. This can mean a range of things – costs to authors, funders, institutions, or “the system”. As these are often not obviously direct cash costs they can be diffuse. These are the costs of the publisher (or really of any actor in the publishing workflow) not doing something.

An extreme example of these is so-called “predatory” publishers that do not do peer review. To simplify the example we can put aside the question of whether publishers “add value” through peer review and treat this simply as a question of validation and certification. In a world where we assume that being published in “a journal” means an article has been peer reviewed, what (and where) are the costs of that not happening?

Again, there’s more.

I will quote the entire “What does this mean?” section, which closes the post:

First and foremost, don’t take anyone who says “the cost of an article is [or should be] X” seriously unless they are very, very, clear on exactly what parts of the process of publishing they are talking about *and the context in which those parts are taking place*. Second, we need to get much more explicit about what services are being provided. There have been a range of efforts to try and improve on this, but they’ve not really taken off, at least in part because they’re not really in the interests of the big publishers, who benefit the most from playing the games I’ve described here. As I’ve argued elsewhere we need a much better understanding of how shifting the costs from the publisher balance sheet, to the academic worker, or institutional infrastructure, play out. How do cash costs of managing a strong quality assurance process within a publisher scale when they become the non-cash costs of an academic editor, or referee’s time? When they become the time wasted by researchers on following up on fatally flawed research?

All of the above relates to costs, and none of the above relates to price. We also need a better understanding of the political economics of pricing. Particularly we need to understand where we are [creating a luxury goods market](#) where price (either in work to get through the selection process or in money) drives the perception of brand, which reinforces the perceived value of the investment, and therefore leads to an increase in price. Be very wary of claims that publishing is a “value driven market”. This is both a way of avoiding a discussion of internal costs, which in some cases are outrageous, and of avoiding the discussion about precisely which services are being provided. It’s also a captive market. Another value-based market is plane flights out of Florida this week...

Above all, we need a much more sophisticated understanding and far better models of how costs are being distributed across the system in cash and non-cash costs, in labour and in capital. Overall we can point at the direction of travel, and the problems with existing pricing and cost structures. But its hard to make usable predictions or good design decisions without a lot more data. Getting that data out of the system as it exists at the moment will be hard, but the direction of travel is positive. There's nothing wrong with publishers making a surplus, but any conversation about what kind of surplus is "appropriate" needs to [be] based on a much deeper understanding of *all* the costs in the system.

News & Views: 2018 Outlook

This discussion, posted by Dan Pollock on January 8, 2018 at *Delta Think*, makes much more sense when you recognize that Delta Think's purpose is to maximize publisher profit. Consider (copied and pasted without modification):

The open access market Itself will continue to grow – we estimate by 15-20% over 2017 – to be in excess of \$500m in 2018. This is outstripping the underlying STM publishing market's growth of low single digit percent per year.

- **Green** open access has not proven to be the big disruptor that the idealists had hoped for. It is either tucked into the subscription model via embargos, or safely contained as a complement to existing workflows by license limitations to pre-prints.
- **Gold** open access remains the mainstay the market, levied mostly via the corresponding author, and paid by funders or institutions. Sponsorships, discounting schemes, and bundling with subscription deals add further complexity. Assuming that the transition costs are now largely sunk, ongoing open access revenues will translate directly into incremental margin.
- **Public access** has seemingly satisfied policy makers in the US, even though the absence of full permission licenses means that this is not "pure" open access.

"Public access" is, I believe "bronze"—that is, phony—OA, and I'd like to hope that "policy makers" aren't satisfied with this poor substitute. And it's pretty clear from the discussion of Gold OA that *fee* gold is what's meant. The piece goes on to cheer for "hybrid" as being a wonderful thing *because* it entrenches existing publishers:

- Hybrid yields on average 50% more revenue per paper than fully open access, mostly due to higher average APCs. The proportion of the total open access market attributable to hybrid is growing...

- Hybrid is the natural extension to supplement established subscription publishing revenue streams. Its wide adoption by publishers is further entrenching large players and big deals.

The first “possible disruptor”:

Institutions are finding that open access increases their costs of publication, reflecting their higher proportion of authorship compared with the readership-driven costs of subscriptions. In particular, governments of wealthy nations may see this as subsidising global research. If they lose their appetite for this – say, due to the rise of populism – then they may roll back policies encouraging open or public access.

Or, y’know, they could *fight back*, encouraging university-based cost-sensitive OA, much like most of the world outside of the Wealthy West.

Delta Think seems to regard “hybrid” as ideal—and why not, since appears to be most profitable? And I’ll close with this terrifying sentence:

Existing market structures have not merely adopted open access but, large incumbents especially, are using it to further consolidate their position, leveraging their market dominance via big deals and offsetting arrangements.

Scholarly communications shouldn’t just be open, but non-profit too

This lengthy post by Jefferson Pooley appeared [August 15, 2017](#) on the *LSE Impact Blog*. It’s CC BY and way too long to repeat here.

Pooley makes a good case (with the caveat that “non-profit” doesn’t automatically mean cost-effective). I’d probably argue with some of it, but I think I’ll leave it here. The comments are also worth considering.

Viability

Or sustainability, if you prefer—various claims about and aspects of long-term prospects for OA and what it means to others.

Journals Transitioning to Open Access May Have Limited Sustainability Absent Revenue Streams

Posted by Pablo Markin [on August 6, 2017](#) at *OpenScience*—and maybe that’s all you need to know about this piece. Along with the tease:

Reliance on foundation or contingency funding does not substitute for viable revenue models that journals switching to Open Access may need to maintain quality.

Essentially, the piece is slamming the new (at the time) *Algebraic Combinatorics* because it doesn’t have big APCs.

While these editors have considered Springer’s APCs of 3,000 USD excessive for articles published in Open Access, the planned *Algebraic*

Combinatorics journal needs to rely on the support of MathOA and other Open Access initiatives, such as the [Mersenne Centre](#). Though the operating costs of digitally produced journals are likely to be relatively low, newly launched journals may struggle to receive recognition in their target scientific community and more widely. Furthermore, maintaining quality can represent a concern, especially after external funding runs out and when a viable business model to support Open Access journal's operations is lacking.

Oh, and of course *eLife*'s imposition of a \$2,500 fee: "without adding an APCs-based revenue stream the journal was likely to struggle to ensure its quality, maintain its competitiveness against established journals in its field and remain long-term sustainable."

University sponsorship? Society sponsorship? Consortial sponsorship? Apparently not: fees—and *big* ones at that—are the only route to sustainability. I say look at OpenScience's motto "*Your guide to Open Access publishing and Open Science*" skeptically. (There's also the issue of how you define "quality," but I'll steer clear of that morass.)

[I had another item from the same source, a year later, tagged for this section—but on reading it, it seems mostly a discussion of why Elsevier might lose money from OA Big Deals and how unsustainable that would be...so, since this issue isn't coming out on April 1, I'm omitting it.]

