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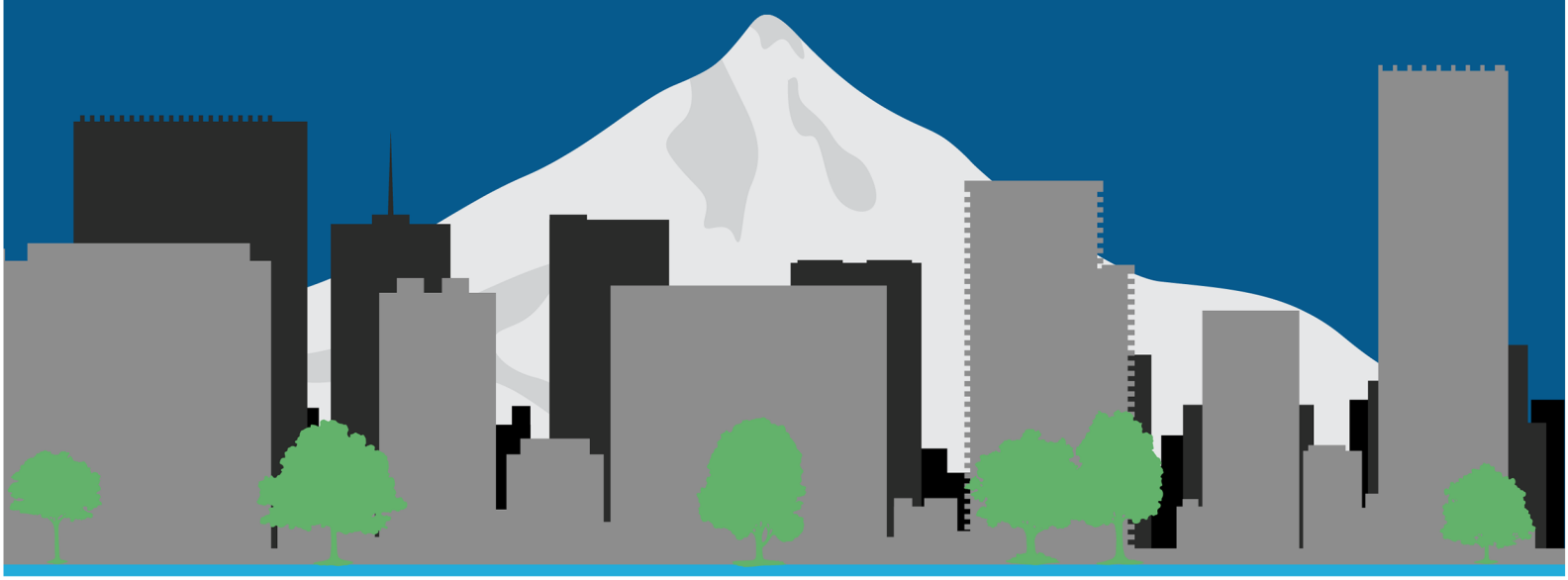

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TRANSITIONS/TRANSFORMATIONS IN SCIENTIFIC EDITING & PUBLISHING

CSE NEWS

DEPARTMENTS

On the cover: *The cover of this issue of Science Editor features a work of collage art titled "Glass Dreams 03" by Kyle Hurley. This image of a retro-styled astronaut phasing between dimensions juxtaposed against an unruly natural background is evocative of the theme of this special issue. The astronaut is in a liminal space, transitioning between worlds, potentially transforming as they go. Whether we are witnessing an arrival or an exit is unknown, but a transformation is likely occurring, the nature of which may not be fully clear to our protagonist at this time.* ***Credit:*** *Glass Dreams 03. Artist: Kyle Hurley*


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The Transformational Line of Progress Curved to Form a Circle: A Middle Way for Technological Advancements in Journal Production

Scott Curl

It is hard to find a profession that hasn't been transformed over the past few decades by the rapid pace of technological change. Those who work in publishing can certainly attest to this. Someone starting a career in publications just 15 years ago has already seen things that might have been hard to fathom on their first day of work: a complete transition away from a paper-driven office to one that relies entirely on electronic communication, digital content management systems, and virtual meetings; online-based content becoming the publication of record while physical editions were reduced to an expensive, fading, niche product; the complete collapse of a print-advertising revenue model that dominated the industry for so long; major news organizations falling into bankruptcy, pushing journalism to the brink. Many publishers have struggled to keep pace with this rapid change, some churning their workforce and sinking their resources into constantly replacing systems that few work with long enough to fully understand, with others largely avoiding digital advancements until it was too late, outsourcing much of their publishing work to large conglomerates. But a middle way is possible, one that responds and adapts to change by focusing on the concepts at the core of the centuries old craft of publishing production and uniting these craftspeople with new tools to sustainably produce content in an otherwise volatile environment.

For 10 years, I have managed the team responsible for producing the JAMA Network's family of medical journals for the American Medical Association. Working with the graphics and proofreading groups, my digital production team typesets, lays out, performs quality assurance on, and publishes more than 7,000 articles a year across 13 print and online journals. We use a sophisticated content management system that guides our multidepartment workflow and houses every article we are soon to publish as well as those that have published in the past. We also have a dedicated, in-house production systems team of programmers and developers working alongside us who maintain, modify, and upgrade our typesetting and layout systems on the fly, build databases for all the content we handle, and develop sophisticated systems of delivery to our web vendor for online publication. We have a very modern publishing production process, yet the *what* that is behind our work is centuries old; a typesetter from 150 years ago would immediately recognize what we do and would probably fit in quite nicely. And the *how* of this very modern journal production process? Well, in a way, it was launched by a decades old Super Bowl commercial.

A Hammer Is Thrown and an Industry Changes Overnight

Forty years ago, nearly 80 million people sat down on a Sunday to watch what would prove to be a very forgettable Super Bowl with an unforgettable ad: film director Ridley Scott's memorable *1984*-themed commercial for Apple Computers. Cinematic in style and scope, it featured a lone athlete in bright colors running through gray-clad masses and throwing a hammer at a droning Big Brother figure on

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a screen, smashing it to bits. A serious-sounding voiceover then said that something called a "Macintosh" would be introduced in 2 days' time, and everyone would see why the year 1984 would be nothing like the dismally monotonous and controlled future of *1984*, the point punctuated by a colorful logo of an apple against a black backdrop.

The game itself wasn't very close, and before long, many would have turned their attention elsewhere, talking with friends and family, doing the dishes, and cleaning up long before it was over. Those working in publishing production likely went to their workplaces the next morning and tried to wrap up the journal issues they were laying out, typesetting, and preparing to send to press, working hard to meet their deadlines and probably not giving much thought to the "deadline" announced in the computer ad; that by Tuesday of that week, a computer with an interesting name would become available to anyone with $2,500 to spend and would be a hallmark in an era of rapid change that would reshape, replace, benefit, and upend so much about the ways in which journals would be produced, let alone the business of publishing as a whole.

At that moment, computerization in publishing was in its relative infancy. Production at the time was not that far removed from actual hot metal type being manipulated by an operator using a keyboard to input the text that would appear on a printed page. Phototypesetting was still being used heavily for publishing production. It consisted of long columns of text that were hand-keyed by operators using Linotron typesetting machines. Then, large boards were carefully arranged by paste-up artists manually placing columns of text alongside cutouts of images and shooting photographic plates of these pages. They made corrections to printed galleys by using a razor to cut text and replace it with a piece of film, the revised text on one side and sticking wax on the other. The metaphorical hammer thrown by the athlete in the Macintosh ad was about to smash all of that.

In just over a year, the first LaserWriter printer and Aldus's PageMaker software would be introduced as companions to the Macintosh, and the concept of desktop publishing exploded. PageMaker gave users advanced, onscreen layout tools that could combine graphical elements with text set in a seemingly endless number of fonts for their publication's pages, which could then be printed at what was then a high resolution. PageMaker would quickly become a key tool in the publishing production process, providing a true "What You See Is What You Get" publishing platform that translated visual layouts one could see on the screen directly to the physical, printed page. Newspapers, magazines, and scholarly journals moved away from large and limited linotype machines and moved to desktop publishing systems, as the equipment that could be used to produce publications suddenly became cheaper, and smaller, and the software became more powerful and easier to use.

The speed of this technological advancement was underscored by the fact that the first Macintosh that helped usher in this revolution would be discontinued before the end of 1985; its small black-and-white-screen and lack of advanced typesetting tools such leading and kerning adjustments were already seen as limited. The bar had been set, then quickly raised. The way forward was already known, including more powerful computers with color screens, such as the Macintosh II, and more sophisticated software options for fonts and page layouts from companies such as Adobe and Quark. The sudden proliferation of print-centric hardware and software changed the business of publishing overnight, and the increasing rapidity with which these tools were updated, or outright replaced, set a pace that could be hard to keep up with, particularly for some smaller periodicals and scholarly journals who couldn't afford to consistently revamp their production infrastructure in ever-shortening cycles. That screen-shattering Apple hammer was now speeding off in a straight line toward some unseen point on the horizon and seemingly away from many who had spent their professional lives in publication production.

Looking Back to See Ahead

There was a false dilemma at play—that somehow a choice had to be made as to whether a publisher would continually sink money into a never-ending cycle of new publishing hardware and software that would quickly fall into obsolescence, each iteration operated by specialists whose skills wouldn't necessarily translate from one mode to the next, or simply fold internal production altogether, outsource the work to another company and let them deal with it. But an organization could commit to a middle way, one where the investment is ultimately not in disposable equipment, but rather in a team of experienced people who are essentially engaged in a centuries-old craft. You just need to give them the specific digital tools tailored to help them do their work in new ways. Transformative innovation in blades and powered machinery does not leave the carpenter behind; it just gives her a better saw to cut with.

My first publishing production job was when I was in college in the '90s. The newspaper I worked at was large but still had old equipment. We used word processors for articles, those old Linotrons for typesetting, and arranged cutouts of article columns with cutouts of ads and placed them on paste-up boards with actual tape on the borders for each page of the newspaper, making it camera-ready before it was shot and sent to plate. I could not believe how old-fashioned it was, and I wished we were using computerized desktop publishing systems with the latest layout software. But I learned about type, and I learned about kerning to adjust the space between

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characters. I learned how to spot errors and how to fix them before publication. I learned how to effectively balance a page to style, whether photos and graphics should be placed on the edge of a page or near the center "gutter." These were the types of things that I talked about with others on the team; not specifics of the machines we used, but the concepts and the craft of the trade. The job title each of us had was "Layout Artist," and we liked that a lot.

Later, when I was out of school and working for the financial publisher Morningstar, we used digital production suites with the latest in layout and publishing software that was miles beyond what I could have imagined when working at the newspaper. But what I did with a mouse and keyboard and a nice monitor replicated exactly what I did with my hands at the paper: cutting content, dragging and dropping, adjusting the kerning, moving a graphic a few points higher so that it balanced the column of text next to it, etc.

Sustaining the *What* While Adapting the *How*

Here at the AMA, we use systems that take written editorial content and within minutes, transform it so that it simultaneously produces XML for online publication and digital page proofs. These proofs pull in images created by the graphics team that we then layout and use to generate full-article PDFs that we both publish online and also send to press for print publications. Along the way, we are supported by a production systems team of developers and programmers who adjust and update the scripts that automate the processes that allow us to do our work more efficiently, which enables us to take on more projects. Years ago, I couldn't have foreseen the specifics of how we would go about our work and accomplish publishing a print issue of *JAMA* each week while also publishing 10 print issues of our Specialty Journals each month, let alone publishing it all online at the same time, along with additional rapid, quality online-only content. But once again, when I talk to members of my team each day, our time is largely spent discussing layout techniques and how to best arrange a page, spotting errors in content, and fixing those errors before an issue is published. This tradition of craft is driven home to me every time I speak with a particular member of my production team who joined the A.M.A. a few years *before* that Apple commercial aired in 1984. She is still carrying on the same traditional work but has continually adapted and learned to use different tools to do it. I would like to think the "Layout Artist" version of me from the '90s and the typesetter from 150 years ago could fit in and thrive on my team today.

The decisions, guidance, and input of many people who have been involved with our journals over the years—from our publishers to managers to new members of the team—have brought us to this point. Collectively, we didn't forget the *what*; we tried to improve the *how*. We didn't see technological change as something that should send us off trying to chase down every innovative trend as it sped away or lead us to simply throw up our arms and give up on in-house production. Rather, we've engaged in what I see as something truly transformative: maintaining a craft's rich tradition in new ways. Curving the progressive line gently back on itself to form a circle, one that unites new tools with those who can use them to do more of what they have always done well.

Artificial Intelligence and The Future of Image Integrity In Scientific Publishing

Dror Kolodkin-Gal

Scientific publishing serves as a vital medium for sharing research results with the global scientific community. The images within an article are often integral to conveying those results clearly. However, with researchers sometimes including hundreds of sub-images in a manuscript, manually ensuring all images accurately depict the data they are intended to represent can be a challenge. Here, cancer researcher and founder of an artificial intelligence (AI) image-checking software tool,[1] Dr Dror Kolodkin-Gal, explores how researchers and editors can improve image integrity, and how AI can streamline the publishing process.

The credibility and integrity of academic papers are of utmost importance. To maintain trust in scientific content, researchers, editors, and publishers have an ethical obligation to ensure all the data they share are valid. This is particularly significant when dealing with images or figures, which must be accurate to avoid misunderstanding, misinterpretation, and even allegations of deliberate image manipulation from readership. As more scientists use AI, image integrity will become increasingly important in scientific publication.

There are many forms of image integrity issues, but most of them are unintentional.[2] An image may be mistakenly used twice, or researchers may use images containing overlaps. In any case, even a mistake in good faith can lead to an incorrect interpretation of the results and therefore must be avoided. At the same time, there are less common but much more severe cases in which there is deliberate manipulation. For example, deletion or addition of bands within western blots or cloning part of a microscopy image.

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The Consequences

According to leading image data integrity analyst Jana Christopher, MA, the percentage of manuscripts flagged for image-related problems ranges from 20% to 35%.[3] For authors, failing to detect image integrity issues before submission, either for grant requests or publication, can result in rejection. If a grant authority rejects a submission, it can delay access to funding, halting research. When reviewing complete papers, publishers do not need to disclose a reason for rejection during the peer review process; consequently, without receiving feedback, researchers may also be unaware that there are critical image issues in their manuscript.

If an issue goes undetected during review and is reported post-publication, either to the journal or online, the publisher and/or the author's institution must investigate to determine if the allegation is true, how it occurred, and how to resolve it. Investigations can take years, during which time researchers may find it difficult to win further funding, conduct research, or publish elsewhere. While the image integrity issues may be unintentional, no matter the outcome of the investigation, researchers must work hard to rebuild their reputation.

In addition to costly investigations, image integrity issues can negatively impact future research. Academics often base new research on an existing paper—if the original paper contains inaccurate data, any data in new research will also be incorrect, wasting funding. Researchers may also find it difficult to replicate original results if they base their experimental procedures on an existing paper that contains errors, leading to more wasted time, materials, and funding.

Where Images Go Wrong

During an investigation, publishers will determine whether the flagged image issue is an intended manipulation or a mistake that went undetected. As mentioned earlier, when looking at the results of the investigations, we often find that many image issues are innocent mistakes.[2] These mistakes

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are often instances of image duplication—this refers to reusing the same image in different parts of the paper without indication. The image may be used the same way twice, or may have been altered, for example, by changing the rotation, size, or scale. The image may have also been flipped or cropped, or researchers may use images containing overlaps.

Duplications can often happen when images are not effectively managed across time or when working in teams. Researchers may conduct experiments over many years, often collecting hundreds or thousands of images. Research can also be collaborative, with scientists from different universities working on the same project with a corresponding author. If these images are not properly managed, it might be difficult to distinguish between them and errors can occur.

So, why do these issues occasionally go undetected? Publishers and editors have large numbers of manuscripts awaiting attention after submission, whether pre- or post-peer review. The sheer volume of manuscripts submitted, combined with pressures such as time constraints makes ensuring image integrity difficult, particularly because editors must manually check each image and compare them with the rest of the paper—this presents a significant challenge.

AI in Research

Maintaining image integrity and the reliability of the scientific literature in general has become more complicated since the recent proliferation of the use of AI.

Globally, the advance of AI has led to developments in a wealth of varied applications, from autonomous vehicles to virtual assistants. In scientific research and publishing, it is no different. Developments in AI technology can help researchers, editors, and publishers in life sciences improve not only the ease of writing and editing a manuscript, but also can increase the integrity of their work and the impact of their publications.

For instance, AI-based grammar and plagiarism checking tools have advanced far beyond a simple spell-check. They now enable researchers to review written content for clarity, originality, and the proper citation of sources. These tools can analyze text for tone and provide suggestions for improvements, ensuring that the language used aligns with the intended context and scientific rigor.

Content Generation

While there are multiple benefits to using advanced tools, the integration of AI in scientific publishing brings forth ethical considerations that demand thoughtful evaluation. While few people would suggest that using AI for spell-checking was inappropriate, the use of AI for content generation is now as controversial as it is popular.

Although AI-generated content can provide valuable insights, such as by summarizing lengthy documents, it is essential to acknowledge that these systems are only as good as the data they are trained on. Biases or inaccuracies present in the training data can manifest in the generated content, potentially leading to misinformation.

For example, the first AI generated article in *Men's Health* magazine was investigated for sharing many inaccuracies and falsehoods—despite the fact the content appeared to have academic-looking citations.[4]

To maintain integrity and trust in scientific research, it is crucial to apply transparency, accountability, and credibility to the use of AI in content generation. Some publishers have already adapted their editorial policies to restrict the use of large language models like ChatGPT in scientific manuscripts to prevent misinformation.

