

Who owns our work?

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Much turmoil in the scholarly-communication ecosystem appears to revolve around simple ownership of intellectual property. Unpacking that notion, however, produces a fascinating tangle of stakeholders, desires, products and struggles. Some products of the research process, especially novel ones, are difficult to fit into legal concepts of ownership. As collaborative research burgeons, traditional ownership and authorship criteria are stretched to their limits and beyond, with many contributors still feeling short of due credit. The desire for access and impact brings institutions and grant funders into the formerly exclusive relationship between authors and publishers. Librarians, stripped of first-sale rights by electronic licensing, wonder about both access and long-term preservation.

Emerging solutions to many of these difficulties threaten to cut publishers out of the picture altogether, perhaps a welcome change to those stakeholders who find publishers' behavior to block progress.



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Many current struggles over the serials literature are framed in ownership terms: *who owns our work?* Behind those four simple words, however, lies a vexed, complex network of stakeholders and stakes. Taking the question apart from its end:

- *Work* The word 'work' can refer to the actual labor involved in authoring, reviewing, editing, typesetting and disseminating journal articles, as well as to the journal articles themselves. Intellectual-property law controls only the work product, not the labor, yet it is being used to protect the revenue accruing from non-authorship labor.
- *Our* As the research enterprise becomes more collaborative, the number of stakeholders grows. That aside, intellectual-property ownership in the serials realm has long been divorced from authorship; as that divorce is challenged, the identity of the owning 'we' is open to question.
- *Owns* Ownership of intellectual property has become a proxy for a variety of stakeholder desires, from the desire to be paid for their labor to the desire to extend the reach of research.
- *Who* Stakeholders are institutional as well as personal. Handshake agreements between

authors and editors have become high-stakes negotiations involving funders, corporate publishers and institutions.

Walking through the emergence of legally-ownable intellectual property during the course of a research project helps elucidate the issues and lay bare perhaps-unwarranted assumptions.

Take, for example, the supposed paradigm case of science: the lone genius in his lab making discoveries and inventing novel technologies. In many sciences, this paradigm is now outright impossible: direct collaboration among scientists is not only desirable but *necessary* for science to be done at all. Nevertheless, the lone-genius model of science persists in scientists' minds, pervading their attitudes towards sharing certain fruits of their labor.

For example, many scientists cultivate a culture of secrecy around work in progress. When asked about this, they say that they are 'protecting their ideas' from 'scooping' by unscrupulous fellow scientists; some will add a fear of exploitation by industry. If pressed, they will expand 'ideas' to include their methods, specific tools employed, specific objects of study, and any preliminary results they have gathered but not yet communicated. Despite their deeply proprietary feelings about the

preceding list, almost nothing in it is protected by intellectual-property law while work is ongoing. The most helpful legal doctrine for the secretive scientist might be trade-secret law, but is that law even applicable to the scientist not working in industry? Copyright is little help: if in-progress work is 'fixed' at all, fixation being a necessary prerequisite for copyright protection, it is usually fixed in an unpublishable lab notebook that would be difficult if not impossible to base a lawsuit on.

Patents, of course, are out of the question given the necessity for a patent application to contain a polished, fully-fledged idea. This idea must also be unpublished, which removes both publishers and libraries from the picture: the publishing industry does not touch the patent system (save to impede it if performed prematurely), and libraries are not implicated either except as sources of information on existing patents.

Although the publication system is currently peripheral to in-progress scientific work, scientists and their collaborators are asking whether it can redress issues arising from the unstoppable move away from the lone-wolf science paradigm. Author lists grow almost past comprehension as graduate students, post-doctoral researchers, technology and instrumentation administrators, far-flung colleagues and librarians, many of them scientist-trained themselves, seek credit for their contributions to the scientific enterprise. Some publishers have responded with strict guidelines about who is and is not an 'author'¹, but this addresses a symptom, not the illness. Perhaps 'credit rolls' like those of movies, with contribution types assigned, are the answer to how to recognize the various sorts of intellectual and craft labor in the scientific process. The question is becoming a pressing one. If the publication system cannot answer it, those currently disenfranchised will seek other ways of allocating themselves credit. Since the major attraction of formal publishing for authors is career credit and prestige, alternative credit systems may pose actual danger to publishers.

Long before formal publication, semi-formal research exchanges flourish: conference papers and presentations, working papers, preprints, posters, all the material librarians lump under the heading 'gray literature'. From an intellectual-property ownership perspective, it is notable that many copyrightable works emerge from these exchanges. Curiously, however, few intellectual-property *court cases* emerge, nor are there many disputes over

licensing or re-use terms. A few publishers do still claim to refuse publication of material available as gray literature, but their number is shrinking, and their exclusion claims are sometimes dubious².

One reason for the dearth of legal challenge is that scientists are the only authors and owners available for gray literature; publishers do not claim its ownership, and other potential owners tend to consider it beneath notice, probably because they have invested little or no labor in it. This eliminates an entire cadre of potential litigants. The edges between formal and informal dissemination of research results are blurring, however, to the consternation of both scientists and publishers. Scientists worry once again that 'scooping' will result from wide dissemination of their in-progress work, as for example blogged or Twittered conference sessions. Publishers worry that gray literature is expanding in scope and importance such that for many it may become an adequate substitute for their product.

Indeed, situations now arise for which formal publication has no analogue whatever. The emerging digital humanities, for example, bemoan the lack of critical attention and accreditation vouchsafed their electronic-only efforts. While a few scientific publishers are beginning to accept and even require supplementary data deposition, and a few research libraries are evaluating data curation as a potential professional specialization, even these have no useful response as yet to the 'Open Notebook Science' movement. Adherents of Open Notebook Science open their entire research process on the web using wikis, Google Docs and similar online tools. Notably, Open Notebook Science allows its practitioners to establish visible, verifiable *primacy* over their processes and the results thereof, which potentially undercuts publishers both by reducing scientists' pre-publication 'scooping' fears and by providing a substitute for the supposed primacy verification offered by formal publication.

Are the products of these research efforts legally ownable? A website representing a digital-humanities project is covered by copyright. The legal situation of a dataset on an Open Notebook Science wiki is far from clear. Scientific images are often copyrightable (and in the absence of clear case law, most producers of scientific images treat them as copyrighted). Data, as facts, are not copyrightable in the United States, though a compilation may enjoy weak protection. In some

European countries, however, datasets are covered by specific database rights. The use of datasets differs from that of typical published material in one important way, however: without the ability to re-evaluate, re-use, and derive other data from existing data, publishing data at all is substantially pointless. This insight has led to the 'Panton Principles' for open data³, which strongly recommend that data be explicitly contributed to the public domain in jurisdictions where intellectual-property rights might otherwise interfere with re-use.

Regarding credit for labor performed, web projects are not bound by author-list strictures; 'about' pages may contain any amount of information concerning project contributors. Again, this flexibility may be attractive to contributors who need credit for their own professional advancement but may find difficulty in being included on article author lists. There is as yet no formal mechanism for aggregating such credit, but it is at least *something* that can appear on a CV; the larger implication is that soon, published materials will not be the only materials valued in hiring, tenure and promotion processes. Data placed in the public domain cannot use copyright as a deterrent to plagiarism, of course; advocates of the Panton Principles recommend that norms within the scientific community govern credit, rather than legal threats that may be on dubious legal ground at best⁴.

The ownership picture surrounding published articles and books is just as murky as that around gray literature, though for different reasons. The most obvious reason for the murkiness is the vastly increased number of contributors of both labor and money to a finished, published work: institutions (who pay authors to write and perform peer review); service providers such as editors, typesetters and indexers; publishing companies and scholarly societies; research funders; libraries; and readers such as scholars and students. Many of these stakeholders want to be paid money; others are more interested in prestige as remuneration, while some wish to use the material in obvious or non-obvious ways, from class assignments to text-mining.

Those stakeholders who require monetary payment, such as publishers and scholarly societies, have no intrinsic motive to oppose such uses and re-uses. Unfortunately, the only tool they seem to believe they have to secure payment is intellectual-

property ownership, which they have often used in ways that deny what are today very ordinary wishes for use and re-use. The dilemma of our time is how to give all stakeholders what they want and need while containing costs and avoiding the terrible and expensive conflicts, roadblocks and palpable absurdities that have arisen from the current system.

In the traditional article-publishing transaction, authors transfer all copyright and moral rights in their work to the article publisher. Heretofore, this was not a worrisome transaction for either side; publication allowed authors to establish primacy in their ideas and to earn prestige based on the prestige of the publication venue, which was all they or their institutions or funders needed, and the transfer gave publishers a saleable product. Librarians, too, were content; first-sale rights and interlibrary-loan provisions allowed them to distribute print journals as widely as seemed necessary, and preservation of that print for the future was a welcome and acknowledged library duty.

The transition to electronic production and use of the journal literature is changing all that. Publishers, as well as journal aggregators and article-database vendors, cling to intellectual-property ownership as their means of getting paid. Alongside that ownership come access restrictions, it being rather difficult to charge *ex post facto* for a freely-available electronic file. Alongside access restrictions come strictly-enforced use and re-use restrictions, deriving authority in part not from intellectual-property law but from licensing agreements between publishers and libraries. Inter-institutional collaborative research efforts find that some of their members have worse literature access than others, sometimes *much* worse.

