

## **Elsevier: the world's largest open access publisher as of May 2016**

\*\* draft \*\* by Heather Morrison

### **Summary**

Elsevier is now the world's largest open access publisher as measured by the number of fully open access journals published. Elsevier has 511 fully open access journals. De Gruyter is second with 435, Hindawi third with 405. These figures are based on data from the publishers' own websites. 315 of the 511 journals (63%) have an APC of 0 and indicate "fee not payable by author". Sampling of the open access journals indicates that a very large percentage (90%) of the fully open access journals are sponsored by actively involved societies and institutions with most owning copyright. I argue that society copyright ownership is not a bad thing; the alternative may not be vision of pure OA but rather Elsevier copyright.

In addition, 2,149 Elsevier journals have hybrid options at 2,149 journals. There is a marked difference in pricing patterns between hybrid and open access journals. Fully open access journals are clustered at the low end of the \$0 - \$5,000 USD price range while hybrids' pricing is skewed toward the higher end.

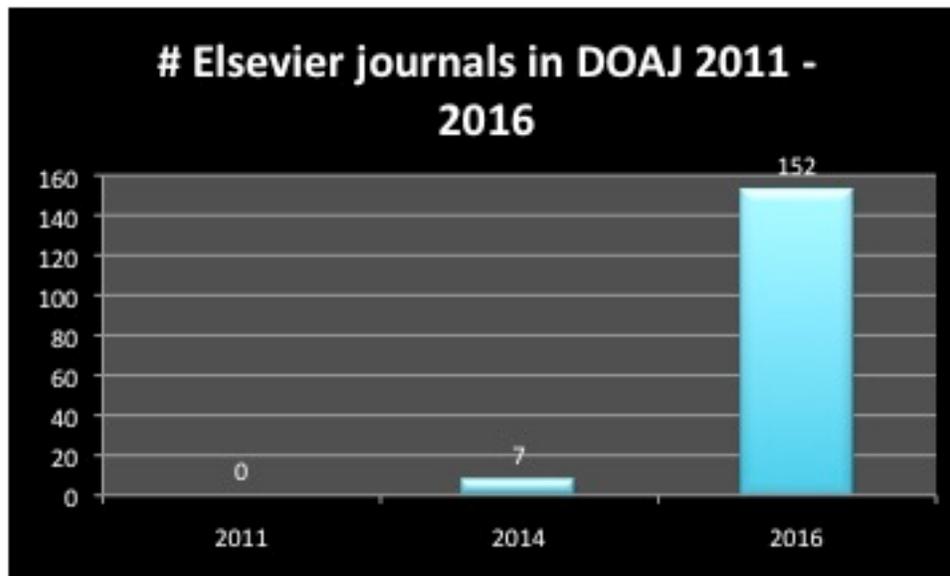
A sampling of 50 journals from the full list of Elsevier journals found that 70% feature a "supports open access" button on the about the journal page; 38% have indications of society involvement, but clear indication of society copyright ownership is much less common. There is very limited historical information provided about Elsevier journals on the freely available website, making it difficult to assess past society or institutional involvement for a large percentage of journals.

Finally, an analysis is presented of the potential for Elsevier to achieve a full flip to open access APC while retaining current revenue. Reasonably realistic estimates range from a low of \$5,000 USD to a high of over \$11,000 USD to cover the 2015 Elsevier annual revenue of \$3 billion USD from STM and enjoy the current 37% profit rate. These rates are not realistic. Libraries and those wishing to further the transition to open access should anticipate that Elsevier will seek to continue to receive subscriptions revenue, even with broad-based support for APCs, for a long time to come.

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### **Details**

In 2011 Solomon & Björk studied a sample of open access journals listed in DOAJ using article processing charges; they provided me with their data which is now included in our longitudinal study. No Elsevier journal was included in their sample; this means that Elsevier had either no journals listed in DOAJ at that time, or too few to merit attention. In our 2014 DOAJ sample (Morrison et al, 2015) we found 7 Elsevier journals listed in DOAJ. A DOAJ search for journals by publisher today finds 512 journals listed under Elsevier, making Elsevier the fifth largest publisher in DOAJ.