The limitations of AI's performance and transparency mean that human intervention remains indispensable. Perhaps more than ever, researchers and editors should continue to verify facts and exercise due diligence during peer review to ensure that AI-generated content aligns with scientific rigor.

Paper Mills

Mistakenly sharing inaccurate content is one risk, but AI's integration into scientific publishing poses another ethical challenge: the expansion of paper mills. These organizations, that produce entirely fabricated content, highlight how AI can be exploited to undermine the credibility of scientific publications.

The exact percentage of paper mill articles in circulation is unknown. The Committee on Publication Ethics conducted a study that suggested the percentage of suspect papers being submitted to journals ranges between 2% and 46%.[5] Significant concerns exist among publishers that this difficult-to-detect phenomenon undermines the credibility of scientific publications.

Advancements in generative AI may enable paper mills to produce seemingly more sophisticated and authentic content. Generative text and image algorithms can read existing scientific literature to mimic research writing styles, rewrite existing content, or generate pseudo-scientific articles and images that resemble genuine material. The figure, for example, demonstrates content generated by AI image generation tool DALL·E when giving prompts.

The more closely AI can mimic authentic content, the more difficult it will be for publications to detect intentionally fraudulent submissions. The fact that generative AI can produce material so rapidly could increase the scale of the problem, placing a higher burden on journal editors.

Forensic editors play a crucial role in ensuring the integrity and credibility of scientific research by detecting

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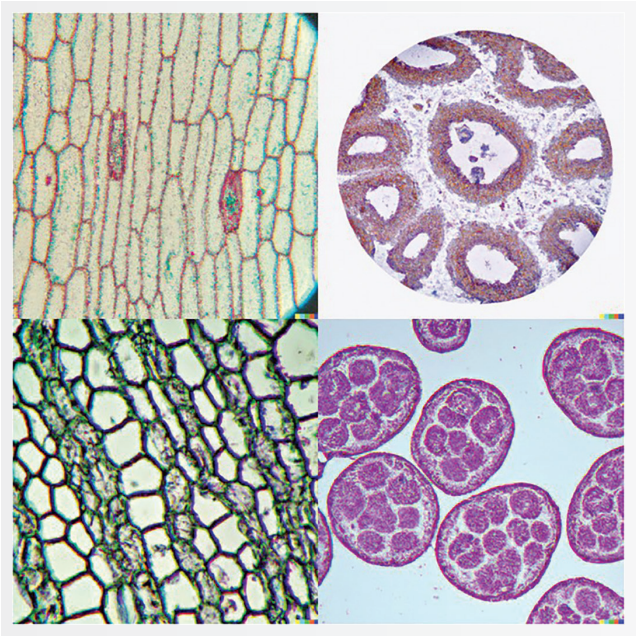

Figure. Composite of 4 images generated by artificial intelligence tool Dall.E 2 in response to the brief "microscopy images of plant and animal cells."

and addressing any allegations of misconduct and fraud. Forensic editors will review the paper's contents and data, gather evidence, and interview relevant parties to assess the validity of any reports of fraud. This will become increasingly difficult as AI technologies become more sophisticated.

Find AI with AI

However, work is underway to tackle this growing challenge. While some AI tools are prone to misuse by paper mills, others could be part of the solution to detecting and preventing the publication of fraudulent research. Some researchers are already using machine learning to develop algorithms that could check for a range of signals that suggest paper mill content.[6]

Several AI image detectors are also now available, such as Maybe's AI Art Detector,[7] or AI or Not.[8] However, these tools are not 100% accurate; one concluded that the images in the Figure were generated by a human, and one recognized them as AI-generated.

Over the years, a range of characteristics have been found that may distinguish paper mill articles. These encompass not only the text, but also the scientific images used in a paper. However, manually reviewing papers for suspected image manipulation can be a time-consuming task that is not always accurate, particularly because a paper could include hundreds of sub-images.

For example, by using cut and paste or certain filters on images, authors willing to manipulate research, or a paper mill organization, can alter results and make a manuscript appear more authentic. These forms of image issues are often difficult to detect by eye and compare against existing imagery. Comparing potentially manipulated images against a database of millions of previously published pictures might prove futile because AI-created images could appear authentic and unique, despite the lack of legitimate data.

It is clear that integrity experts can no longer rely purely on manual checks and must consider countermeasures to AI misuse. Identifying these sophisticated fakes is a significant challenge. AI Computer Vision—the field of AI that trains computers to analyze and interpret the visual world using digital images—can automate the review process to detect image issues before publication. Image integrity proofing software tools use computer vision and AI to scan a manuscript and compare sub-images in minutes, flagging any potential issues. Editors can then investigate further, using the tool to find instances of cut and paste, deletions, or other forms of manipulation as well as instances of innocent duplications. The editor can then decide how to proceed with the paper.

AI has many capabilities and will continue to improve, but we cannot rely on technology to act ethically of its own accord. As the scientific community increases its understanding of AI and its applications, integrity experts should collaborate to establish clear guidelines and standards for its use in content generation.

Yet, despite these efforts, paper mills and fraudulent image manipulation will persist. However, it is important to note that while deliberate manipulation of images poses a significant challenge to image integrity in scientific publishing, the vast majority of image-related issues still stem from honest mistakes. Publishers, therefore, should continue to invest in and adopt the most suitable technological solutions available at the time for reviewing manuscripts prior to publication. This, of course, should be complemented by a widespread endeavor to develop additional methods to prevent the flourishing of paper mills and manipulated manuscripts.

As we navigate this transformative era, collaboration and responsible AI usage will pave the way for a future where scientific publishing remains a beacon of trust and integrity.

References and Links

1. https://www.proofig.com/?utm_source=Stone+Junction&utm_medium=Commission+&utm_campaign=Science+Editor+&utm_id=PRO098&utm_content=Earned+
2. Evanko DS. Use of an artificial intelligence–based tool for detecting image duplication prior to manuscript acceptance. Ninth International Congress on Peer Review and Scientific Publication, September 8–10, 2022, Chicago, IL. [accessed January 21, 2024]. https://peerreviewcongress.org/abstract/use-of-an-artificial-intelligence-based-tool-for-detecting-image-duplication-prior-to-manuscript-acceptance/.

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Artificial Intelligence and Language Translation in Scientific Publishing

Sarah Frances Gordon

Introduction

Language translation is an important part of the scholarly and scientific publishing profession, as it allows knowledge to be communicated across the globe, transcending language barriers. Through translating research texts, authors can expand their readership and ensure that valuable scientific knowledge is widely accessible. Translation services are key to the scholarly and scientific research community because they help improve global collaboration. However, with the recent introduction of artificial intelligence (AI), the landscape of language translation has changed.

Neural Machine Translation

Neural machine translation (NMT) systems such as Google Translate, DeepL Translator, and Microsoft Translator are just a few of the NMT systems that translation companies and professionals often use. NMT aims to create algorithms that can translate text between different languages. Neural networks, which are computer systems inspired by the human brain, constitute the foundation of NMT models. These models learn to provide translations by spotting patterns in the massive volumes of text in several languages they are trained on. Another key feature of NMT models is that text translation can be learned without the need of mathematical models or explicit rules. However, more recently, ChatGPT has become one of the most common AI tools used by professional translators, as it has an easy-to-use interface and is suited to both individual and wide-scale use.

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AI Changes How We Work as Translators

With the technological advances of AI in translation, many professional translators perceive AI and automation as threats to the profession and distrust the recent advances in AI.[1,2] The fear is that AI will change the nature of a translator's job, leaving professional translators to predominantly edit machine-translated texts and train AI to perform machine translations.[1,2] In a way, this fear is justified because it is true that AI is changing the way we perform our jobs as translators. In many scientific journals, AI technology has been integrated into the editorial workflow and is built into the interface that handles the submissions, peer review, corrections, and editorial and production processes involved in publishing a journal article. However, machine-generated translations are often checked by human translators or another AI tool. This has been shown to enhance the editorial process. Also, many of us already double-check our translations using technology such as GPT-4 and use applications such as Grammarly[3] and Paperpal[4] to check our grammar. The fear is that the creativity required by translation and linguistic skills will be lost amidst all the new technological advances. In scholarly publishing, where objectivity is vital, we must examine the AI tools we are using in our work and critically reflect on the potential risks associated with them.

