



EDITORIAL

Open Access

Equal versus equivalent access to the scientific literature

Kuan-Teh Jeang

The concepts of equal versus equivalent access to the scientific literature are discussed

In 1954, the United States Supreme Court in a landmark decision of *Brown vs. Board of Education of Topeka, Kansas* sharply repudiated the “separate but equal” principle of public education. The Court concluded that racially segregated education is “inherently unequal”. In scientific publishing today, there exist two segregated means of knowledge dissemination — the subscription journals and the Open Access (OA) journals. For those who can pay, there is immediate access to scientific papers published in both subscription and OA journals; those who cannot pay can access only OA journals. The status quo is thus an “inherently unequal” playing field between the “haves” and the “have nots”.

How unequal is the current situation? In an August 1, 2011 posting on the *Nature News* website, Richard Van Noorden reported that “the proportion of research papers freely available is slowly and steadily creeping upwards... in 2009, it’s above 28%. (Some of this literature is not immediately available at the time that it is published, because of journal policies that impose embargo periods on when material can become free)”. The good news is that approximately 30% of published papers can be accessed freely. The bad news is that 70% of published, publicly funded research remains off-limits to those who cannot pay.

Can equal access be had by the “haves” and the “have nots”? To the extent that the subscription and OA tracks will likely co-exist, the foreseeable future is a “separate and unequal” reality. Without equal access, the next best goal is perhaps to achieve equivalent access.

What is equivalent access? Imagine two very similar papers reaching essentially the same conclusions; one is published in a subscription journal and the other published in an OA journal. The paying reader can read both papers; the non-paying person can read only the

OA paper. This is “unequal” access. However, if the OA paper sufficiently conveys the same information as the subscription paper, then it is possible that “equivalent” knowledge is conveyed to both the can-pay and cannot-pay audiences.

The equivalent access concept works only if subscription and OA journals can attract and publish, in chronological proximity, similar articles of comparable quality and impact. Practically speaking, for this to occur, OA journals need to achieve quality metrics (e.g. Impact Factor numbers) that match their subscription counterparts. The *Retrovirology* experience suggests that such benchmark can be achieved (Figure 1).

Achieving qualitative parity will go a long way towards advancing equivalent access to important biological findings. One could raise the recent XMRV-Chronic Fatigue Syndrome controversy [1] as an example. A strongly credible case can be made that OA readers who read only *Retrovirology* papers [2-9] knowledgeably reached the equivalent scientific conclusion regarding this topic as those who read the subscription-based literature.

The quality of OA publishing will continue to improve. In 2012, *Cell* will launch a top tier OA publication, *Cell Reports*; and the Wellcome Trust/the Howard Hughes Medical Institute/the Max Planck Society will also start a similarly high profile OA journal. Because intelligence and ambition are distributed equally around the globe [10], freely available equivalent access to timely knowledge matters. “Separate but equivalent” may become the watchword of 21st century publishing.

Acknowledgements

The opinions expressed are the author’s personal views and do not necessarily reflect those of his employer, the National Institutes of Health (NIH). Work in KTJ’s laboratory is supported in part by intramural funding from the National Institute of Allergy and Infectious Diseases (NIAID). The author thanks Mark Wainberg, Ben Berkhout, Yun-Bo Shi, Deborah Kahn, and Michaela Torkar for critical readings of this editorial.

Correspondence: kjeang@niaid.nih.gov
The National Institutes of Health, Bethesda, MD, USA

Received: 16 October 2011 Accepted: 21 October 2011
Published: 21 October 2011

Journal	Impact Factor	Immediacy Index
Retrovirology	5.24	1.43
Journal of Virology	5.19	1.31
Journal of Gen. Virology	3.57	0.90
Virology	3.31	0.77
Journal of Med Virology	2.89	0.46
Virology Journal	2.55	0.31
AIDS Res & Hum		
Retroviruses	2.08	0.30
Current HIV Research	1.92	0.31
Journal Biological Chemistry	5.33	0.94
Journal of Molecular Biology	4.01	1.04

Figure 1 Impact factor numbers from 2010 ISI-Thomson Reuters data that compare *Retrovirology* with nine other subscription journals. Seven of the nine journals publish basic virological research papers. The *Journal of Biological Chemistry* and the *Journal of Molecular Biology* are included for comparison to two well-established journals that publish basic research papers in biochemistry and molecular biology.

References

1. Wainberg MA, Jeang KT: XMRV as a human pathogen? *Cell Host Microbe* 2011, **9**:260-262.
2. Garson JA, Kellam P, Towers GJ: Analysis of XMRV integration sites from human prostate cancer tissues suggests PCR contamination rather than genuine human infection. *Retrovirology* 2011, **8**:13.
3. Hue S, Gray ER, Gall A, Katzourakis A, Tan CP, Houldcroft CJ, et al: Disease-associated XMRV sequences are consistent with laboratory contamination. *Retrovirology* 2010, **7**:111.
4. Switzer WM, Jia H, Hohn O, Zheng H, Tang S, Shankar A, et al: Absence of evidence of xenotropic murine leukemia virus-related virus infection in persons with chronic fatigue syndrome and healthy controls in the United States. *Retrovirology* 2010, **7**:57.
5. Sato E, Furuta RA, Miyazawa T: An endogenous murine leukemia viral genome contaminant in a commercial RT-PCR kit is amplified using standard primers for XMRV. *Retrovirology* 2010, **7**:110.
6. Groom HC, Boucherit VC, Makinson K, Randal E, Baptista S, Hagan S, et al: Absence of xenotropic murine leukaemia virus-related virus in UK patients with chronic fatigue syndrome. *Retrovirology* 2010, **7**:10.
7. Smith RA: Contamination of clinical specimens with MLV-encoding nucleic acids: implications for XMRV and other candidate human retroviruses. *Retrovirology* 2010, **7**:112.
8. Robinson MJ, Erlwein OW, Kaye S, Weber J, Cingoz O, Patel A, et al: Mouse DNA contamination in human tissue tested for XMRV. *Retrovirology* 2010, **7**:108.
9. Oakes B, Tai AK, Cingoz O, Henefield MH, Levine S, Coffin JM, et al: Contamination of human DNA samples with mouse DNA can lead to false detection of XMRV-like sequences. *Retrovirology* 2010, **7**:109.
10. Jeang KT: Intelligence and ambition are distributed equally around the globe. *Retrovirology* 2010, **7**:67.

doi:10.1186/1742-4690-8-83

Cite this article as: Jeang: Equal versus equivalent access to the scientific literature. *Retrovirology* 2011 **8**:83.

Submit your next manuscript to BioMed Central and take full advantage of:

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit