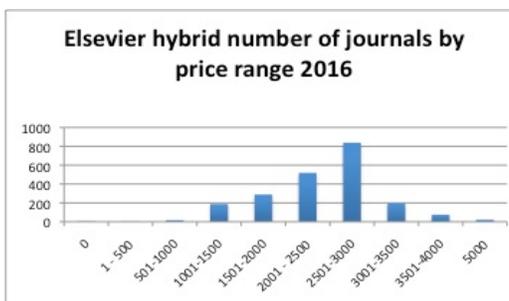
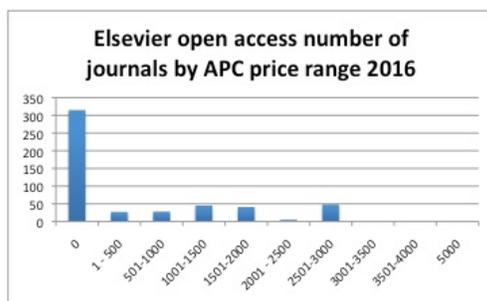


Similarly, Elsevier is now the sixth largest publisher of open access articles in DOAJ, with 27,947 articles.

The number of fully open access journals that have been processed and added by DOAJ is not the complete picture. According to Elsevier's downloadable open access article processing charges spreadsheet, Elsevier now offers 511 fully open access journals. This is more than the 405 titles listed on Hindawi's own website. De Gruyter lists 435 open access journals. **Elsevier is now the largest publisher of open access journals.**

In addition to the 511 fully open access journals included on Elsevier's price list, there are 2,149 hybrid journals listed with their APC prices. This makes a total of 2,660 full or hybrid open access journals at Elsevier, which must equal or be very close to their total title list.

Of the 511 fully open access journals, 315 or 62% indicate an APC of 0 with the statement "fee not payable by author", apparently reflecting a large number of society sponsors working with Elsevier. This is a marked contrast with the hybrid journals; only 4 of the 2,149 hybrid journals, or .002% had APCs of 0 and "fee not payable by author". The following graphs illustrate the price skew of open access journals towards the low end of the 0 - \$5,000 USD price range in contrast with the price skew of hybrid journals towards the high end of the 0 - \$5,000 price range.



The following table gives the number of journals by price range in USD for open access and hybrid journals.

Price Range in USD\$	Number in Range: open access	Number of journals in range: hybrid
0	315	4
1 - 500	27	2
501-1000	28	17
1001-1500	45	187
1501-2000	41	289
2001 - 2500	5	519
2501-3000	48	838
3001-3500	1	196
3501-4000		75
5000	1	22
Total	511	2149

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### Characteristics of open access journals with no publication fees

A sample of 10 open access journals with 0 APC or “fee not payable by author” was systematically drawn from the Elsevier APC price list (approximately every 30<sup>th</sup> title was sampled). 9 of the 10 journals (90%) are sponsored by societies and/or institutions. 8 of the 10 clearly indicate that the society retains copyright along with Creative Commons user licenses (in the other cases copyright notices indicate Elsevier). 8 of the 10 have articles appearing on the Elsevier website starting 2011

or later. One, apparently fully owned by Elsevier, has articles going back to 1998. One journal's articles appear on the journal's own website.

## **Open access characteristics of Elsevier journals: a sample of 50 journals**

A sample of the full list of Elsevier journals was examined for open access characteristics and society involvement.

### **Goals and rationale**

Document open access information options across the full range of Elsevier journals. Rationale: as of May 2016, Elsevier posts OA APC information for 2,660 journals (hybrid and full open access), close to the full list of Elsevier titles. This appears to represent a significant departure for Elsevier.

Document society involvement in Elsevier journal publishing. Rationale: significant percentage of new OA journals have "fee not payable by author" due to society sponsorship. Elsevier has grown to some extent by acquiring other publishers and still works with society publishers. Involvement by scholarly societies means that the societies and not just Elsevier can impact future directions for the journal.

### **Method**

A systematic sample of 50 of the 3,235 titles listed on the Elsevier journals website was developed using an alphabetical approach (first journal 64, remaining journals selected by adding 64, 64, then 65, then back to 64). When the selected journal was a combined subscription I moved on to the next journal alphabetically.

Note that the 3,235 titles includes titles that no longer exist, are no longer published by Elsevier, preceding and succeeding titles when titles have changed and combined subscription options, i.e. the total number of journals published by Elsevier is less than 3,235.

Elsevier journal site used for sampling purposes:

<https://www.elsevier.com/journals/title/all>

This information was supplemented by data from the Elsevier 2016 OA APC spreadsheet.

The following data was gathered whenever possible:

- Journal title
- Journal URL
- Presence / absence of blue "supports open access" button
- Evidence of society or institutional involvement with the journal, current or historical
- Coded society or institutional involvement in separate column with yes (clear current society / institutional involvement); no (clear-cut Elsevier or other commercial publisher ownership from inception); historical (currently no

- evidence of society or institutional involvement but evidence found of past involvement); or unknown (e.g. no evidence of society or institutional involvement but cannot confirm historical due to extensive paywalling of older issues, typically including front matter, editorials, introductions to the journal).
- Start year where available, or oldest issue online with volume number. To facilitate analysis developed a second column with start year or year oldest issue online (commonality first year Elsevier published online).
  - OA APC list? - unlisted if does not appear, otherwise hybrid or open access from Elsevier's 2016 OA APC list.
  - APC? USD unless otherwise specified: APC amount or text from Elsevier 2016 OA APC list.
  - Open access archive: a few Elsevier journals provide free access to back issues. Where this is the case, the embargo period and if given the number of articles is provided. Note that this is not the same as author self-archiving which is permitted by virtually all journals.
  - Notes: information of interest, generally relating to society involvement and particularly society copyright notes.

## **Results**

To download full data see the OA APC dataverse  
<http://dataverse.scholarsportal.info/dvn/dv/oaapc>

There was one accidental duplicate with the open access sample, Asian Journal of Pharmaceutical Sciences. This journal was retained in both samples. 1 journal is no longer published by Elsevier. Most journal sites provide detailed information, while a few have limited information or link to blank pages.

35 of the 49 journals still published by Elsevier (71%) feature the “supports open access” blue button. Clicking on the button brings up an explanation of the options available to authors, in most cases hybrid open access options, authors’ rights and Creative Commons licensing. 10 journals that do not have this button are listed on the Elsevier APC PDF as hybrids.

### **Society or institutional involvement and copyright ownership**

19 of the 50 journals of 38% had wording clearly indicating society involvement in production of the journal.

A typical wording pattern for one of the open access journals:

Production and Hosting by Elsevier B.V. on behalf of Shenyang Pharmaceutical University. Peer Review under responsibility of Shenyang Pharmaceutical University. Asian Journal of Pharmaceutical Sciences (AJPS) is the official journal of Asian Federation for Pharmaceutical Sciences (AFPS). On the webpage to view journals (vol. 8, 2013): Copyright © 2016 Shenyang Pharmaceutical University. All rights reserved

The category with the largest number of journals is “unknown”, nearly half the journals or 23 of the 50, 46%. The primary reason it was difficult to determine whether there has historically been society or institutional involvement is a lack of historical information on the Elsevier website about the journals they publish and paywalling of back issues, often including front matter such as editorials that are particularly likely to discuss such changes in the journal as moving to hosting by Elsevier.

Society or institutional involvement	# journals	society or institutional copyright?
yes	19	10 (8 open access - 1 historical societal copyright; 2 hybrid)
historical	1	
no (clear evidence commercial only)	7	
unknown	23	
total	50	

#### Open access v. hybrid

33 of the journals are listed on the APC list as hybrid (66% of journals); 4 are not listed; 12 (24%) are open access. In other words, of this sample of Elsevier journals, about a quarter are open access journals, another 66% are hybrids for a total of 45 / 50 journals (90%) with some version of open access, with the remaining journals including one no longer published by Elsevier, and others with limited information suggesting an uncertain status.

#### Start of Elsevier online access

The range of start dates of Elsevier online access was 1826 – 2015. The 1826 journal is an outlier with the next oldest date being 1961. 19 journals have back issues from 1961 – 2000 and 27 from 2001 – 2015. In some cases the start year is not clear, e.g. the Elsevier website has a “search all articles” but no chronological search.

The Elsevier start date was obviously not the date of first publication for 19 of the 50 journals or 38% of the journals. For example, the first online issue might be from 2013, but it’s volume 37.

Limitations of this study: because the purpose of this sampling is a snapshot of open access at Elsevier, this search was limited to information that is freely available online. Further data may be available through print or online subscription copies of the journals sampled.

## **Feasibility of a full Elsevier open access flip**

Data from Elsevier and its parent company was analyzed to get a ballpark figure for the average APC amount that would be needed to replace existing subscriptions revenue.

One key piece of data is the average number of articles published by Elsevier per year. According to the Elsevier (2016b) Books & Journals webpage, “Every year, we accept and publish more than 250,000 articles”. According to the Relyx (Elsevier’s parent company) 2015 annual report (p. 14), it’s 400,000 articles.

The other key piece of data is the revenue specific to STM journals. This is difficult to estimate as the revenue from book sales, while a small percentage of Elsevier business, is unknown. The annual report indicates that the 2015 STM revenue was 2,070 million GBP and the adjusted operating profit was STM adjusted operating profit 760 million GBP (37% profit). Converting to USD at the rate of 1.4451 (Bank of Canada currency converter May 12, 2016), that’s revenue of \$2,991,357,000 USD (close to \$3 billion USD) and operating profit of \$1,098,276,000 USD (\$1 billion USD).

Using these figures I’ve come up with the following estimates of how much an average APC would need to be to replace their STM revenue.

\$11,965 USD is the average APC needed to provide the company with \$3 billion in revenue based on average annual article production of 250,000

\$7,478 USD is the average APC needed to provide the company with \$3 billion in revenue based on average annual article production of 400,000.

\$5,115 USD is a low-end estimate average APC that limits revenue to the current 76% of revenue from electronic products as reported by Elsevier and eliminates a further 10% of revenue assuming this would come from book sales. This amount assumes annual article production of 400,000.

\$3,222 USD is a really low-end and probably unrealistic estimate APC based on cost recovery (63%) of the \$5,115 amount, i.e. this is the most optimistic estimate from the payer’s perspective but would eliminate Elsevier profit.

All of these estimates are above the current high end of the Elsevier APC price range, significantly higher than traditional per-average global spend on subscriptions of about \$4,300 and the APCs of successful commercial and not-for-profit open access publishers (Morrison, 2013). The exception is the final unrealistic estimate which would be lower than current spend but still significantly higher than prices of other successful open access publishers.

## **Discussion and conclusion**

This section is in early stages, but just a few points to highlight at this stage. Elsevier is already the world’s largest open access publisher in terms of number of open

access journals available. The vast majority of Elsevier journals provide a “supports open access button” on their about the journal page. People scanning through the full range of Elsevier journals will find a noticeable percentage that are open access. There will be discussion about the purity of Elsevier’s approach to open access, likely for some time, however the size and impact of the company and its journals mean that Elsevier is likely to influence the direction of open access in the near and intermediate future.

Some open access activists will be disappointed in the society ownership of copyright of many of Elsevier’s open access journals. I see this as healthy and contrast this with the obscure history of Elsevier’s subscription-based journals. The alternative is likely not a vision of pure creative commons licensing with only attribution to the author; the alternative seems to be more likely to be Elsevier copyright retention. Societies and institutions that retain their copyright are free to seek alternative hosts whenever their contracts with Elsevier come up for renewal.

It seems very unlikely that Elsevier could achieve anywhere near its current revenue and profits from a full flip to open access. Libraries and those seeking to transition to open access should prepare for Elsevier to continue to seek subscriptions revenue, for back issues even if every current and forthcoming article were OA paid for through APCs, for a long time to come.

## References & Notes

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#### Acknowledgements

Support from Canada's Social Sciences and Humanities Research Council in the form of an Insight Grant is gratefully acknowledged, as is the assistance of Myriam Dumais-Desrosiers in translating the Elsevier APC data from PDF to excel for manipulation purposes.

May 12, 2016