Inherent Linguistic Bias In AI

NMTs and other large language models (LLMs) have a significant imbalance in their coverage of languages, and these systems tend to perform better with high-resource languages such as English, Spanish, Chinese, and French. Even advanced LLMs, like ChatGPT, have imbalances because they are primarily designed to work more effectively in English than any other language. This imbalance means that texts or translations in languages other than English will not be as accurate or as culturally relevant as they should be.[5] In addition, AI technology, such as GPT-4, seems to be able to translate many languages into English, but they start to experience problems when they try to translate English into any other language, especially those with non-Latin alphabets, such as Korean.[6]

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The prioritization of English as the lingua franca in the scientific world is not a new phenomenon and stems from a history of colonization. Therefore, it is logical that this bias should exist in the AI tech space, and it is no surprise that most NMTs and LLMs struggle to capture the context and richness of languages that are not English.[5] Many languages spoken by smaller populations in underrepresented regions or with a smaller online presence are underrepresented in the development of NMTs and LLMs. Critics argue that AI technology may help us translate dominant languages in the Western world such as English, Spanish, and French. Still, the same models and systems struggle to do the same for languages considered "low-resource" such as Bengali, Swahili, isiXhosa, Tigrinya, Tamil, or Amharic.[7] It is no surprise that low-resource languages are often from developing countries with histories of colonization and oppression.[8] Although some organizations and researchers are actively working on the development of machine translation models for low-resource languages to make language technology more inclusive and accessible, these biases still exist. Therefore, it is our responsibility in the scientific and scholarly publishing community to be aware of these potential biases and take measures to combat them.

A Way Forward

Researchers and scholars all benefit from more accurate translations; therefore, we must be aware of the potential errors and biases in LLMs and NMTs. While human translators are considered expensive, they are accurate and when trained well, they are at much less risk of making errors in their translation work than AI technology. The human touch is invaluable because translation work is not an exact science. Translation is also about preserving the author´s voice and keeping the cultural nuances and tone of text intact across languages. This requires a splash of creativity that is difficult to program into an AI model.

However, when debating the values of AI technology, we should not be so quick to "throw the baby out with the bath water" (an English idiom, originally translated from the German, "das kind mit dem bade ausschütten") as AI does have some valuable contributions to make. Despite the current challenges, I argue that AI technology should be used to complement the work of translators in the scientific and scholarly fields. I believe that the way forward in translation work is a hybrid model that draws on AI technology and human review.

We should call on technological companies in the AI arena to be more inclusive and engage in constant monitoring, refining algorithms, and incorporating diverse datasets to ensure translations are accurate and do not contain cultural or contextual biases. It is important that all languages are represented in the digital space, and global linguistic diversity is maintained. On the side of translation companies, they need to be mindful of the technology with which they are engaging and incorporate AI technology with human review because a collaborative approach between human expertise and AI will ensure the highest quality of translated content.

Concluding Thoughts

The future of language translation should be a hybrid model that integrates AI technologies. Continued collaborations between researchers, linguists, and AI experts will lead to more sophisticated models capable of handling different languages, which are hopefully able to capture cultural nuances. As AI continues to evolve, researchers, authors, and publishers should navigate the ethical considerations associated with bias and ensure that the human touch remains integral in the translation process. The future holds exciting possibilities for the translation field in the scholarly publishing and scientific community, and these advancements will help ensure the dissemination of knowledge across language barriers.

References and Links

1. Kirov V, Malamin B. Are translators afraid of artificial intelligence? Societies. 2022;12:70. https://doi.org/10.3390/soc12020070.
2. Tavares C, Oliveira L, Duarte P, da Silva MM. Artificial intelligence: a blessing or a threat for language service providers in Portugal. Informatics. 2023;10:81. https://doi.org/10.3390/informatics10040081.
3. https://www.grammarly.com/
4. https://paperpal.com/
5. Nicholas G, Bhatia A. Lost in translation large language models in non-English content analysis. The Center for Democracy & Technology, 2023. https://doi.org/10.48550/arXiv.2306.07377.
6. Dave P. ChatGPT is cutting non-English languages out of the AI revolution. [accessed February 5, 2024]. Wired, 2023. https://www.wired.com/story/chatgpt-non-english-languages-ai-revolution/.
7. Deck A. We tested ChatGPT in Bengali, Kurdish, and Tamil. It failed. [accessed February 5, 2024]. Rest of World, 2023. https://restofworld.org/2023/chatgpt-problems-global-language-testing/.
8. Expert insights on the use of MT for low-resource languages. [accessed February 5, 2023]. MachineTranslation.com, 2023. https://www.machinetranslation.com/blog/mt-for-low-resource-languages.

Retraction Watch and Crossref: Collaborating to Improve the Assessment of Scholarly Outputs

Rachael Lammey and Ivan Oransky

Introduction

Research integrity and issues of trust around scholarly publishing and the peer review process are under renewed scrutiny as editors deal with issues like plagiarism, artificial intelligence-generated papers, duplicate submissions, paraphrasing, image manipulation and duplication, fabricated data, and the challenge of paper mills that do all of these things.

While developing and improving screening techniques to identify these issues can struggle to keep up, it becomes increasingly important to update the scholarly record if issues are identified. This is a key piece of what journals and publishers are committing to do when they host and steward the publication of research outputs.

The information on updates to the scholarly record such as corrections, retractions, or expressions of concern should be communicated quickly, clearly, openly, and consistently by the publisher, and they should also be made available in a machine-readable format so that downstream tools and services like abstracting and indexing services can reliably identify and share the current status of a work. This currently is not happening in a comprehensive way, which means that errors and updates can go undetected as research outputs are used and reused, and we risk the proliferation of misleading or incorrect information.[1] As a community, we need to take steps to correct this.

Crossref and Retraction Watch

In September 2023, Crossref and Retraction Watch announced that Crossref has acquired the Retraction Watch data and opened it to the scientific community,[2] and the two organizations will combine and publicly distribute data about tens of thousands of retracted research papers and grow the service together. This agreement fast-tracks the availability of an open, comprehensive, and accurate body of retractions and information on retractions for anyone to use.

The Retraction Watch data has initially been made available by Crossref in a .csv file format, as well as in the Crossref Labs API. In the future, however, the data will be integrated into Crossref's "main" REST API alongside metadata provided by Crossref members. The information will be updated on an ongoing basis as Retraction Watch continues to identify and share data on retractions and other important updates to content.

As the announcement explains, "the Center for Scientific Integrity (the organization behind the Retraction Watch blog and database) and the Retraction Watch blog will remain separate from Crossref and will continue their journalistic work investigating retractions and related issues; the agreement with Crossref is confined to the database only and Crossref itself remains a neutral facilitator in efforts to assess the quality of scientific works."[3]

Why Is This Needed?

As of September 2023, Crossref had just under 14,000 retractions in the metadata registered by Crossref members. This is part of Crossref's Crossmark service,[4] which supports the collection of standard information on retractions and is accompanied by a button that publishers can place on their websites. Readers can click on the Crossmark button to see the current status of a work, based on the Crossref metadata. All Crossref metadata, including this information on retractions, is made openly available via the Crossref REST API.

Crossref has encouraged publishers to register this metadata by removing the Crossmark-specific fee in 2020 and by adding it as one of 12 key metadata elements that members can see on their Participation Reports.[5]

In comparison, in September 2023, the Retraction Watch database contained records for 43,000 retractions. This shows that retraction information is missing from publisher

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metadata or provided in inconsistent ways. This makes it difficult for downstream services to use the Crossref data as it is markedly incomplete. It is important that a reader using these services does not assume that a paper has not been retracted because the data just is not there. As a community, pulling these two sources of information on retractions closer together and making them open provides one solution.

What Can Be Done Because of This Transition?

This transition will enable many and varied benefits when assessing scholarly outputs.

Having an open source of comprehensive retraction information removes barriers for the community to do research about retractions. The Reducing the Inadvertent Spread of Retracted Science: Shaping a Research and Implementation Agenda (RISRS), led by Jodi Schneider at the University of Illinois at Urbana Champaign brought stakeholders together to look at the inadvertent spread of retracted research and make recommendations to improve this.[6] Opening the Retraction Watch data supports the work of this research team, which previously had to rely on closed or incomplete sources of retraction data. Since September, we have also seen institutions like the Hong Kong University of Science and Technology publish their own analysis of the full dataset.[7]

It also supports the integration of retraction information into more tools and services. Retraction Watch data was previously available to license for organizations to use in their products. Users may have seen Retraction Watch information in bibliographic tools like Zotero or in search services like Clarivate's Web of Science. By providing the Retraction Watch data openly and via an open license, it is easier for the data to be used in other downstream tools and services. Since making the database open, we have already seen an integration in the System Pro search service,[8] interest from GetFTR[9] in integrating retractions, and expect many more examples to follow. Industry groups are also exploring workflows that can push notifications to readers, authors, repositories, archives, and other stakeholders to actively let the community know if a paper has been retracted.

Perhaps most importantly, this agreement supports the sustainability of the important work that the team at Retraction Watch do and gives the team breathing room and the potential for growth as Ivan explains on the Retraction Watch blog.[10]

What Still Has To Be Done?

Publishers remain a key, authoritative source of information on retractions and other important updates to content. Both Crossref and the Center for Scientific Integrity see the Retraction Watch data as a complement to publisher-provided data on retractions. Better information on retractions from publishers supports all of the use cases listed in the previous section.