The Open Access Big Deal: Back to the Future

I'm going to say something about this lengthy post, by Richard Poynder [on March 28, 2018](#) at *Open and Shut*, that I'm not always known for saying about Poynder's writing:

I think he gets it pretty much right here, and I recommend the piece—but read the lengthy comment stream with considerable skepticism, especially given some of the participants.

On a superficial reading open access is intended to do no more than what it says on the can: provide an internet-based scholarly communication system in which research is made available *sans* paywall – in other words, a system offering improved *accessibility* over the traditional subscription system.

On a deeper reading, however, we learn that the OA movement was a response to the unsustainably high costs of the subscription system and that it was based on a conviction that open access would be a more cost-effective way of sharing research – in other words, a system offering improved *affordability*.

Except for the continuing nonsense that there is such a thing as a unified "OA movement," this is right: many early OA advocates were and are primarily concerned about access (you see that when you get the suggestion that *all* library subscription money could be turned over to

publishers of OA journals); many others were and are concerned about long-term affordability; and still others are concerned about both. (I'm in that final category.)

And I think he's right about this:

One obvious problem with the OA Big Deal is that it allows large legacy publishers to lock their high prices into the new OA environment, while marginalising and excluding the new-entrants that were supposed to disrupt the market. Unless something changes, therefore, the *affordability* problem will only be perpetuated.

In practice, any strategy that rewards legacy publishers *or for-profit OA publishers* and allows them to set fees at will is likely to result in a race to the top, where OA becomes more expensive than subscriptions. And Big Deals without fully transparent details are even worse.

There's a lot more here. I could probably find some nits to pick, but in this case I don't think I'll do that.

As noted: if you read the comments at all, be wary. That I've found it necessary to block one of the people involved—given that I do try to stay informed on most aspects of OA—says a lot.

Scholarly Associations and the Economic Viability of Open Access Publishing

Speaking of April 1...I swear that I tagged this, by John Willinsky, published [April 8, 2005](#) in *Journal of Health Sciences Policy* 1:2 (2018), because the article looked interesting and on topic at the time. (I tagged it on August 10, 2018.) I'll skip the abstract, which isn't *quite* on point, and go right to the XML version of the article, which begins:

The immune system identifies and combats foreign objects, including pathogens, in the body. T cells are key components of the immune system, and each has a unique variant of a signalling complex known as the T cell receptor on its surface. T cells scan the surfaces of other cells in search of antigens, which are peptides (fragments of proteins) that derive from foreign pathogens such as viruses. Successful recognition of a foreign peptide leads to an immune response that, in most cases, ultimately rids the body of the pathogen. Most importantly, however, the immune system must be able to discriminate between peptides that are produced naturally in the body ('self' peptides) and foreign or 'non-self' peptides. This is challenging because self peptides may have similar structures to non-self peptides and are often much more abundant.

Um... I check, and the journal isn't in *DOAJ*. So I click on the journal's "About" tab. It begins:

This is text from the About the Journal textbox. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut tempor urna lorem, sed iaculis dui

gravida id. Etiam in vulputate dui. Mauris tincidunt odio convallis venenatis tempus. Proin vel commodo dolor. Nunc semper ante et lectus convallis ullamcorper. Donec nec tortor at mi suscipit mollis. Phasellus fermentum venenatis dignissim. Etiam at enim nec lacus consectetur iaculis at quis arcu. Ut vitae est dui. Integer orci felis, vulputate sed maximus eget, vulputate eget nibh. Praesent scelerisque in sem quis vehicula.

OK, so I finally look more closely at the URL—which says “demo” twice. And the footer identifies the “journal” as “**Demonstration Journal of Health Sciences Policy.**”

For what it’s worth, the PDF link brings up a long article that may indeed be a 2005 piece on OA and scholarly societies. I don’t think I’ll comment on it. I must say that this demo of the OJS platform looks better than most OJS journals I’ve seen.

Open access and the reality of getting from here to there.

Now that I’ve read through this long post, by Brian McGill On [December 19, 2018](#) at *Dynamic Ecology*, I’m torn between wanting to fisk it, wanting to ignore it, and wanting to discuss it briefly as a good example of why things may not be looking very good.

I’ll quote the first paragraph:

Open access (OA) publishing* has long been touted as an important reform needed in academic publishing. OA is when an academic journal article is published under an open license like CC-BY or CC-BY-SA** or public domain and is made available to readers without a paywall. The benefits of OA are obvious. Anybody anywhere can read a scientific paper without having to pay or have a subscription. It is hard to disagree that on some fundamental level science publishing should be out in the open like this. And on a practical level researchers without university affiliations and in countries with libraries that cannot afford subscriptions will clearly benefit. And it might solve the problem of journal subscription prices increasing at a rate much faster than inflation and breaking the backs of libraries since subscriptions go away. Despite its benefits, OA is not the world we are in today – the traditional model has been focused on a reader pays (subscription) model. But I have come to think that the forces aligned behind OA have become strong enough to push us part way there. So how do we get from one model to another?

We’ve been “part way there” for a while—and I submit that more than 700,000 articles per year is probably around a quarter of all the research articles. But otherwise, OK.

It gets more difficult after that. McGill makes the standard “Gold=APC” equation (he mentions other colors in a footnote, but it’s one in which he seems to accept embargoed access as legitimate OA, and throughout the article itself the theme is Gold=APC).

McGill absolutely uses “predatory” without scare quotes and seems to dismiss anything without high charges. Consider this sentence:

Specifically and prominently, APC charges that are often over \$2,000 dollars and usually over \$1,200 (and sometimes over \$5,000 even in non-predatory OA journals like *Nature Communications*)****, which means that many, many people could not publish in such an OA journal. Including those who invested sweat equity as reviewers or past associate editors.

Frankly, to my mind, a megajournal charging \$5,000 fees is the very definition of “predatory,” but that’s not what McGill has in mind. His attitude regarding the thousands of no-fee OA journals? As far as I can tell, he does not recognize that they exist.

A long string of comments and conversations. I’m a bit astonished to find a Brazilian scholar decrying “rising APCs and pressure for OA in public funded projects” in a country where 82% of OA articles appear in no-fee journals (and more than 40% of the remainder cost less than \$200). But then, that scholar makes a point of discussing *top-tier journals*. There are comments that made me want to scream (e.g., one saying OA “invites cheating” because some universities and funding agencies are effectively subsidizing other ones). And, well, I’ll stop here.

Let’s all get angry about the Serials Crisis again

Ryan Regier posted this on [August 18, 2018](#) at *A Way of Happening*, and it’s about a different but related sort of viability: the viability of research journal subscription costs.

