Special Issue—Future of Publication

Editorial

Hänsel und Gretel: The future of publishing wicked witch-free

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Preamble

In the forest of scientific publishing, there lived a wicked witch. Cannibalistic. Greedy. Nearly blind. As it turns out, the witch was also wealthy with treasure and precious stones. Let's assume for a moment that we, the authors of science and producers of knowledge, are Hänsel and Gretel. In this version of the fairy tale, I propose that the wicked witch is best represented by for-profit-publishers, and they (seemingly) have us captured. Consuming our work with the promise of effective dissemination, we are trapped in a sugarhouse. However, there is no need for us to necessarily accept our fate and be any less wily than the protagonists in the original tale. Hence, this special issue and the continuing section of **IDEAS IN ECOLOGY AND EVOLUTION** is on offer to we children as means to promote discussion, vision, and most importantly, ownership of the scientific dissemination process.

To refresh, the witch captures Hänsel and Gretel. Hänsel is kept in a cage and fed in preparation for dinner. However, he delays his imminent consumption by the witch by offering her a bone when the witch checks his fattening up (recall, she is nearly blind). Eventually, the witch decides to consume both children and prepares the oven. The witch asks Gretel to check the oven temperature by crawling inside, but Gretel tricks the witch into checking in her stead by feigning incomprehension, and pushes her in. The witch burns to death. Then, the children escape with the treasure they discover in the house of the witch. The profits of many large publishing houses are truly wicked (Monbiot

2011). The publishing houses are also mostly blind to science, and will remain blinded to effective scientific discovery because they must maintain profits and do so by limiting access—unless we pay huge fees to mitigate their 'costs.' Ultimately, without letting authors into the kitchen (as cooks, not meals), publishers will always remain wicked. Ideas in Ecology and Evolution, and The Public Library of Science (PLOS) show that scientific communication and standard publications can be both relatively affordable and always open. The advent and efficacy of online search and discussion/discovery tools now further reduces the need for packaging and promotion by publishing, i.e. the sugary icing on the cake.

Consequently, the scientific Hänsels and Gretels of today have at least two classes of choices. Stay in the sugarhouse and try to work with the witch whilst avoiding getting eaten. This is viable, risky, and likely limits scientific discovery. Additionally, it is hard to imagine our grants not getting eaten up in open-access fees, or, our copyright frequently relinquished. Alternatively, we can escape with whatever treasure we possess, i.e. the grant costs we save by not paying for exorbitant open access and the library budgets not directed to huge subscription costs—the real treasure. Theoretically, we can thus set up our own publishing kitchens, albeit with a little less sugar. Let's explore both sets of choices here in **IDEAS IN ECOLOGY AND EVOLUTION**: collaboration with publishers via lobbying for the changes we deem appropriate, and/or escape by setting up similar systems whilst co-opting/adapting other communication tools freely available to the public.

Scope of explorations

Working with the witch

Under this model, there are at least two primary and perhaps parallel strategies: the bone trick and the oven feign. The bone trick is already prevalent as an individual strategy by highly-effective ecologists. The most highly cited, as identified by Web of Knowledge, use a mixed submission strategy to various journals depending on the need for speed, impact, accessibility, or niche; for more than half of the most-cited individuals, their *Nature* and *Science* articles are less cited than those in other journals (Parker, et al. 2012). This is a modified version of the bone trick in that they do not give the witch everything, just some of their work. We could formalize this strategy collectively, and use it both as a collaboration strategy (with peers, by deciding where to commit special issues and large multi-authored reviews; or, with publishers, by negotiating for open access on more papers) and as a lobbyist force by deciding how to ‘spend’ our findings. The need for tenure, recognition, and grants is albeit very powerful (Lawrence 2009), but we should choose to direct some of our best work to open access journals, society journals, or journals that conduct more ethical review practices such as double-blind review (Budden, et al. 2008), have more diverse editorial boards (Grod, et al. 2009), or simply have higher acceptance rates with more transparent review criteria—particularly because there is little, if any, evidence of reduced impacts (Wardle 2012). The bone trick thus involves taking what we can from the collaboration with the witch when needed, but also committing to a strategy that insures a diversity of journal options available to our discipline.