Publishers can check the Crossmark section of their Crossref Participation Report[11] to see if they are providing information on retractions and other updates to Crossref. If not, there is support documentation[12] that explains the additional metadata and information they can provide in order to do so, which they can share with their production teams or service providers.

We expect and hope that publisher provision of retraction information will accelerate as publishers implement more consistent and comprehensive retraction publication processes in line with the recommended practice from the NISO CREC (Communication of Retractions, Removals, and Expressions of Concern) Working Group,[13] which was released for public comment in October–December 2023 and will see a final version published in early 2024. There is still work to do by the whole community to better serve any reader wanting to know if a piece of content is current, but this is another important step toward that goal.

References and Links

1. Hsiao T-K, Schneider J. Continued use of retracted papers: temporal trends in citations and (lack of) awareness of retractions shown in citation contexts in biomedicine. Quant Sci Stud. 2022;2:1144–1169. https://doi.org/10.1162/qss_a_00155.
2. https://www.crossref.org/blog/news-crossref-and-retraction-watch/
3. Hendricks G, Lammey R. Crossref acquires Retraction Watch data and opens it for the scientific community. Crossref Blog. September 12, 2023. https://doi.org/10.13003/c23rw1d9.
4. https://www.crossref.org/services/crossmark/
5. https://www.crossref.org/members/prep/
6. Schneider J, Woods ND, Proescholdt R; the RISRS Team. Reducing the inadvertent spread of retracted science: recommendations from the RISRS report. Res Integr Peer Rev. 2022;7:6. https://doi.org/10.1186/s41073-022-00125-x.
7. https://library.hkust.edu.hk/sc/crossref-retraction-watch/
8. https://system-270d2a-c8ed176a779c27104e0350735.webflow.io/blog/introducing-retraction-watch-in-system-pro
9. https://www.getfulltextresearch.com/
10. https://retractionwatch.com/2023/09/12/the-retraction-watch-database-becomes-completely-open-and-rw-becomes-far-more-sustainable/
11. https://www.crossref.org/members/prep/
12. https://www.crossref.org/documentation/crossmark/participating-in-crossmark/
13. https://www.niso.org/standards-committees/crec

Give It to Me Straight: Plain Language Summaries and Their Role in Scholarly Journals

Emilie Gunn

Overview

Changes in the publishing industry such as open access and online availability of research articles means that research is available to a larger audience than ever before. While traditional journal article elements (e.g., key words, abstracts, summaries, takeaway points) help give context to a paper or emphasize the point the authors are trying to make, they assume a level of expertise with the topic that may no longer be the case for some readers. Although plain language summaries (PLSs) have existed for a long time, they can better appeal to this broader audience because a PLS serves a different purpose altogether. Generally, a PLS is a short summary of a scientific article written in nontechnical language[1] that makes the main idea of the paper easier to understand for a nonexpert audience.

Scholarly journals tend to cater to a specific professional audience. In general, they are intended for practitioners or researchers who are familiar with the topic of the journal as it relates to their profession. Readers of scholarly journals are assumed to have the basic knowledge required to interpret the articles, despite the use of jargon and complex terminology. For example, a reader of a cancer journal could be assumed to understand the basics of chemotherapy, the current standards of care, common abbreviations, or other technical jargon without those things having to be explained in the article. However, this means that a person whose specialty lies outside the topic of an article, or who has none of the basic knowledge assumed by the authors, may find it difficult to understand. A PLS can bridge that gap between a highly technical article and a general audience.

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Audience and Purpose

If a journal article is intended for a specific professional audience that will have the requisite background to understand it, won't those readers be the very ones who don't need a PLS? Yes, but a PLS can expand that once-narrow audience by explaining an article in a way that anyone can understand. PLSs can help fellow scientists understand a paper, even if they are not in the same field or familiar with the jargon. General practitioners or those in loosely related fields may use a PLS to help them better understand a disease they only treat rarely and may not be familiar with. For example, a dermatologist may want to better understand a rare form of skin cancer. Doctors can use a PLS to better explain a patient's diagnosis or treatment. Many who are experts in a field find it surprisingly difficult to explain their research in a way that is simple and clearly understood, and a PLS can help facilitate that doctor–patient communication.

But PLSs can help the general public as well. Patients or caregivers wanting to better understand a health condition may find a PLS helpful. In this case, a PLS may even have the potential to improve treatment. Patients who use a PLS to understand more about their condition may feel empowered to talk about the research with their doctor and make decisions about their own care in a more informed way. Reporters writing a story that references recent scientific advances may use a PLS to get some background on a topic.

Many PLSs are published alongside the articles they summarize, often appearing after the abstract, but this is not always the case, as some journals publish standalone PLSs. For example, Future Science Group[2] publishes standalone PLSs on articles from a wide variety of journals. Each summary has a link back to the original journal publication.

Some scientific advances receive attention in the lay press. A PLS may help reporters accurately describe the science, resulting in a better-informed public. Similarly, advocates or lobbyists may use these summaries to talk to policy makers when trying to bring about change. A PLS may influence policy by translating complex science into something much easier to understand.

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As a hypothetical exercise: When the COVID-19 pandemic started, very little was known about the disease. Scientists began publishing papers quickly, and in those early months, misinformation thrived. With many papers on preprint servers or otherwise freely available, lay people read these articles and drew their own conclusions, accurate or not. A PLS could help in a situation like this by providing a place for the authors to state in the most basic terms what their research found, instead of leaving the interpretation of their results to a nonexpert lay public.

The fact is that the audience for a PLS may be anyone who is not familiar with the topic of the paper. We are only beginning to identify the myriad potential audiences and use cases.

Format and Content

PLSs can come in different forms, but the most common is text-only. Some PLSs are short, generally limited to about 250 words, and may be published alongside the article in the journal. Others may be much longer or could be published as a standalone item with a link back to the original article. Different publishers will have different requirements, but common elements of a PLS are the following:

- What the article is about
- Background information a nonexpert might need
- Why the study was done
- If it was a trial of some kind, what were the results?
- What the results mean
- How the results should be applied
- Any keywords and how they are pronounced
- Why a nonexpert would be interested in the article

Another PLS format is more like an infographic, so that text and visual elements combine to explain the main points of the article in language that is easy to understand. In these cases, the content is similar to the text-only format, but the language may be in smaller chunks like bullet points, and the visual elements further explain the topic of the article.

A PLS in graphic format should not be confused with a graphic abstract. While the 2 may appear similar in style, a graphic abstract still uses the technical language of the paper itself and is not necessarily written for a nonexpert audience. A graphic PLS may convey similar information as the abstract, but uses nontechnical language that is easy to understand by a lay audience. It may also include more basic information such as key words and definitions.

Generating Plain Language Summaries

PLSs are still somewhat new, and many authors will not necessarily have the skills to create one for their article. If a journal asks authors to create their own PLS, they should provide some guidance. This could mean providing a template for authors to work with, which could ensure uniformity of color, style, and layout and provide some level of quality control for the journal. There are many resources available online to help authors with the process. In particular, the American Geophysical Union,[3] Sage,[4] and Taylor & Francis[5] have guides that explain the concept of a PLS and provide detailed instructions to assist authors in every step of the process of creating a PLS. Journals can point authors to these resources to help them get started.

As a side note, if the authors create the PLS, it is wise for an editor to review it before publication to check for accuracy and prevent "spin" from the authors. It is also helpful for the journal to have a nonexpert review the PLS to see if it actually is understandable to a lay audience.

Journals may also work with a vendor to create PLS. In this arrangement, a journal gives the vendor guidelines to work within and the vendor works directly with the authors to create the PLS, so that all the journal needs to do is review the final product.

Finally, we should consider the fact that artificial intelligence (AI) may eventually be used to create PLSs. Some video conferencing software has the ability to create meeting summaries that are extremely accurate. It is not a far jump to believe AI may also be able to produce a PLS.

Conclusion

Given their many benefits and uses, we can reasonably expect PLSs to become more popular, standardized, and easier to produce in the future. We have uncovered some interesting use cases for PLSs in this article, but as they become more and more commonplace, no doubt there are many more ways to use PLSs still waiting to be discovered.