It’s well-written, uses some good real-world analogies, makes the point that the *rate of increase* is a key issue (that is, hyperinflation, and that will *predictably* be a killer issue if OA is under the control of today’s big publishers). Here’s the intro:

Something I’ve noticed lately in scholcomm and open access discussions on social media is a misunderstanding of the Serials Crisis. Typically when it gets referred to it is often interpreted that the ‘crisis’ is the high prices of scholarly publishers. The oligopoly they have and the 30% profit margins they make. This is a *piece* of the Serial Crisis, but what the Serial Crisis is really about is not the high costs, the dominance of a small number of publishers, or the high profit margins, it is about the *rate* by which scholarly publishers have *increased their prices*. I think this is an important distinction and I am going to try and explain why.

The [price of serials](#) usually goes up 5% – 6% per year while the rate of inflation is only around 2.5% per year ([in the US](#)). This essentially means that while the cost of everything else goes up 2.5% per year, the cost of serials goes up about double that.

This doesn't seem like that big of deal though right? 2.5% and 5.5% are small percentages. An increase of a couple percentage like this is essentially just a rounding error, right?

Yep. If you can find me secure investments that will guarantee me 5%-6% return and that inflation will stay at 2.5% or less, I'll have a happy retirement indeed...because, as Regier goes on to say, "The problem is it adds up."

Not much more to say here. It's not a long piece. Most of my readers probably already know this, but it's good to be reminded of it. (And, to be sure, it's worse in Regier's Canada because of the strong U.S. dollar.)

Gold Open Access Journals: From scientists' "publish or perish" to publishers' "publish to get rich"

Admittedly, my first reaction to that title for this article/post, by Ferran Martinez-Garcia [on October 3, 2018](#) at *mapping ignorance*, is "overgeneralization much?" (as far as I can tell, only 36 publishers are likely to have gotten \$1 million or more in fees in 2018), but that may be unfair.

The introduction, about life as a scholar in Spain in the "old times," is charming. But then you get this, and I'm sure you'll see what's missing:

I first heard the term "open access" by the end of the 1990s. The idea looked quite utopic and even revolutionary: **scientific papers available through the web to everyone, for free**. This allowed free access to scientific information even to labs in developing countries with low funding (I was very sensitive to that, you may understand why). The counterpart was that someone had to pay for the system to be sustainable. And we, the scientists, were the chosen ones, thus leading to another new concept: publication fee. Once your paper is accepted, after a hard peer-review process, you receive an invoice that you have to pay if you want your paper to be published open access. By this time I became a senior PI and I understood what all this meant: I had to get money not only for salaries, equipment, reagents, glassware, registration and attendance to meetings... but also for publication fees.

Because, of course, there aren't any OA journals that don't have such fees. Which makes me wonder how Spain managed to have 17,206 articles published in no-fee gold OA journals in 2018 (90% of all Spanish Gold OA). Oh, that's right, they're not the *right kind* of journals, as becomes clear when I quote the rest of that paragraph:

In the ensuing years, new Open Access journals¹ appeared and they were very successful. Their Impact Factors rose and they became Q1 in JCR (the journals were it is worth publishing) to the detriment of the old, traditional journals that mostly became Q2 (where you prefer not to publish if you want to get projects and to promote). Frontiers, BMC, PLOS and so on became the target journals for many scientists.

The author feels *correctly* that high OA fees are in many cases supporting very profitable private publishing companies—but doesn't seem terribly concerned that subscription journals do exactly the same thing (and yes, he makes no bones about submitting to traditional journals—as long as they're the *right kind* of journals).

It's frustrating to read this article, even as I agree with parts of what he's saying, if only because he ignores most of the landscape *and* insists that journals must be Q1 (high impact factor) without recognizing that this pretty much assures that expensive journals will dominate—and that high subscription fees are no more sustainable than high “processing” fees.

He has a solution:

Scientific societies, both European and American, **must start running themselves open access journals**. They might apply sensible publication fees to their authors, lower than 1000 euros/dollars. They might also give special discounts to researchers acting as reviewers for the journal. And they might, even so, get moderate benefits that would help the corresponding society to promote its scientific or academic speciality. On the other hand, funding agencies might help subsidizing those scientific societies applying these OA policies, to boost the growth of fair OA journals, instead of paying astronomic amounts to OA journals for the only benefit of private, oligopolistic publishing companies.

Let's set aside the wording that seems to ignore the Global South entirely. I might note that more than 1,000 gold OA journals are published by societies already (I show 1,152, but that includes a handful of government-published journals), with more than 70,000 articles in 2018. And, frankly, the idea that societies won't charge high prices is a proven fallacy—heck, the American Chemical Society is a society.

Are we being wilfully blind about the transformation that's needed in scholarly publishing?

This article, by Toby Green on [May 24, 2019](#) at *Medium*, has this tease:

In this post Toby Green explores the recent fashion for “transformative” Read-and-Publish agreements and wonders if they're really what's needed to deliver affordable open access.

You can probably guess Green's answer, but I'm charmed by the opening paragraphs:

Global sports such as Soccer and Rugby grew out of the games played by C19th schoolboys on the fields of Britain's private schools.

However, one game remains rooted to its original spot: [The Eton Wall Game](#).

The game is, [reportedly](#):

“... exceptionally exhausting The skill consists in the remorseless application of pressure and leverage as one advances inch by painful inch through a seemingly impenetrable mass of opponents.”

The game’s ‘Superbowl’ occurs every St. Andrew’s Day when succeeding generations of Etonians have attempted to crab a ball along the wall and score goals from the ‘calx’ or endzones.

The kicker (and probably why the game never caught on) is that no goals have been scored on St. Andrew’s Day since 1907. You read that right—no goals have been scored in over a hundred years.

This brings to mind another esoteric wall game, “Open Access”, where it could be argued that the remorseless application of pressure over the past two decades has advanced open access inch by painful inch to the point where we are all exhausted, but the goal—no paywalls—remains out of reach.

That both games have remained goalless for so long suggests each contains a fundamental flaw that can only be fixed by some sort of transformation of the way it’s played. Whisper it quietly, but unlike tradition-loving private schools in Britain, “transformative” has emerged as a new buzzword in the Open Access lexicon.

Charming. And not wrong. Green discusses what certain eminences mean by “transformative,” and I encourage you to read it directly. As I read it, the idea of “transformative” is to change *who* pays but assure that the entrenched publishers will stay entrenched and keep adding revenue.

I’ve a couple of questions.

Firstly, does merging two existing models qualify as transformative? All I see is a flip, inch by painful inch, from a paywall to a playwall. Playing the game on the other side of the wall may qualify as a ‘major change’ but does erecting a barrier to being published in place of a barrier to being read ‘make it better’, as the [definition](#) demands?

Secondly, is this transformation affordable and sustainable? Because, as the EUA Big Deal Report says, **scholcom faces two challenges: the shift to open access *and* the need for cost control.**

He takes issue—again, correctly I believe—with the handwave that there’s enough subscription money to make the “flip” work, and does so for the right reasons (which I won’t repeat, partly because I’m staying away from direct discussion of PlanS).

Moving past more well-written, well-reasoned paragraphs on the situation, we get to a possible transformation based on preprints (that is, repositories) as the fundamental means of dissemination.

If scholarly publishing is to be affordable in the digital age, it needs to be transformed for the digital age. It needs to be re-thought and re-designed on a low cost basis with demand elasticity built-in.

Consider this. It costs just US\$10 to publish a preprint on arXiv. Compare that with the US\$2500 for a typical APC. **Is the value to the scholarly community of an article in a journal really US\$2490 greater than a preprint?**

A recent [preprint](#) (what else?) reported that the quality of life science preprints on bioRxiv is within a range similar to peer-reviewed articles in journals. Readers seem to recognise this because new preprints are downloaded at almost the same rate as new journal articles. So why are [two-thirds](#) subsequently published in peer-reviewed journals in a final form that is *largely indistinguishable* from their preprint versions?

OK, so \$2,500 is a little high (\$1,569 is the actual average for fee-charging journals), although for the UK (\$2,048) it's not very far off. That doesn't change the discussion meaningfully.

These excerpts and notes may not do Green justice. It's a good article, with some concrete suggestions I haven't repeated. Read it.

The death of the learned societies?

This report by Sicco de Knecht [appeared June 12, 2019](#) in *ScienceGuide*, with this tease:

With open access Plan S approaching, learned society journals are expected to fall in hard times. But what do we know about the business of co-publishing with commercial parties?

And before quoting more of it I have to ask the same question I've been asking for a decade or more, with regard to society journals with subscription prices *substantially higher* than the costs of the journals:

On what basis can societies (outside of librarianship) assume that the non-publishing activities of the society should be paid for or heavily subsidized by academic libraries?

It's actually worse: Libraries are expected not only to subsidize the societies but also to add another big chunk for the big publishers that, in many cases, actually publish the journals.

Not only are the society journals important to their respective field of science, they often are the main lifeline of the societies themselves. Interestingly the Royal Academy not only acknowledges this, it also indicates that it condones the practice of using paywalls specifically for learned societies. "The subscription fees of society journals are generally regarded as reasonable and any potential profits are used to benefit the field and science itself."

It might be tempting to believe the statement above that fees are fair. Indeed, individual subscription rates to for example [Physical Review Letters](#) (American Physical Society) can be as low as \$65 (online) or a larger if the size of a publication is considerably larger such as \$235 for the [Proceedings of the National Academy of Sciences](#). But it isn't always as easy to assess subscription rates, since many subscriptions – also to learned society journals – are tied up in bundles.

Also significant: those subscription rates are *personal* rates. For the *Proceedings*, university institutional rates are from \$1,635 to \$4,015, with a minimum of \$3,060 for research universities. (*Physical Review Letters* doesn't show institutional rates on its website, as far as I can tell—but I'll bet the rate is at least one order of magnitude higher than \$65.¹)

Of course one of the commenters (an editor-on-chief of a society journal actually published by SpringerNature) says he's "totally on board with open access"—and follows that supposed support with:

He concurs with many of his colleagues that [PlanS] hits learned societies unreasonably hard, especially hard when one regards the added value. "We contribute to science and society in a myriad of ways. For example through our many committees for public and professional policy."

"In a day and age that there is this much development in terms of new findings and technologies around human genetics we need learned societies more than ever." By outlawing the subscription model, Plan S basically cuts off the society from the majority of its funding. "In general it's safe to say that half of our revenue comes from the journal, and the other half is from our yearly conference."

After another similar discussion, we get the other reality:

To both Van Ommen and Clevers the financial benefit to the learned society is clear, but neither one knows exactly how much the commercial publisher get out of the deal. Van Ommen: "Apart from the profit margin on the journal they do not have to disclose such information. They are a publicly traded company." Clevers' reasoning is similar: "we were clear on what would be a good deal for us, and they took it."

As long as libraries foot the bill and our society gets it revenue, why should we care? Immediately followed by this subhead:

Academics aren't interested in the numbers

There's more, and I find it a bit depressing. (I think the author does a pretty good job, by the way.)

¹ I was a math minor and *do* know what an order of magnitude is—that is, ten times as much or one-tenth as much.

Questionable?

I tagged items with this subtag for a variety of reasons. You might disagree with my choices. Such is life.

I find I'm dropping most of these items (I had nine to start), either for length and complexity or for tiresome equations of OA and sketchy publishers, or because it was difficult to be sure just where the PDF came from. Life really is too short.

In that last case, it's sort of a shame, as the piece—a seeming defense of subscription or hybrid publishing over gold OA—uses a journal as an example that charges *hefty* “page fees” and “color plate fees,” making the typical cost to an author *for this subscription journal* well into the bracket of the most expensive fee-based journals. But there it is...

Working towards a transition to open access

Given that Gemma Hersh's [September 26, 2017](#) post is at *Elsevier Connect*, perhaps my reason for tagging is obvious. If not, the tease may help:

Thoughtful contributions from the Max Planck Digital Library and the University of California Libraries have shown how gold OA could play a central role; as the world's second largest gold OA publisher, we offer insights to make the transition possible

The Max Planck contribution? An unfortunate article claiming that there's enough subscription money to ~~keep publishers as profitable as they are now~~ totally fund a 100% shift to gold OA (which wouldn't be true for very long, I suspect—and in any case does zero to ease cost pressures). Naturally, Elsevier likes the idea that they get as much revenue and profit and don't have to worry about nasty subscription negotiations and fulfillment.

Ah, but even then Elsevier wants to hedge its bets:

While gold open access offers immediate access to the final published article, the trade-off is cost. For those that can't or don't wish to pay the article publishing charge (APC) for gold open access, green open access – making a version of the subscription article widely available after a time delay or embargo period – remains a viable alternative to enabling widespread public access. Indeed, in a world where over 80 percent of articles continue to be published under the subscription model, green open access will surely remain an important component of many transition strategies.

It almost certainly isn't “over 80 percent” now, and probably wasn't in 2017, when at least 560,000 articles were published in gold OA journals that are now listed in *DoAJ*. But never mind: note the wording of Elsevier's version of green OA: “making a version of the subscription article widely available after a time delay or embargo period.” That's not OA by my lights, and maybe that's why we're told about “enabling widespread public

access,” not quite the same thing as enabling immediate access to anyone with access to the internet.

Then comes the killer for questionable: “one possible first step for Europe to explore would be to enable European articles to be available gold open access within Europe and green open access outside of Europe.”

“Gold open access within Europe” is *not open access*. Period.

And, of course, Elsevier wants us to “Be realistic about cost.”

