

Pharmacology Goes Phlat: *Molecular Interventions* Feels the Impact

Just this summer, *Molecular Interventions* was issued its first impact factor—a gratifying 5.6—from Thomson Scientific, probably the most widely acknowledged curator of citations of publications in science, technology, and medicine. We can debate the accuracy of impact factors (most of us have probably already done so), and alternatives to Thomson Scientific's rankings, such as PageRank, which is based on the Perron-Frobenius Theorem and used by Google (1), are available. But the appearance of *Molecular Interventions* in the top twenty percent of the publications in its indexed category clearly illustrates the importance, to young as well as to established scientists, of our continuing efforts to communicate the vibrancy and relevance of pharmacology to modern biomedical science.



The generation of reliable knowledge defines the scientific enterprise today as in the past. But the rate at which new data are generated and distributed (take "impact factors" as a case in point!) defines our age as it has at no other time in history. This aspect of our current culture is at the core of *The World is Flat: A Brief History of the Twenty-First Century*, the best-selling book by three-time Pulitzer Prize-winning writer Thomas L. Friedman (2).

The bewildering rate of change that Friedman describes certainly applies to the landscape of pharmacology, although he never mentions the discipline by name in his insightful book. In the index, the terms "Pfizer" and "pharmaceutical industry" each appear once, whereas "Internet" is to be found on seventy-five of the 469 pages. More generally, Friedman portrays how the convergence of new technologies has led to globalization, outsourcing, and open sourcing of many aspects of our life.

Nevertheless, while reading the book, I began to appreciate how insular our educational programs are and how little they have in fact been "flattened." True, computer-generated presentations are commonplace now and are in some classes and lectures streamed or available for downloading onto MP3 players or iPods. But the format of a contemporary classroom lecture still has a striking resemblance to that used during the first decade of the last century, when ASPET was founded.

Pharmacological research, however, has undergone a substantial "flattening." Web-based public search engines and open-sourced databases, like PharmGKB and Entrez, including PubMed, GenBank, and PubChem, now provide powerful tools

that anyone with a computer, anywhere, can access. Instant online access to thousands of scientific journals is available to most scholars and investigators. Laboratory automation and informatics tools continually bring academic and industrial scientists into common research arenas that make collaboration almost inevitable. The major pharmaceutical companies have sites on most continents, and globalization of pharmacological research is commonplace. Free international phone systems, like iChat or Skype, make remote collaborations even more feasible.

There is another important "flattening event" that relates directly to the mission of *Molecular Interventions*, which is to provide pharmacological perspectives from biology, chemistry, and genomics. Traditional discipline-based research is being subsumed by interdisciplinary projects, flattening fields that in the past often lacked discourse across intellectual communities. At times, this transition, however productive, has been unsettling, as all change is.

Those of us who have been committed to the publication of biomedical advances have sensed the unsettling nature of these changes very acutely. The traditional business models upon which ASPET (like every other scientific society) operated during its first century continue to evolve. It was in response to this climate of change—of "flattening," in general—that ASPET launched *Molecular Interventions* in 2001. The initiative was risky in terms of monetary cost as well as commitment of human resources; the dedication of ASPET staff and member leadership who led the launch has been considerable. But the interplay between drugs and living systems remains (and will remain) a thrilling endeavor, and the mission of pharmacology takes on more urgency, and promises greater benefits, as the world becomes more "phlat." We at *Molecular Interventions* are very grateful to the readers, editors, and authors who have made our launch so successful, and we look forward to pursuing, with continued help, the breadth and depth that pharmacology uniquely offers, no matter how flat the world becomes. ♥ doi:10.1124/mi.7.4.10

References

1. Hascall, V.C., Bollen, J., and Hanson, R.W. Impact factor page ranked. *ASBMB Today*. July 2007, 16–19.
2. Friedman, Thomas L. *The World is Flat: A Brief History of the Twenty-First Century*. New York: Farrar, Straus and Giroux (2005).



John S. Lazo
Chair, Editorial Advisory Board