References and Links

1. https://uk.sagepub.com/en-gb/eur/plain-language-summaries
2. https://www.plainlanguagesummaries.com/publications/
3. https://www.agu.org/publish-with-agu/publish/author-resources/plain-language-summary
4. https://perspectivesblog.sagepub.com/blog/author-services/how-to-write-a-plain-language-summary-for-journal-articles
5. https://authorservices.taylorandfrancis.com/publishing-your-research/writing-your-paper/how-to-write-a-plain-language-summary/

Weighing the Cost: Open Access Article Processing Charges, Waivers, and Society Membership

Neen LeMaster, Morgan Huntt, and Claire Neumann

Introduction and Background

The business model for publishing has evolved substantially in the past 20 years. The subscription models for academic journals first changed from primarily print journals to online subscriptions and eventually broadened to include open access (OA) and hybrid journals (a combination of subscription and OA). BioMedCentral and the Public Library of Science (PLoS) were the first to charge article processing charges (APCs) to finance the professional publication process as a means to offset the loss of subscription income.[1] In 2012, the American College of Gastroenterology (ACG) launched their first OA journal, *ACG Case Reports Journal* (*ACGCRJ*), which is dedicated to the publishing of case reports. The journal operates as an online-only Gold OA publication. Initially, the journal did not charge APCs, as its target audience is gastroenterology and hepatology fellows, as well as other early career researchers. Many early career researchers see fees as a disadvantage or roadblock to having work published, and do not see it as a sustainable model due to rising APCs.[2] However, as submissions grew and the number of articles published each month increased, production costs to both the publisher and the ACG also increased. Prior to 2022, *ACGCRJ* had an overall page limit of 46 pages per month. The fee for additional pages was $10,000 and in 2021, *ACGCRJ* was 86 pages over budget. In an effort to keep the publication sustainable, in 2022, *ACGCRJ* initiated APCs for articles accepted for publication. However, being mindful of its audience, the *ACGCRJ* APC was set at $500 and is waived for corresponding authors who are ACG members, authors whose submissions are transferred from another ACG journal, and authors whose submissions were initially received prior to January 1, 2022, when the APC was rolled out. The page budget would remain in place for articles published that were submitted by members, but since nonmembers would be paying an APC, the page budget would no longer apply to those. We sought to study how this altered the landscape of both submissions and published authors in terms of ACG members versus nonmembers.

APCs are the most common funding method for this type of journal, and the current global average of APCs is $1,626.[3] For a more direct comparison, the APCs of 4 U.S. publishers of scientific research were analyzed using the criteria that the journals were case reports-focused and OA. Sixty-three journals were examined using data from the OA pricing lists of their respective publishers, and the average APC was $928 (see Supplemental Material [https://www.csescienceeditor.org/wp-content/uploads/2024/01/47-003-supp.material.xlsx]). There are several types of exceptions to journal APC policies. All journals analyzed offer partial or full APC waivers for submissions from authors in developing countries, using criteria based on World Bank rankings, the Human Development Index, the Healthy Life Index, and/or the United Nations developed countries lists (see Supplemental Material). Additionally, many scientific journals offer partial APC discounts on submissions from members of their associated societies. Of the 63 journals studied, 13 offered discounts of 20%–50% for submissions from society members, but none offered full APC waivers for society members.

Membership versus APC costs

ACG membership has a variable cost based on career status and location as shown in the Table. Individuals seeking the resident/trainee membership must adhere to specific parameters. Residents must be enrolled in approved training programs with some exposure to gastroenterology-related fields, and trainees must be enrolled in an approved gastroenterology fellowship program.[4] Unlike other levels of membership, these applications are reviewed bi-weekly and are approved quickly if the trainee has provided

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Table. Types of American College of Gastroenterology membership and their associated application fees and annual membership dues as of September 2023.

Membership Type	Application Fee, $	Annual Dues, $	Review Period
Associate	95.00	150.00	Quarterly
Advanced Practice Provider	95.00	150.00	Quarterly
Resident/ Trainee	25.00	25.00	Bi-weekly
Member	195.00	325.00	Quarterly
International Member*	150.00	250.00	Quarterly
FACG†	50.00	325.00	Quarterly
Senior Member or Fellow	–	–	
Master	–	–	

*Individuals from countries classified by the World Bank as lower to middle income pay a $50.00 application fee and $95.00 annual dues.
†Fellows (FACG) pay annual dues of $325.00 regardless of where they live.

confirmation of enrollment in an appropriate fellowship or training program.

The editorial board of *ACGCRJ* is composed of second, third-, and fourth-year gastroenterology fellows, and the journal's target audience for both readers and authors are early-career individuals in gastroenterology and hepatology. Since the cost of the application and 1 year of dues for resident/trainee membership is 10% of the cost of the APC, there was reasonable anticipation of an increase in both ACG membership and submissions from new members.

Methods

Submission and acceptance data were tracked using the Editorial Manager platform (Aries Systems), and results were cross-referenced with ACGs membership database. To determine if individuals were obtaining ACG membership to avoid the potential APC, submissions were cross-referenced with the join dates of their corresponding authors using name, institution, and email address as identifiers. Authors are asked during the submission process if they are an ACG member and if they can provide a membership number. The editorial office verifies this upon acceptance. Authors are made aware of the $500 APC during the submission process and are required to select "yes" or "no" via radio button when asked if they agree to the OA charges. If they select "no," they cannot proceed with submission. Since this choice is made during the initial submission process, new members are defined in associated figures as individuals who joined ACG within 1 month of submitting their manuscript. Figure 1 shows submission data for new and revised manuscripts received in 2021 and 2022.

Results and Discussion

In 2021, *ACGCRJ* received 1,168 manuscripts with 370 (32%) coming from ACG members, 20 (2%) of which were from new members. In 2022, the journal received 868 manuscripts with 592 (68%) coming from members, 90 (10%) of which were from new members. This represents an increase of 36% in submissions from all members and an increase of 8% among new members. Similar increases were

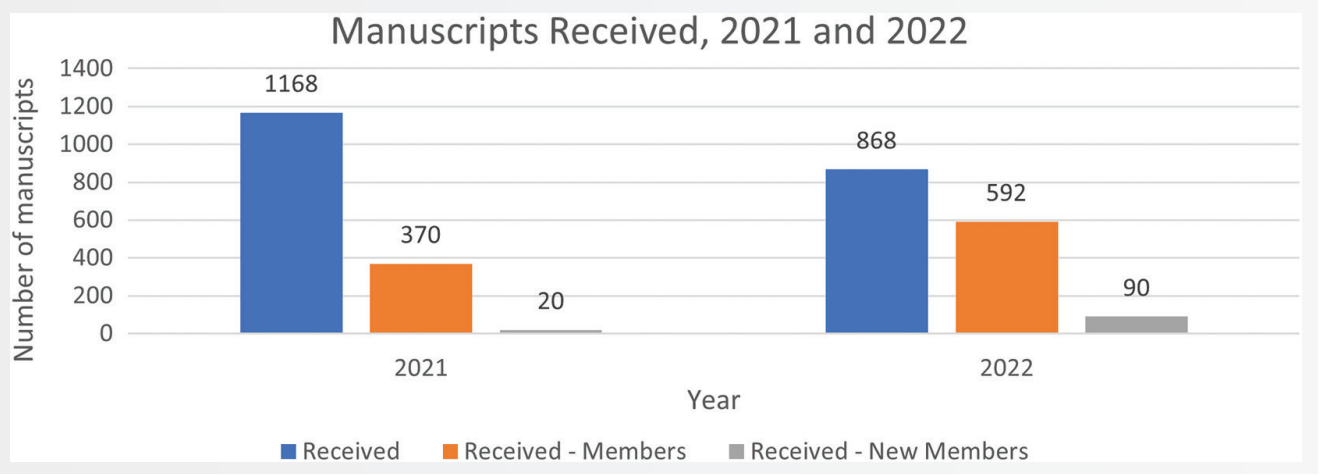

Figure 1. *ACG Case Reports Journal* submission data, 2021 and 2022. New members are defined as individuals who joined the American College of Gastroenterologists within 1 month before or after submitting a manuscript.

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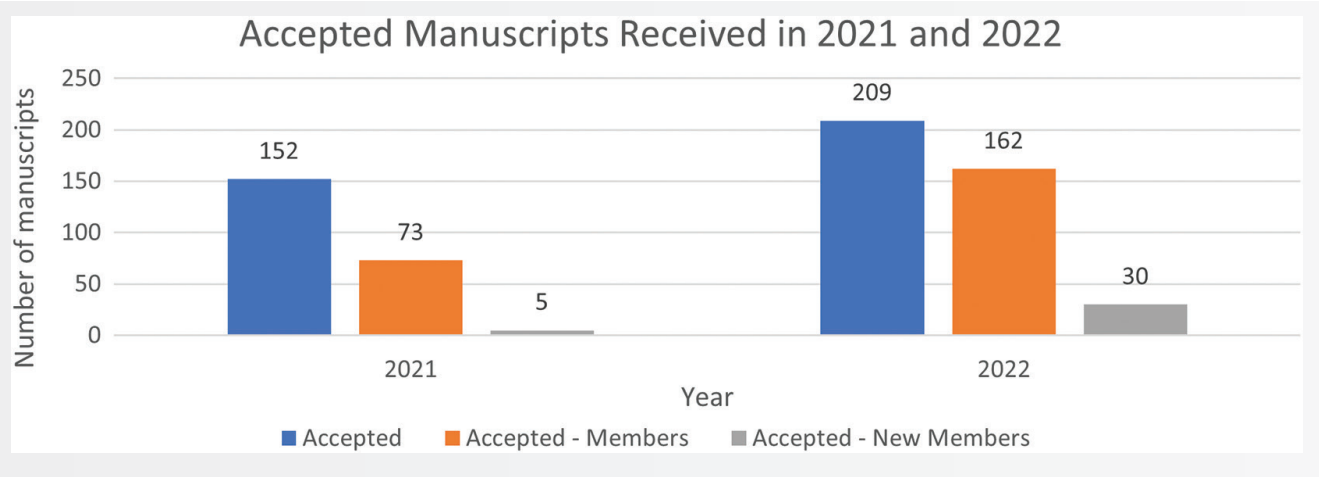

Figure 2. *ACG Case Reports Journal* acceptance data, 2021 and 2022. New Members are defined as individuals who joined the American College of Gastroenterology within 1 month before or after submitting a manuscript.

seen in the manuscripts which were eventually published in *ACGCRJ*, shown in Figure 2.