We believe that the primary reason to transition to gold open access should not be to save money (it won't, and there will be winners and losers as costs are redistributed) but that it would be better for research and scholarship – that it is a goal worth achieving even if it were to cost some institutions more money. Advocates for a global transition to gold open access alone should be clear that an entirely gold open access system would cost more in some regions and for some institutions – especially those that are highly research intensive and therefore pay more in a “pay to publish” model – and that they consider this a price worth paying.

Elsevier's right: as long as today's dominant players continue to dominate and set their prices as they wish, *it won't* save money—and in a way it's surprising that they're so open about the intent to squeeze every dime out of any model. And, to be sure, they're frank on intentions: APCs “are likely to be higher in a fully gold open access world.”

I was wondering where UC came into play. I still am: it's never mentioned in the piece. Oh, and there's the issue of gold OA funded other than by author-side fees. Elsevier knows about that: *half* of its DOAJ-listed journals don't charge fees. But from this essay you'd never guess such a thing existed. (The comments are a mixed bag.)

A Reality Check on Author Access to Open Access Publishing

I probably shouldn't comment on Hilda Bastian's [April 2, 2018](#) piece at *Absolutely Maybe* because I was (I believe) involved in the initial discussion and because I have less and less patience with “those may be facts, but they're not the *right* facts”—I get enough of that from a certain orange-haired con artist.

But here we are. Bastian begins (after a cartoon citing a silly looking white-haired gent with a big red bow tie saying “That's not a problem! *Most* open access journals *don't* charge authors” with a scowling woman—who I take to be Bastian):

Technically, the “most journals don't charge authors” statement could well be true. Most open access journals may not charge authors. The source that's used to support the claim is generally DOAJ – the Directory of Open Access Journals. One of the pieces of meta-data for journals in DOAJ is whether or not the journal levies an APC – an author processing charge for an open access (OA) publication.

I love that shading: “*may well* be true.” It is true for serious OA journals: 70% do not charge fees, whether APC or otherwise.

But I think this is a data framing that’s deeply misleading. And it does harm. As long as people can argue that there are just *so many* options for fee-free publishing, then there will be less of a sense of urgency about eliminating, or at least drastically reducing, APCs. As [Kyle Siler](#) and colleagues show in the field of global health research, the APC is adding a new stratification of researchers globally, between those who can afford open publishing in highly regarded journals, and those who can’t.

I’ve almost always said “but most articles” (currently about 58%) “are in journals that have fees.” And here, a bit further down, is the key: “*highly regarded journals.*”

This [70% of OA journals not being OA] tells you nothing about the viability of “no-fee” OA publishing from an individual’s point of view. For a start, not having an APC doesn’t mean the journal is accessible to everybody. It has to accept work from your field. You have to be eligible to publish in it – an APC is not the only possible access issue. You have to write in its language of publication. And you want it to be accessible to people in your field. In mine, that means you really want it to be indexed in PubMed. And having DOIs is critical for citations to be counted by key systems.

Note “no-fee” in scare quotes. The rest is true enough, and equally true of subscription journals, but never mind.

Now comes Bastian’s big graphic demonstration of why there really aren’t any no-fee OA journals. And, with one exception, I might not even argue much with her analysis. The exception: she not only removes all journals that are non-English, she removes those that **aren’t English-only**. (There appear to be 257 of those.) So I guess any Canadian journals that allow French articles are out of the question, just as one example?

The biggie, of course, is that if Medline or PMC didn’t index the journal in 2017, the fault is with the journal, not with Medline or PMC. Those last two steps get her from 894 (journals without fees that cover biomed, issue DOIs, and accept English-language papers) to 105.

Oh, and worse, most of these journals are small (fact: no-fee OA journals are typically smaller than fee-based journals):

Even if there are quite a few more, this important sector would clearly still be very small. There were over a million articles published in PubMed in 2017. A hefty chunk of them were OA. So just under 10,000 in all APC-free journals combined doesn’t provide a lot of capacity. *PLOS One* alone published over 21,000 articles in 2017: 30% of these journals published less than 50.

Bastian then proceeds to throw a little shade on university-published journals and those that aren’t in the *right regions*:

When you look at the data, a few things jump out at you. These journals are often regional – and often so locale-specific, that the journal is that of a department of a university. And while some of these journals accept contributions from others, free services to those associated with an institution seems to represent a significant part of this neck of the publishing woods.

Many are based in regions that aren't high status in biomedical science. And while there are of course well-known and highly-respected journals in their fields among them, consigning authors to the non-fee journal sector is to send them to a tier of journal that the APC-supported community of authors would, by and large, not think was good enough for themselves...

The final paragraph is a bit disingenuous, especially given that Bastian has sniggered at journals published by university departments:

I've focused on the weaknesses of non-APC journals. I don't want that to be the final take-away message though. This sector could grow, especially if more academic institutions provided more publishing support to their personnel – or embraced consortium models like the Open Library of Humanities [model](#). Scholarly publishing without subscriptions or author fees, on scale, means considerable investment. I hope it happens. In the meantime, please don't give the impression that it's an accessible option for most authors. Unfortunately, it probably isn't yet.

To be honest. I suspect she's right in biomed. I believe she's wrong in H&SS. But denigrating what's being done is, well, an interesting way to encourage more of it.

Open access, at what costs?

I'm seeing an endless stream (or at least trickle) of editorials and articles in biomed journals decrying various aspects of OA. This one, by J.W. van Mil, appeared [April 1, 2019](#) in the *International Journal of Clinical Pharmacy*—a SpringerNature journal—and is a prime example of the genre. It's such a prime example that I'd be tempted to quote the whole thing, but here's why I won't: “© Springer Nature Switzerland AG 2019.”

By the way, if you're one of those who think of Elsevier as The Big Bad when it comes to commercializing OA, it's worth noting that Holtzbrinck (parent of SpringerNature and Frontiers) accounts for nearly three times as many 2018 OA articles, nearly *five times* as many fee-based OA articles, and a considerably higher average fee (whether for fee articles or all articles) than Elsevier.

After noting the desire of “many interested parties” to make publicly-funded research freely available, we get this:

But, what does free of charge really mean? The peer review, editing and publication process can never be free! There are costs involved in the

reviewing, editing and publishing process, and these costs need to be covered somehow. Although printed versions of journals are gradually disappearing, the lay-out, indexing and platform hosting costs now must be considered. The estimates of the costs of processing a biomedical manuscript, from submission to online publication vary from € 3000 to € 30,000. Who pays?

I'd love to see the source of “the estimates of the *cost* of processing”—as opposed to, say, the *revenues achievable* from publishing. But of course, that's not footnoted.

Then we get a discussion of models, with scare quotes around Open Access and *not even the hint of a possibility* that no-fee OA is even possible (or that green OA exists).

Given that, it's hardly surprising that the author suggests that OA articles may not be quality-controlled and that “researchers from less developed areas” will be locked out (since, apparently, no-fee and low-fee journals and waivers don't exist).

The conclusion basically repeats the idea that all OA is APC-based and says repositories are bad things—and, remarkably, concludes: “For those with limited financial resources, the traditional biomedical science publishing model is still very important and affordable, and it represents an unparalleled traceability and findability for all.”

I've seen a lot of things said about biomed subscription literature. “Affordable” is a new one for me.

A response to Elsevier's insights into making the transition to open access possible.

Yes, this piece by Toby Green, published [September 27, 2017](#) at *Medium*, should really be the second piece in this section, since it's a direct response to the first. But it also nicely closes out what's become a relatively brief section—and if it showed a CC license, I'd quote the whole thing. (It's short: *Medium* calls it a three-minute read.)

I'll just quote one paragraph and leave the rest for you:

Your suggestion that a regional approach to gold open access might be a way forward pains me as much as Lucky's soliloquy does the protagonists in the play [*Waiting for Godot*]. If there is one industry that is truly global in nature, it is scholarly publishing. This won't be news to you, but if scientific articles are [increasingly co-authored on an international basis and these papers tend to be more highly cited](#), then surely it is a nonsense that an article could be open in Europe but closed in Australia. A regional approach would also prolong inequality between the haves and have not, which must be unacceptable at a time when digital has opened the way to bridging divides at almost no cost.

Miscellany

A few cases where I didn't have a convenient grouping.

North, South, and Open Access: The view from California with Jeff MacKie-Mason

This piece was posted by Richard Poynder [on April 2, 2018](#) at *Open and Shut?* And I'll get to the heart of the piece soon—but first, a mini-rant about the last sentence in the third paragraph:

One implication of this would seem to be that we can expect widespread use of the pay-to-publish model where, instead of readers paying to access other researchers' papers, authors will pay to publish their own papers – by means of article-processing charges (APCs). **Currently, APCs are around \$3,000 a paper, although they can be both higher and lower than this.** [Emphasis added.]

Yes, I discussed this nonsense at the top of this roundup, without specifically pointing to Poynder, but he seems to be fond of the figure, and I begin to wonder: At what point does a mistake become a deliberate falsehood?

Here's the thing: *this is simply not true*—and given Poynder's glee in calling out *actual* facts as lacking context, I've tried to figure out a context in which this *would* be true.

To repeat what I already noted, for context:

If someone says APCs average \$3,000, they're either wildly misinformed or simply wrong. The average cost per article for articles with fees in 2018 was \$1,569. Narrowing that to biomed doesn't make it \$3,000, although it does increase it to \$1,849. (The figure for STEM is \$1,510, and for humanities and social sciences it's \$558—but only 22% of H&SS articles involve fees.) Only 18,890 articles appeared in journals with fees at or above \$3,000: that's 4.6% of articles with fees, or 2.7% of all gold OA articles. More on this later in the roundup...

But I'll try again, to find *some* context in which Poynder's Price Point is correct. Let's say that "around \$3,000" means \$2,700 to \$3,300. **Nope.** That range includes 88 journals with 34,680 articles out of 3,506 fee journals with 413,826 articles.

Maybe Poynder means "in wealthy countries"? **Nope.** United States: 25 journals with 4,440 articles, out of a total 262 fee journals with 67,307 articles. United Kingdom: 35 journals with 5,621 articles out of a total 1,162 fee journals with 138,762 articles. Switzerland: 24 journals with 24,115 articles out of a total 220 fee journals with 93,074 articles—well, at least we've hit the point where "Currently, more than 20% of articles published in Switzerland have fees of around \$3,000 a paper," but that's quite a different statement.

Maybe he means “in the most expensive disciplines”? **Nope.** Biology: 14 journals with 8,332 articles out of a total 259 fee journals with 37,951 articles. Medicine: 60 journals (yes, most \$2,700-\$3,300 journals *are* in biomed—no surprise there!) with 19,521 articles, out of a total 1,260 fee journals with 139,336 articles.

Nope. Nope. Nope. Nope. I can find *no* context in which it’s correct or even only mildly wrong to say “**Currently, APCs are around \$3,000 a paper.**”

Oh, wait, maybe Poynder only considers Certain Publishers to be worth treating seriously as OA providers? Elsevier’s fee gold OA journals average \$1,730 fee per article. Holtzbrinck (SpringerNature, Frontiers) comes closest—but even there, the average is “only” \$2,467.

Maybe it was true in previous years? I can assure you that it wasn’t.

Poynder sells himself as a journalist. He writes a *lot* about OA. [He claims to be impartial.](#) I do not for one second believe that he’s unaware of the GOA series, although I’m willing to believe he’s never read any of them.

Anyway, there’s my mini-rant. What’s worth noting about the article itself?

After reading through the interview, I’m not prepared to summarize or critique it. Maybe that’s because I believe the “big flip” approach to gaining 100% OA is, in the long run, a very bad idea that will further entrench and enrich the very publishers that have been draining library revenues already; I did not find Mackie-Mason’s arguments compelling. But you have the link to the interview and to [responses to that interview](#) by Mahmoud Khalifa—an interview preceding which Poynder *once again* states flatly, without additional context, that “**Currently, APCs are around \$3,000 a paper, although they can be both higher and lower than this.**” At least he’s consistent. And wrong.

I do like Mackie-Mason’s comment about “predatory” publishers:

Right now, we have “predatory” publishers proliferating the number of subscription journals, and the number of low-quality articles published to fill them, to exploit consumers (universities and other institutional subscribers). So-called prestige publishers like Elsevier are doing this.

Because the current system separates those who produce the research (authors) from those who pay for subscriptions (libraries), for-profit publishers have found that they can vastly expand their profits by overpublishing – authors insist to their chairs and deans and provosts that we “need” to subscribe to all these journals (because they are publishing in them and want the prestige), and ever-increasing amounts of research funding is being transferred to the shareholders of for-profit publishers.

Ahem...

I find myself equally unable to usefully summarize or critique the companion interview [from April 24, 2018](#), “North, South, and Open

Access: The view from Egypt with Mahmoud Khalifa”—and you won’t be surprised that the introduction to that interview *also* restates Poynder’s Price Point.

North, South, and Open Access: Jeff MacKie-Mason responds from California

Here’s the fourth shoe, appearing [May 4, 2018](#) at *Open and Shut?* It’s a four-parter:

Today I am publishing the final part of the experiment. This consists of four sections. First (A), MacKie-Mason responds to Khalifa’s Q&A; second (B), MacKie-Mason comments on Khalifa’s response to his Q&A; third (C), Mackie-Mason comments on the “polemical” nature of the preambles I attached to the interviews; fourth (D), I respond to MacKie-Mason’s comments about my style.

Since I gave up on summarizing and critiquing the first three episodes, it seems silly to say much about the finale, other than “here it is.” Poynder doesn’t do his usual lengthy preface with his usual errors about fees. The discussion about Poynder’s polemical style is interesting. I’ll leave it at that.