In many respects, the oven trick is a more interesting exemplar of another set of parallel strategies, i.e. Gretel was far cleverer than Hänsel, and she was expected to work for scraps in the kitchen—sadly similar to the reality of the scholarly kitchen (Moss-Racusin, et al. 2012). Under this collaborative model, we feign ignorance of the process (but don’t push publishers in the oven). Publishers have resources, and a division of labor in the dissemination pipeline is reasonable. Under the current model, however, many important aspects of review fall to our peers as referees working for free, mostly in the spirit of improving science or ensuring that it is sound or novel. Instead, we could use the magic of the witch and demand far more. Many open access journals do not copyedit. This is an obvious opportunity for publishers to add value. For instance, paid statistical editors, graphical designers and visualization experts assisting with figures, data archiving, or better dissemination and discovery tools should be provided directly by the witch! Some of these are provided now, but to a relatively limited extent and often only to select papers. Peer-review training could also be funded by some of the coffers of the witch. Furthermore, all editors could be paid as this would likely increase the rapidity of turnaround time and quality of reviews. Ultimately, publishers would benefit. Simple top-down rewards in some form would make us all feel more engaged and responsible. Importantly, we either need to share in the rewards, stop paying for access, or gain more control of the decisions associated with the handling of the final content. We need to insert ourselves into the kitchen to ensure we get a more equitable role in scientific dissemination.

Escape

Escape involves anything you can imagine. This is the primary purpose of both this special issue and the continuing *Future of Publication* section in **IDEAS IN ECOLOGY AND EVOLUTION**. Take the treasure, and get libraries to become publishers. Work with libraries to ensure that cost and time to access a wide variety of online materials—in addition to journals—are available, archived, and linked to scholarly reading (Tenopir and Volentine 2012). Use our grants to set up collaborative publishing networks. Use PeerJ, SciOR, arXiv, figshare, mini-manuscripts, or any other option that is more affordable or ethical to at least archive pre-reprints (Hassall 2012). Experiment with the dissemination process to find new opportunities and formats. Have no journals or force them into more dynamic entities. Submit papers to central sites and let the community choose top papers (Allesina 2012). Make editors shop for papers or encourage editors to be more transparent in communicating feedback (Hassall 2012). Use blogs, twitter, self-publishing, archives, and pre-prints. Publish

data via DataUP and use DataONE to retrieve and disseminate work. Publish figures and datasets on figshare. Publish reviews—your own and those of your work online (Aarssen and Lortie 2012). Publish talks on slideshare and speakerdeck. Publish scientific conversations online using Google+. Less dramatically, but no less importantly, enhance the current static process with data, speculation, twittered updates, or crowd-sourced input to promote discussion: ‘Tweets’ have been shown to predict citations (Eysenbach 2011, Shuai, et al. 2012), blogs are now powerful tools capable of shaping and handling scholarly discussion because experts participate (Fox 2012, Shema, et al. 2012), and altmetrics is rapidly reshaping recognition, and most open journals use these metrics (Piwowar 2013). Science is networked, and visibility with access democratizes discovery (Nielsen 2012). This set of escape strategies will also include extensive use of these tools to ‘publish’ other versions of the findings online, including alternative interpretations and ancillary data that does not fit within the traditional peer-reviewed publication at the moment.

Conclusions and the scientific fable

Hänsel used twitter (breadcrumbs to mark their way home), and Gretel recognized that open access (the white swan) could not carry the entire burden of communication in a single trip. Limited resources lead to their abandonment by their father and stepmother precipitating the entire tale. This is an all too familiar modern tale for ecologists with the low funding success rates in the USA (see <http://jabberwocky.weecology.org/2013/01/07/the-nsf-proposal-revolution-the-deb-data/> for a description) and meager grants in the Canadian funding system (Joos 2012) to name two examples. Hopefully, this will not leave us blindly trusting the witch but rather striving for invention in the process of communicating our work, making it relevant and credible to the larger community and those that vet our merit for promotion and funds, and creating more open options to share the salient aspects of ecological discovery broadly. This special issue is an excellent step towards innovation in that process. In this issue, Allesina proposes a framework to evaluate peer review using an agent-based model (escape), whilst Fox provides an excellent case study of the importance of blogs in sharing ideas (escape & collaboration). Aarssen and Lortie propose an online community that can connect authors with referees and also replace static publications (escape). Hassall offers an excellent summary of “going green” via open access opportunities to self-archive, both as a means of collaboration with the current system, and also as escape from the confines of

traditional papers. Tenopir and Volentine show that life-science scholarly reading is uniquely diverse (collaboration with escape), and Cooke and Lapointe offer an illuminating set of solutions associated with editorial misconduct (collaboration to improve existing system). Collectively, this is an excellent set of proposed revisions to the current scientific fable of limited open access and large profits for publishers. In the fairy tale, Hänsel and Gretel return home and bring the treasure back to their father and live happily ever after. I am not so certain that ecologists will ever enjoy such a relationship with funding agencies; but, by becoming leaders in the innovation of scientific communication, we will demonstrate presence that enhances the impact of our research.

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