Open Access and gerontechnology

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J.E.M.H. van Bronswijk. Open Access and gerontechnology. Gerontechnology 2013; 12(1):1-3 doi:10.4017/gt.2013.12.1.011.00 Open Access publishing is growing, and is the future for academic knowledge exchange. Issues pertaining to the aging society are already widely represented in Open Access journals. The Gerontechnology journal intends to join the Open Access lists by the end of 2016 at the latest, in order to strengthen the diffusion of gerontechnology knowledge, insights and applications. Help is needed from authors to incorporate author fees in their research budget.

Keywords: open access publishing, self-archiving, Creative Commons license

Open Access (OA) is the new reality in academic journal publishing. In case of Gerontechnology, it would greatly stimulate diffusion of knowledge and information for a successfully aging society. OA journals are defined as periodicals with a funding model that does not charge readers or their institutions for access. Thus the money flow comes from the authors and their organizations, rather than from the readership and academic libraries. OA gives all interested parties the right to freely read, download, copy, distribute, print, search, and link to the full texts of articles. Publishers are only allowed to request a reader registration, but for free.

OA is therefore based on a change in the business models of both publishers and research organizations. The former having to rebuild their marketing department, while the latter will have to view publication costs as an integral part of research funding.

Ten years ago the Directory of Open Access Journals (DOAJ)¹ opened, and now (September 22, 2013) it includes 9,921 peer-reviewed online periodicals pertaining to all academic disciplines. Computer science, for instance, is present with 429 journals, and public health with 240. The DOAJ website allows users to freely browse and search the journals and link to the articles. The number of journals included has about doubled in the last 3 years².

Advantages and enthusiasm

Research is nowadays funded by both private and public sources. OA increases the availability of the result of the spending of public money to all interested parties, including those in the developing regions of the Southern Hemisphere³. It reduces the costs of libraries that can become more open to professional and interested laypersons alike. The advantage of free access to scientific papers in OA publishing met with great enthusiasm in governmental and research sponsoring circles. Canada took the lead with its Public Knowledge Project⁴. This multi-university initiative developed free open source software for OA publishing, such as the Open Journal System and the Open Conference System, also in use for the international conferences of the International Society for Gerontechnology (ISG).

To support OA, universities started public repositories of student theses. Within a few years one of these repositories contained 55,798 new and old PhD dissertations (as of September 23, 2013) with 81% of those fully OA, the remaining 19% unfortunately still restricted⁵. Other research organizations instituted special programs for paying author fees⁶, or allow only a short embargo period before the author should self-archive the published paper in the OA repository of PubMed Central⁷.

Some selected issues

OA is a real paradigm changer and it encountered opposition, as expected. Redrawing a marketing strategy or a research costing scheme costs time. Research organizations are slowly adapting, but vested commercial publishers are still hesitating. They did, however, improve their financial position by opening up the option of voluntary immediate OA for those willing to pay. From the publisher point of view OA is therefore especially popular among recently established periodicals. More than 40% of the articles included in DOAJ were published after 2010¹.

Not only the flow of money is reversing in OA publishing, also quality control needs additional financial procedures. The fear exists that you will buy your place in a journal, overriding peerreviewing results. Both the DOAJ and the later formed OASPA (Open Access Scholarly Publishers Association) state clearly that only those journals and publishers may be included in the DOAJ directory or the OASPA member list that exercise a robust peer review with a payment request af-

ter acceptance of a manuscript^{1,8}. However, these organizations do not monitor their members or included journals. A survey of actual practice resulted in a regularly updated list of so-called predatory and vanity journals that should be avoided by the serious researcher⁹. That regular monitoring is needed was shown in a recent study of research journalist John Bohannon, who submitted fake manuscripts full of methodological errors to about 300 OA journals. Of the journals incorporated in the DOAJ 45% still accepted the phony text. Beall's list of predatory journals was right in 82% of the journals, since in these cases the fake manuscripts were accepted¹⁰. Just as with traditional, printed journals, you should know the quality of a periodical before you trust it!

The next criticism concerns OA of student theses and dissertations and the subsequent publication in academic journals. Usually these journals only accept manuscripts that have not been published elsewhere, and OA publishing of a thesis is an 'elsewhere' publication¹¹. A solution could be to reverse the publishing practice: publish first in academic periodicals and afterwards, combine the published or accepted texts in a thesis. In fact this practice exists locally, at least since 1972 when my own dissertation contained only published and accepted journal contributions¹².