The Fair Open Access Principles and Open Access Transparency

This article by Johan Rooryck appeared [June 1, 2018](#) in *Against the Grain*.

This is interesting enough and clear enough that I’d be tempted to quote it all, but of course that’s illegal lacking a CC license. In any case, I can cite the principles:

1. The journal has a transparent ownership structure, and is controlled by and responsive to the scholarly community.
2. Authors of articles in the journal retain copyright.
3. All articles are published open access and an explicit open access licence is used.
4. Submission and publication is not conditional in any way on the payment of a fee from the author or its employing institution, or on membership of an institution or society.
5. Any fees paid on behalf of the journal to publishers are low, transparent, and in proportion to the work carried out.

The discussion of each principle is clear and worth reading. I really can’t disagree with much of anything in this article. \$1,000 an article as a limit for “low” seems on the high side—but “transparent” pretty much makes up for it. A good piece, worth reading—and yes, the existing system *definitely* has money enough to pay for fair OA.

The Two-Way Street of Open Access Journal Publishing: Flip It and Reverse It

This sad article, by Lisa Matthias, Najko John and Mikael Laakso, was published [on April 3, 2019](#) in *publications*. “Sad” applies not to the quality of the article, but to the fact that it was needed and feasible. The abstract:

As Open access (OA) is often perceived as the end goal of scholarly publishing, much research has focused on flipping subscription journals to an OA model. Focusing on what can happen after the presumed finish line, this study identifies journals that have converted from OA to a subscription model, and places these “reverse flips” within the greater context of scholarly publishing. In particular, we examine specific journal descriptors, such as access mode, publisher, subject area, society affiliation, article volume, and citation metrics, to deepen our understanding of reverse flips. Our results show that at least 152 actively publishing journals have reverse-flipped since 2005, suggesting that this phenomenon does not constitute merely a few marginal outliers, but instead a common pattern within scholarly publishing. Notably, we found that 62% of reverse flips (N = 95) had not been born-OA journals, but had been founded as subscription journals, and hence have experienced a three-stage transformation from closed to open to closed. We argue that reverse flips present a unique perspective on OA, and that further research would greatly benefit from enhanced data and tools for identifying such cases,

And here’s the first paragraph of the introduction, which seems frank and sets the tone for the rest:

During the last two decades, the scholarly publishing landscape has undergone several major concurrent shifts, two of which have had a particularly strong influence on the publishing and economic models that scholarly journals operate on. The first shift relates to the steadily increasing, high concentration of market power held by only a few individual publishers (i.e., Elsevier, Sage, Springer Nature, Taylor & Francis, Wiley) that have grown to their current size largely by neutralizing their competition through mergers and acquisitions of individual journals as well as smaller publishers [1,2]. While a competitive, functional market requires substitutability of products, low entry barriers, and demand and supply elasticity, these conditions do not exist in the scholarly publishing market [3]. The growing stronghold over market share and power has enabled these publishers to raise their subscription prices and maximize their revenues according to shareholder expectations. As subscription costs continue to rise rapidly [4,5], academic libraries cannot keep pace and face difficulties providing their researchers with access to essential literature. In many cases, the financial pressures have forced libraries to shift their expenditures and to cancel journal subscriptions [6,7]. The second and interrelated shift was set in motion when the traditional publishing model

was beginning to be fundamentally questioned and replaced with alternative models not reliant on reader-side payment, i.e., open access publishing, which sometimes involves author-side publishing charges. Open access (OA) was initiated as a counter-movement to the publishers' profit-maximizing pricing [8], but more fundamentally to remove paywalls from scholarly literature and provide universal access for any interested reader [9]. This became technically possible with the advent of the Internet in the early 1990s, which facilitated the rapid and low-cost dissemination of research results.

A few findings may be worth noting (while recommending that you read the article itself for full context). Around 70% of reverse flips can be attributed to six publishers: SpringerNature, Elsevier, Taylor & Francis, De Gruyter, Brill, and Wiley. About 70% are affiliated with a scholarly society or a research institution (e.g., university), with more of the former than the latter. Around 43% of the flipped journals started publishing before 1990. Around 38% began as OA journals; the rest double-flipped. One journal flipped *back* to OA again.

Admittedly, 152 out of 13,000-odd isn't a staggering loss of OA, but that figure is a lower bound (according to the article) and it's enough to be troublesome. This article seems to be thorough, carefully done and certainly worth reading.

Open and closed—What do reverse flips tell us about the scholarly publishing landscape?

This [May 13, 2019 post](#) at the *LSE Impact Blog* is by the three authors of the article just considered, and is a commentary on their findings. It's CC-BY and, since it's relatively short and provides some useful insights that may be difficult to gather directly from the scholarly article, I'm quoting it in full.

Scholarly publishing is in a state of disruption the likes of which we have not seen since the advent of the printing press. The Internet has made it possible to disseminate information and knowledge quickly and cheaply and for the last 25 years we've been slowly transitioning towards a vision of a fairer and more equitable system of scholarly publishing – Open Access. Today, around [28% of all scholarly journal literature is legally OA](#): the rest remains behind expensive paywalls. Scholarly publishing is a complex ecosystem, with many vested and conflicting interests – represented by scholarly publishers, librarians, research institutes, academics, and learned societies. Whilst there has been much discussion about the scale and pace of this transition towards OA, one phenomenon that sheds light on these wider systemic changes is the opposite transition – the reverse flip.

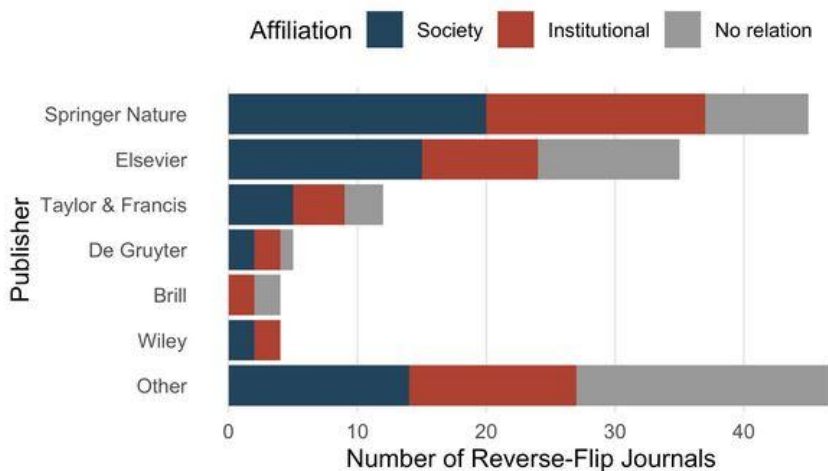
What the flip?