Authors, their control over their work broken by copyright transfer to publishers, often cannot legally perform such natural acts as placing copies of their work on their websites as a personal portfolio. Many do anyway, of course, but the lawsuit currently pending against Georgia State University demonstrates the risks they incur. Confusion over licensing, as well as restrictive license terms and insistence on additional royalties, intimidate both librarians and teaching faculty into less use of the published literature in the classroom than would be pedagogically appropriate. All this is, to say the least, unfortunate. Publishers should

not feel that they must restrict use and re-use to cover their costs. Teachers and readers should not be afraid to make use of the literature.

Another locus of ownership conflict today pits research funders against publishers and scholarly societies. 'Funder' should be understood broadly: not only grant funders, despite their obviously important role in research and in the ferment over publication, but also institutions, who directly fund many researchers and much research infrastructure.

What funders desire from publication is impact. They want to be sure the research they fund makes its proper mark, both in the research world and outside it among practitioners, policymakers and donors. Some also desire broader access generally to the results of research, typically government funders who are keen to see the taxpayers get their money's worth from government research funding.

Once again, neither publisher nor scholarly society has any intrinsic objection to these laudable goals. It is quite difficult, in fact, to argue against so self-evident a public good as public access to publicly-funded research. The problem once again is money: publishers fear that if they do not hold on to ownership and restrict access, they will not survive financially.

Authors find themselves stuck in the middle of this strife. Their funders insist that they should not transfer copyright entirely to publishers, but funders abandon authors to negotiate with publishers alone. Given the impact publishers still have on authors' careers, authors are understandably loath to play hardball. All this ferment creates even more day-to-day headache for researchers, and if there is anything researchers neither want nor need, it's more headache. How curious this conflict is, when motives are almost entirely aligned! Publishers do not oppose access, nor do they oppose impact; they only oppose lost rents.

Another locus of ownership conflict is between libraries and publishers. A key difference between this and other conflicts is that ownership of intellectual property is not much at issue. Libraries almost never hold copyright in the material they make available (though that is changing somewhat now that libraries are becoming publishers). What libraries care about is appropriate ownership rights in purchased copies, which has become a significant bone of contention as scholarly publishing has moved electronic. Libraries are finding

that not having very many rights over their purchases is causing problems both for them and their patrons, from ill-conceived search interfaces that are the only way to reach certain content to 'big deal' bundles that prove to be poor value for money, to loss of interlibrary lending rights. Returning to print is not a viable option; researchers and students both in word and deed express their preference for electronic journal content.

Ownership also impacts preservation. In the print world, preservation was explicitly a library issue; save for the question of archival-quality paper and bindings, it was clear that publishers published and libraries preserved. In the digital realm, since libraries do not have the first-sale rights that allow them to carry out preservation activities, publishers who want to lease digital materials have no choice but to preserve them themselves, despite the significant cost and specialized skill required to undertake digital preservation. Progress is happening with journal preservation, however, resulting from collaborations between libraries and publishers evident in Portico, CLOCKSS, and the collaboration between the Directory of Open Access Journals and the National Library of the Netherlands. These collaborations prove that publishers and libraries need not quarrel over ownership to accomplish necessary work.

Historically, libraries have accepted the tightening restrictions and soaring prices from publishers and aggregators without much overt protest, banding into consortia and plundering monograph budgets to shoulder the additional financial burden. Publishers have therefore owned a somewhat tenuous and extra-legal form of intellectual property: the public and private discourse over journal pricing and licensing terms. Times are clearly changing, as the University of California's sharp and public struggle with Nature Publishing Group over a fourfold price increase demonstrates. Librarians are meditating action amongst themselves, exemplified by Barbara Fister's excellent 'liberation bibliography' series in *Library Journal*⁵, as well as discussions on many librarian-authored weblogs⁶. A few publishers have tried silencing tactics in response⁷; Nature Publishing Group, for example, complained about the University of California discussing negotiation details publicly. Silencing is deeply unwise; in a world shaped by internet transparency, such tactics make publishers look guilty and inappropriately controlling.

If blocking professional discourse is poor business practice, how much poorer must blocking academic discourse be? Libraries have learned that their patrons are uninterested in librarians-as-gatekeepers; publishers face the same painful lesson. While publishers unquestionably perform a necessary service, they damage their own brands when they use intellectual property to inhibit use and circulation of the literature and cause difficulties for researchers trying to comply with funder mandates. During the twentieth century, formal publication was the only route to dissemination, credit for primacy of ideas and prestige. This is changing, rapidly, as intellectual-property ownership shifts back towards authors and the public; and if publishers do not change alongside, they risk being swept aside entirely.

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