GERONTECHNOLOGY IN OA

No matter the prevailing resistance to the reversal of the flow of money, the flow of publication of student work and the extra quality check, OA appears to be the future, also for gerontechnology. Both aging persons and the aging society are popular in OA journals. Using the keyword 'elderly' in DOAJ resulted in 9323 hits, 'older adults' were connected with 2288 contributions, 'older persons' with 784, while '(aging OR ageing) AND society' showed 591 items.

How does the gerontechnology domain appear in OA articles? A search with keyword 'gerontechnology' in DOAJ resulted in 3 hits only. The combination of 'technology' AND ('aging' or 'ageing') harvested as many as 331 articles. After removing aging or maturation of seeds, meat, wine, nuclear waste and different chemical compounds, and after reading the titles of the contributions, 132 articles in 94 different journals remained. After also deleting the potential, possible, or probable predatory OA journals⁹, the number dwindled to 129 contributions to 91 journals, all published in the time period 2001-2013. Judging from the titles of these 129 contributions, they form a considerable body of gerontechnology knowledge.

Just as in an earlier screening of journals included in Google Scholar¹³, the majority of journals se-



Figure 1. Year of establishment of trusted Open Access journals⁹ that showed at least one article in the domain of gerontechnology (status of September 23, 2013)

lected from DOAJ showed one gerontechnology contribution each. Most journals are quite new (*Figure 1*), but still, the 126 journals with only one gerontechnology title show that gerontechnology is currently a recognized domain. The two journals with more than three gerontechnology contributions that are focusing on care have a considerable academic impact. 'Clinical Interventions in Aging' (16 gerontechnology contributions) even belongs to the best half in the domain of 'Geriatrics and Gerontology' according to SCimago Journal Rank (*Table 1*). The 16 articles published in 2007-2013 are still too recent to calculate their median article impact.

VOLUNTARY OPEN ACCESS

Being included in the DOAJ is advantageous for the diffusion of gerontechnology knowledge in society, but currently we are not yet eligible. Gerontechnology journal has a 12-months embargo period. Ever since volume 9, Gerontechnology does also have the option of voluntary immediate OA². Up to now, this option has seldom been used. Therefore the not-for-profit ISG still needs subscription income to keep the journal in the air. I urge authors to use our voluntary OA publishing, to pave the road to full OA. From now on, all authors will be reminded of this option after acceptance of their manuscript.

After payment of the author fee of €800, a socalled 'Creative Commons Attribution-Non-Commercial-NoDerivs 3.0 Unported License' is instituted on the accepted article, meaning that everyone is free to copy, distribute and transmit the article, including self-archiving (green open access). Conditions may be summarized as follows¹⁷:

Attribution: When using a published article, link it to its source.

Noncommercial: Commercial use will need an additional license from the ISG.

No derivative works: The article should remain intact with no alteration or transformation.

Open Access

Table 1. General impact of Top-3 Open Access journals publishing on gerontechnology issues, as compared with their domain median (Science Citation Index, SCimago Journal Rank) or values for the Gerontechnology journal (h-index); -=not included by the assessing organization (status of September 23, 2013)

Journal		Clinical Interventions in Aging	International Journal of Integrated care	Research Journal of Applied Sciences, Engineering and Technology	Geron- technology
ISSN		1178-1998	1568-4156	2040-7467	1569-111X
Year of establishment		2006	2000	2009	2001
Domain in the assessing organization		Geriatrics &	Health care	Engineering	-
		gerontology	sciences &	(miscellaneous)	
			services		
h-index ¹⁴ Google Scholar		36	26	8	21
Microsoft Academic Search		8	-	-	9
Science Citation Index ¹⁵	Journal	2.651	1.299	-	-
	Domain median	2.637	1.641	-	-
SCimago Journal	Journal	0.714	-	0.150	-
Rank ¹⁶	Domain median	0.352	-	0.205	-

The Creative Commons license is non-exclusive and does not entail a transfer of intellectual rights¹⁷.

CONCLUSION

Gerontechnology intends to grow to immediate OA for all electronic content in four years. This implies an increase of 25% in voluntary Open Access each year of the total number of articles. Only readers who wish to receive a printed version of the journal will still have to pay a subscription after 2016.

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Currently, only voluntary immediate OA is available. To take into account the current financial crisis, the funding organization of the author's research may choose between paying only \notin 400 in addition to buying a one-year library subscription, or pay directly the full \notin 800.

I invite the authors to support OA by choosing the voluntary Open Access model for their publications in Gerontechnology.

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