A “reverse flip” happens when an OA journal converts to a closed-access model, either purely subscription-based, or hybrid OA. Surprisingly, no database (yet) exists to track this phenomenon. So, in order to identify reverse flips, we drew on several data sources, including Scopus title lists, journal title lists provided by publishers, title lists by the Directory of Open Access Journals (DOAJ), and the Open Access Directory’s [list](#) of reverse-flip journals. In essence, we compared snapshots taken of the publishing landscape a set number of years apart, and figured out what had gone missing. We then verified our findings using The Internet Archive, which proved to be an invaluable tool.

As we set out in [our recently published study](#) (yes, it’s OA), we found 152 of such reverse-flips in the last 13 years, across a range of disciplines and publishers. This number is likely an underestimate of the true scope of this phenomenon, largely because of the difficulty in systematically assessing this data at scale retroactively.

Now, your first reaction might be that these are small-scale changes within a publishing landscape of between 12,000 and 70,000 scholarly journals: And you would be right. However, the fact that these journals seem to be moving against the prevailing movement towards OA, suggests they highlight key tensions within the scholarly publishing system that stem from the different interests involved and need to be resolved, in one way or another, if a full transition to OA is to be successful.

The bizarre double role of scholarly societies



Of all the 152 reverse-flip journals in our sample, 59 were affiliated with a scholarly society (an additional 48 journals were affiliated with research institutions). Of these society journals, 42 now operate on a

hybrid OA model, typically charging between \$1,500-3,000 per article to authors to publish.

This link reflects the difficult and contradictory situation facing scholarly societies. While most scholarly societies publish journals, either themselves or through publishing partnerships, they also have additional responsibilities to their members, disciplines and the general public, such as conference organization, grant giving and acting as public advocates for their discipline. These activities are to varying degrees subsidized from publication revenues (subscriptions and publication fees). The large number of reverse-flipped society journals, suggests societies are hard pressed to deliver particular forms of OA over the long term. How societies might adapt to OA and in particular Plan S, therefore seems to be an open question, one which a joint ALPSP, UKRI, Wellcome [study](#) may shed light on.

One symptom, many likely causes

The riddle here is why would journals choose to revert back to a closed-access model? And honestly, with the data we have right now, we just do not know. We know that a lot of the time the reverse flip coincided with a publisher change, and from there we might assume that; wanting to be seen as more competitive within the present landscape, demand for a change in revenue stream, or even just preference from the journal management were important factors.

One key issue here might be that OA journals that do not charge APCs, or have low APCs, are seen to be 'low quality', or even 'predatory', in comparison to the more prestigious (higher price) journals associated with larger publishers and societies. It is difficult to project an image of higher quality while giving away your services for free, especially within a culture that is addicted to journal brands and prestige. This factor might partially explain why at least 21 currently hybrid journals operated by a learned society flipped from an APC-free 'diamond OA' model to one leveraging APCs in excess of \$1,500.

Although launching OA journals seems to be *relatively* easy, consistent and stable publication over several years is not, especially if financial support is lacking and the journal is largely dependent on the voluntary labor of scholars. Developing and strengthening support mechanisms for the sustainability and growth of existing scholar-led OA journals is essential in this regard.

Moreover, we also found that in some cases, research articles originally published as OA were put behind a paywall when the journal reverse-flipped. This was not the main focus of our study, but we do want to raise the issue of proper content licensing and emphasize its importance to increase the likelihood that materials remain in open circulation and decrease uncertainties regarding their reusability.

We suspect, the OA model is not the root cause of these problems, but rather other problematic aspects of the scholarly publishing system; for example, the [prestige-driven evaluation system](#), and the [increasing concentration of journals within a few large commercial entities](#). However, with initiatives such as Plan S, it is clear that for many scholarly publishers it will no longer be business as usual. As new stakeholder groups, including researchers, policymakers, NGOs, and academic and library consortia become increasingly engaged with scholarly communication, it remains critical that we have a sound, evidence-informed view of how the landscape is changing. Reverse-flip journals represent one small but critical part of this and we encourage others to pool their resources, efforts, and data to help to create a more holistic understanding of the global scholarly publishing ecosystem, and ultimately a more sustainable open scholarly infrastructure.

I don't find much to comment on here, and am struck by the paragraph beginning "One key issue..." I suspect they're right.

Is there a place for a Subscription Journal in an Open Access world?

We close with this interesting thinkpiece by John Dove, posted at [LinkedIn on May 15, 2019](#).

I will assert that yes, a subscription journal can continue its subscription business-model while effectively accelerating the transition of their discipline to Open Access—but only in the right circumstances, and only if a publisher adopts what I call "Maximum Dissemination" of the authors' work, including elimination of its paywall.

That's the start of a discussion that you'd need to read in the original. Dove does a nice job of summarizing *scholars* cut off from access because of paywalls, including emerging scholars, retirees, unaffiliated scholars and under-resourced libraries, including this wonderful statement:

[I]t's important to point out that every library in the world is under-resourced in some discipline or another. The exclusion of libraries in the Global South are particularly egregious, but it's really important to take note that the exclusions of the paywalled system are ubiquitous.

Harvard can't afford all the journals it would like to have. If not Harvard, then who?

He goes on from there, and it's quite an interesting discussion. He makes what should not be a radical proposal:

I propose that we re-think the mission of the scholarly journal to focus on maximum dissemination and applying current tools and technologies to do so.

And comes up with a methodology that seems to rely on publishers routing requests from non-subscribers to repositories of *final accepted versions*

while offering a “nicer” version to subscribers. And he responds to the “NUMBER ONE thing ‘wrong’ with this model”: why would anyone pay for subscriptions?

Let’s look at that objection closely. Imagine a university that has a center of excellence in the field in which this flagship journal publishes. That means that a number of researchers and scholars at that university, and very likely a good number of students, will be visiting several articles in this journal every few months if not more often. The subscribers will get the published version with excellent formatting, links to related articles, links after each citation, and other content related to the discipline such as conference announcements, letters to the editor, commentary on articles, and news. Non-subscribers will get pointed to the accepted manuscripts of a variety of authors sometimes on various platforms (Word, Google Docs, etc.) with limited linking to related content. **If a publisher cannot beat the user experience of these non-subscribers, then it is not much of a publisher.** [Emphasis added.]

Now, in this hypothetical, publishers cannot charge hyper-inflated subscription charges. They no longer have customers “over a barrel.” And so, if they try to charge too much, customers with limited means cancel and “get by” with access to the various author accepted manuscripts.

It seems to me that Dove is offering a challenge to publishers: You say you add loads of value in addition to coordinating peer review (which review is typically done for free)? Then prove it!

This piece was a preview to a presentation at the Society for Scholarly Publishing. That presentation happened just three weeks ago as this is written. I have no idea how it was received, but I’d venture a guess it was not welcomed with open arms. But maybe I’m just an old cynic...

Masthead

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