

**Pain Medicine Goes Digital:
A Lamentation on COVID-19, the Printing Press, and the 21st Century**

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In 2016 the American Academy of Pain Medicine(AAPM) and Oxford University Press(Oxford), in concert with our partners the Spine Intervention Society (SIS) and the Faculty of Pain Medicine Australia New Zealand College of Anaesthetists (FPM), agreed to publish *Pain Medicine* through 2020. Since then our Editorial Board and a team at Oxford have collaborated successfully in creating our monthly online and print issues of *Pain Medicine*. However, bowing to the realities of modern communication science in medicine and trends in the publishing industry, AAPM and Oxford recently decided to begin publishing an on-line only version of the journal beginning in 2021.

COVID-19 has altered this calendar. Over the past few weeks, staff at Oxford has kept AAPM leadership informed about COVID-related disruptions to the printing and global distribution of *Pain Medicine* and other journals. Following discussion among AAPM Board members, AAPM and Oxford have agreed to accelerate the timeline and to make the transition to on-line only with the August 2020 issue. Thus, this issue of *Pain Medicine*, Volume 21, Issue 7 (July 2020) will be our last print issue. Ironically, this is the issue that focuses on the effects of COVID-19 on the practice and teaching of our specialty.

The loss of print, a tangible physical reality, promotes reflection. We know COVID-19 is speeding cultural evolution in many ways, including health care. As discussed in this issue of *Pain Medicine* (1-6), the lower costs and the convenience of on-line and Zoom-type medical

visits, now required for social distancing and often done from home, will also be found to save time, convenience, and costs for much of our clinical and education work (not to mention reducing fossil fuel use, indirectly addressing a more serious, less immediate threat to our species, climate change). The challenge for our education and clinical research enterprises will be helping us understand how, when, and where these new methods can be cost-effectively deployed (7). The science of technology use in human encounters is relatively new and uncertain. This is particularly true in medicine where the “hands-on” connection of the doctor-patient relationship is hallowed ground.

Similarly, we are challenged to understand technology’s effects in scientific communication.

One assumed that paper, a tangible substance derived from our natural and managed arboreal landscape (think Maine woods & Southern tree farms) and manufactured into books and journals, would long endure as the repository of humans’ rapidly accumulating knowledge since Gutenberg’s 15th century invention of the printing press. Humans’ evolutionarily insatiable drive to create new tools, to acquire new knowledge, and to share that knowledge, often in thrilling stories with a cultural message, bred the revolution of the printing press. We emerged from the stultifying, cloistered middle ages, accelerating the renaissance and the enterprise of modern science and its consequences. In my and previous generations of children, bedtime stories read to us by our elders sparked curiosity, a thirst for more reading, and if we were lucky, regular trips to a town or city library for more. After fueling the development of our intellects and imaginations, they continued their revered place in our formal education, careers and personal lives. In medicine, we longed for the next *New England Journal of Medicine* or *JAMA* in our mail for news about the medical field. In our emerging specialty, *Pain*, and more

recently *Pain Medicine*, were read seriously at our desks while pondering clinical or conceptual puzzles, or more leisurely in armchairs with a beverage. Who knew that these organized molecular founts of knowledge would be replaced by a proliferation of organized electrons.

We must consider the great gifts that on-line science brings to publication. The first beneficiaries were the Editors, whose backs no longer suffer the hauling of heavy briefcases full of submitted articles between office and home nights and weekends and on airplanes.

Researchers, authors and their office staff, and managing editors no longer stand by the copying machine. Reviewers now easily check references and even data repositories. In the 20th century, when a reference interested a reader, a time-consuming search of the library stacks or limited personal journal collections was required. Today online the reference is found in seconds - a powerful cluster of the rewards of time saved, curiosity sated and work completed. The undersides of scientific publication, plagiarism and false claims, can now be checked readily, easing the worry of editors and readers. Other more abstract, less immediate but more important public health considerations such as climate change also pertain – trees gobble carbon dioxide and making and delivering paper stuff breeds more of it (8).

Already many of us have sadly said goodbye to our print collections which were so highly valued over the last two centuries, carefully packed and hauled in heavy boxes from one office or domicile to another as medical careers changed venues over the decades. We all had our favorites. My *NEJM* collection from the 1970s and 80s went first, followed by *JAMA* and *Psychosomatic Medicine*, and most recently by *Pain*. I will keep one collection of journals - the 21 years of *Pain Medicine* that I have edited. But this is a personal vanity; it is so much easier

online to find something quickly on our Journal's website or on Google than it is to search on the bookshelf. Many of us will continue to relish memories of the pleasure of reading journals in front of the fire or wherever. For me, to escape the daily political chatter of on-line and radio news I will likely still browse print versions of *Science* for its weekly news and perspectives, and the *New Yorker* for interesting stories and in-depth journalism. But I will also relish, as I know our readers will, continued access to the pleasures of easy web-based access to the proliferating scientific enterprise of medicine and our specialty.

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