Of the 1,168 submissions received in 2021, 152 (13%) were eventually accepted. Of the 868 submissions received in 2022, 209 (24%) were eventually accepted, representing an 11% increase in the journal's overall acceptance rate. As mentioned earlier, the page budget no longer applied to nonmember articles; therefore, the editors were encouraged to accept and ultimately publish more manuscripts overall.

In 2021, 73 (48%) of accepted manuscripts were from ACG members, 5 (7%) of which were from new members. In 2022, 162 (78%) of the accepted manuscripts were from ACG members, 30 (18%) of which were from new members. This represents a 30% increase in overall accepted submissions from ACG members and an 11% increase from new members.

Even accounting for the 11% increase in the overall acceptance rate, *ACGCRJ* still saw noticeable increases in both the proportion and number of published manuscripts from members and new members.

It is important to note that the drop in overall submission rate in 2022 is consistent across the landscape of scientific publishing. Submission rates across the board saw a jump in 2020 and 2021 due to a variety of factors related to the coronavirus 2019 pandemic. *ACGCRJ* 2022 submission levels dropped 26% versus 2021 and 42% versus 2020; however, they rebounded in 2023 and are projected to rise by ~18% from 2022. Web of Science data show similar trends across published original research, editorials, and reviews, increasing 10% in 2020, 8% in 2021, and then dropping 6% in 2022 (A Manieri, personal communication).[5]

Despite a lower overall number of submissions, 2022 saw increases in submissions received from members and submissions from new members. There was also a rise in both the proportion and number of accepted submissions from members and new members.

Limitations and Future Research

The data show that there have been increases in submissions and accepted manuscripts received from members, and it may be inferred that individuals are joining ACG in lieu of paying the $500 APC. As it stands, the current waiver program allows *ACGCRJ* to publish more articles than before its inception while maintaining financial solvency.

It is no question that debates over APCs are part of a broader discussion on how to make scientific publishing accessible to the wider public, and the costs associated with publishers' services need to be accounted for in this process as alternatives to APCs are examined. *ACGCRJ* is an outlet for members of ACG. By becoming a member instead of paying the APC, they become part of the institution that is producing the paper and receive a member benefit that grows with each paper they choose to publish in *ACGCRJ*.

That said, the motivations of individuals purchasing ACG membership cannot be assumed without surveying those who joined to discern specific reasons. It would be challenging to obtain this data because there are a multitude of benefits to society membership including resources such as webinars, short courses, waived annual meeting fee, print and online subscriptions to the flagship journal *The American College of Gastroenterology*, access to member publications, and networking opportunities with other members.

In the future, a member survey may include a query about whether or not this particular benefit was a motivation

(continued on p. 22)

Reviewer Perspective on Open Peer Review

Julie Kostelnik and Ashley Pfeiffer

While there exists a multiplicity of peer review models, the open peer review model has been garnering attention lately. "Open peer review" refers to an external peer review model where author and reviewer identities are apparent to both parties. In some cases of open peer review, the review is visible alongside the published article. This model relies on transparency between the reviewer and the author. With anonymity removed as a factor, current reviewers' opinions vary on this model and the benefits or drawbacks it may offer.

To explore the attitudes of reviewers toward open peer review, an online survey was sent to 5,977 persons who acted as reviewers for *Annals of Internal Medicine* from 2019 to 2022. The response rate was 24% (1,421 persons). The results of this survey were briefly presented in an abstract at the Peer Review Congress in 2022, Jill Jackson and co-authors concluded that, "an open review model could adversely affect the willingness of current *Annals* peer reviewers to continue to review and could alter the nature of reviewer comments."[1] The abstract consolidated these responses and sought to provide insight into how moving from a single anonymized peer review model to an open review model might affect an established reviewer base.

The table presented in the original abstract included data collected from 3 questions in the survey that focused on how likely or unlikely the respondents would be to continue to review should their identity be disclosed to the authors or if their identity and/or review was published with the article (Table). The data presented indicated that over half of the polled reviewers would continue to review if an open review model were to be implemented. In addition, when asked how an open review model would impact their comments, 41% of respondents indicated their comments would not be affected. However, this question included the ability to check off more than 1 option, and 20% of the 1,421 respondents who answered this question selected the "other" option, which allowed them the opportunity to provide open ended comments. In this article, we take a deeper look at these comments as they provide insight into respondents' views toward open review.

Most respondents who chose to include a statement expressed opinions in line with the "My comments would be less critical" category. Moreover, 51 of the 282 provided comments expressed that their reviews would be affected in some way, but they could not predict how. Many stated that whether they would be more or less detailed or critical would depend on the paper and author list, or that they may be a combination of the options provided.

While the survey results indicated that over half of respondents remain willing to review if the journal moved to open review, the fact that a sizable minority would not is concerning. In addition, the open-ended comments raised some compelling concerns that warrant consideration as well. Among those concerns was the amount of time an open peer review model would require of reviewers versus the current model. Eleven percent of respondents who provided comments mentioned they would need additional time to prepare their review, the reason being that because the reviews are published, the reviewers need to spend more time copyediting their work and checking their references for accuracy before submitting their reviews. In addition, they must pay careful attention to tone and readability for an audience beyond the authors of the paper. Many respondents were concerned about grammar, with a number of them mentioning the need to refine their English skills. This also poses the question of whether open review will further restrict the reviewer pool by excluding international participants. While reviewers whose first language is not English may feel comfortable enough with their English to provide comments in traditional review, they may feel disinclined to accept a review request knowing their comments will be shared publicly. In open peer review, reviewers split their focus among multiple audiences, the public, the editorial team, and the authors. Some respondents were concerned that this split focus would lead to less constructive reviews because they are filtered through these lenses for public consumption.

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Table. Willingness of respondents to continue to review with an open review model.*

	Survey Response, %		
Type of Open Review	**Somewhat or Very Unlikely to Review**	**Indifferent**	**Somewhat or Very Likely to Review**
Reviewer identity disclosed to author	35	13	52
Reviewer identity published with article	28	16	56
Review published with article	28	21	51

*Adapted from Jackson et al.[1]

Another major concern of respondents was the potential for retaliation with the open review model. Of the comments provided, 15% were wary of career consequences from open review, both in the form of retaliation and bias. If a reviewer was highly approving of a manuscript, there may be an expectation that the authors return the favor for the reviewers' own paper in the future. Likewise, if they are highly critical, respondents feared they may see reprisal from the authors, or even the readers, when their comments are shared publicly. Some respondents stated they will be less likely to be critical when reviewing in highly politicized or highly specialized subjects. In a niche field where collaboration is paramount and their name would be shared with colleagues they may work with in the future, respondents showed apprehension. They used terms like "less candid," "more cautious," and "less direct" to denote that they would be less likely to engage directly or as critically with an author if anonymity is not provided.[1] Furthermore, there exists a concern for early career researchers and minority groups that may be dissuaded from participating in peer review out of fear of upsetting a senior colleague or well-known name in their field. One respondent commented that as an early career woman in academics, she would be concerned some of her comments may be misconstrued as a lack of knowledge, and this may negatively impact her career.[1]

These 2 issues, the increased work of a review and the fear of reprisal, were the most common refrain in the survey when respondents were allowed to enter their own responses. They are serious issues, and not ones that large journals with a history of single-anonymized peer review systems, like *Annals of Internal Medicine*, could easily resolve. One solution that many of the survey-takers requested is to continue to allow a section for confidential comments to the editors in addition to the version that would be shared with the authors. This way, reviewers could be more candid in their recommendations for publication or rejection without fearing they would be shared alongside the final published paper. These results provide much to think about, should a journal be looking to modify their review model, and indicate the process will certainly require a delicate hand.

That being said, with an established reviewer base experienced in anonymized review and the benefits that currently exist within that structure, it would be difficult for a journal such as *Annals of Internal Medicine* to convert to an entirely open review model. Medical professionals volunteer their limited free time to participate in this process, and not an insignificant amount of those polled expressed that a change to open review may be the thing that pushes them to use that time elsewhere. Like all things in medicine, there exists risk, and all journals must weigh the potential for failure against the potential for success. The findings of this survey raise concerns that an open review model would adversely affect the willingness of current reviewers to continue to review and could adversely alter the nature of reviewer comments.[1]

Reference and Link

1. Jackson J, Laine C, Kostelnik J. A survey of reviewers' perspectives on options for open and transparent peer review at *Annals of Internal Medicine*. In: Ninth International Congress on Peer Review and Scientific Publication, September 8–10, 2022, Chicago, IL.

Editor-in-Chief Transitions

Craig R Denegar and David H Perrin

Transitions in leadership are inevitable in the lives of all organizations, including scientific publications. New leadership can bring fresh energy and ideas that sustain innovation and growth. However, when changes are poorly planned and executed, transitions can bring discord and conflict that sap energy and commitment. We have been fortunate to have transitioned into and out of our roles as Editor-in-Chief (EIC) in a manner that was healthy for the journal, our predecessors, our successors, and ourselves.

Our transitions were planned well in advance, and except in one situation, we had the opportunity to work with our predecessors for several months before assuming leadership. We recognize that, on occasion, a transition may need to occur quickly due to unforeseen circumstances. Journals should develop plans to manage unexpected transitions in an effort to mitigate the effects of crisis management on the people involved in, and the processes related to, the publication.

At the individual level, we identified 4 factors that led to smooth and gratifying transitions that fostered improvement and minimized disruption. The first is **mentorship**. The EIC needs to be available to a successor before and after the transition in leadership. In some cases, an EIC might elect to invite a future successor into meetings and activities or delegate duties to enable the individual to develop needed skills. The EIC occupies a unique role and is engaged in far more of the editorial process than is often apparent on the surface, for example, publication ethics and perceived or real conflicts of interest. Depending on the organization and the journal, the EIC may also have a substantial role in budgeting and financial planning, which requires interaction with management and organizational leadership. Although an incoming EIC may never be fully prepared for all that will be required, exposure to every aspect of the job is critical to a successful transition.

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Second, **complete transparency** is essential. Don't hide the skeletons in the closet from a successor. All organizations face ongoing and emerging challenges. At the time of the transition, a new EIC inherits the problems and concerns already inherent in an organization. An incoming EIC should be able to set an agenda with full knowledge of the strengths and weaknesses of the organization, as well as any potential threats to success. Little can derail an agenda more rapidly or extensively than needing to address difficulties hidden by a predecessor.

Third, an outgoing EIC needs to be **supportive but stay out of the way**. It can be difficult to serve as a consultant, if asked, while avoiding the tendency to impart advice on how something was or should be done. An incoming EIC is appointed to lead and innovate, not answer to a predecessor. A journal cannot grow and adapt to the changing landscape of scientific publication without developing new strategies, editorial policies, and methods of delivering content to its audience. Change involves risk, which a predecessor may view as a threat to his or her legacy of success rather than the necessary continuing evolution of the journal that was central to his or her success as the EIC.

Lastly, it is critical that the transition in EIC **involves the managing editor and members of the editorial office**. The managing editor plays an essential role in overseeing and facilitating a smooth transition. In fact, one of us transitioned into the role of EIC after a stint as founding editor of another journal without the support of a professional managing editor and editorial office. The impact of these resources on the EIC's ability to successfully execute the responsibilities of the position was immense. The managing editor provides continuity in relationships with the editorial board, manuscript reviewers, subscribers, and key leaders within the host professional society. The EIC–managing editor relationship should be a partnership rather than a hierarchy. Clearly, a highly competent and dedicated managing editor makes the job of EIC enjoyable and gratifying. The managing editor who is engaged throughout the process ensures a smooth transition for the EIC.

Each EIC transition has its unique wins and pain points. If both the outgoing and incoming EICs are committed to a smooth process, they will be able to look back on the transition as a time of positive change for themselves, the organization, and the journal.

A Standard Terminology for Peer Review: Supporting Transparency and Trust

Nettie Lagace

The National Information Standards Organization (NISO) published ANSI/NISO Z39.106-2023, Standard Terminology for Peer Review[1] in July 2023. This publication was the culmination of a NISO working group, consisting of industry stakeholders representing varied organizations and perspectives, examining and testing a terminology originally developed by STM, the International Association of Scientific, Technical and Medical Publishers. This primer article will describe the background and motivation for this standard and detail a few of its aspirations.

STM convened a working group on peer review taxonomy in 2020.[2] According to the project lead, Joris van Rossum, Program Director at STM Solutions,[3] the purpose of the working group was to recognize the growing calls for transparency and support of open science and determine the best option for communicating peer review across a broad audience of authors, reviewers, and readers when technological innovation in processes and interfaces has resulted in the emergence of so many new models of (open) peer review.[4]

Peer review is a required element of quality research and has been since scholarly publication began as a formal endeavor. It is even more important, in today's abundance of research outputs, to ensure that peer review is an understandable process and worth trusting. This assurance helps authors realize how their work is being evaluated, helps reviewers more effectively contribute to this essential process, and supports readers in their interpretation of published outputs. One straightforward way to foster understanding is to use common terms to describe any processes within individual journal publisher workflows that may be comparable to others across the scholarly landscape and to create terms that demonstrate contrasting processes. Thus, the STM working group reviewed a body of published material and surveyed publisher practices and existing models of peer review and developed an initial set of categories and terms.[5] These were further evaluated by the working group and select organizations and brought to NISO for standardization in 2021,[6] at the same time a pilot program was underway at several publishers.

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NISO Working Group

NISO is a nonprofit membership organization, based in Baltimore, Maryland, that identifies, develops, publishes, and maintains technical standards and recommendations to manage information and promote interoperability between various systems used by publishers and libraries.[7] Since the advent of the Internet more than 30 years ago, it has expanded its participation to include many international organizations, and the reach of its publications has likewise increased. Many of its standards and recommended practices have been fully adopted by large and small publishers in all areas of research, as well as publishers' system providers and research and government libraries. Consequently, it was an excellent venue for the terminology work to be continued and further appraised.

The NISO working group expanded the input from mainly publishers to other stakeholders in the scholarly landscape, including publisher associations, libraries, platform providers, peer review systems and other scholarly infrastructure providers. The group

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monitored the pilot—in which several publishers tested the terminology with their staff in specific journals and articles—and discussed the various elements and their practical communicability. As comments and other input from the pilot implementations arrived, the categories and terms were further refined. Then, the NISO process is to obtain formal approval of the finalized draft standard by a NISO leadership group and a voting pool (made up of NISO members appropriately balanced across stakeholder categories) before submission to the Board of Standards Review at the American National Standards Institute (ANSI) for its approval before NISO publication. The NISO process also requires a formal review of the standard 5 years after publication, although comments and requests for changes can be brought to NISO at any time. The Standard Terminology for Peer Review will be managed by a NISO Standing Committee made up of representatives from varied stakeholders.

Peer Review Terminology

The entire Peer Review Terminology fits on 1 sheet of paper![8] It is intended to apply to all review models, although some innovative models, such as the one used at F1000, are fully transparent by design and are not included. In addition, description of the article acceptance process is out of scope.

There are 4 major elements or categories, creating a framework, as follows:

- Identity transparency
- Reviewer interacts with
- Review information published
- Post-publication commenting

Terms within these categories indicate the specific conditions of the particular peer review model in use at the journal.

The first category, "identity transparency," contains terms (e.g., "single anonymized," "double anonymized") that describe the extent to which identities of participants are revealed to each other during the review process.

The "reviewer interacts with" category describes with whom the reviewer communicates during the process, via whatever means (e.g., submission systems, email) and may indicate multiple types.

"Review information published" contains terms that convey information published about the review process on the article page. Examples of these terms include "review summaries" to be indicated when summaries or parts of the reviews or a summary of the review process are published; "author/editor communication" when the decision letter from the editor and reviewer responses (rebuttals) are published; or "reviewer identities" when the identities of the reviewers are published.

"Post publication commenting," to be used only when applicable, indicates whether commenting is possible on the online-published version or the version of record on the publishing platform. It does not include any possible integrations with third-party platforms such as PubPeer, and includes only 2 possible values, "open" and "on invitation."

Publishers should apply the Peer Review Terminology at the journal level as well at the published article level; this will communicate the review models used for the journal as well as the kind of review the article itself was subject to. In addition, these should be included in any author guide materials developed by the journal and in any submission system used. An Appendix in the Standard document provides some further examples and implementation advice for publishers.

Implementation

At the present time, many publishers are beginning to implement the Terminology, although due to variations in practices across the stable of journals operated by any single publisher and even within journals themselves,[9] implementation can be a detailed task with various considerations and process participants. An example of a journal that has implemented the Terminology is *Medical and Veterinary Entomology,* published by Wiley,[9] which has included it in its Author Guidelines.[10]

The NISO Peer Review Terminology Standing Committee has also begun to further support the standard and its implementers and is developing plans for its own efforts. Included in its remit are liaisons with other peer review organizations such as the Committee on Publication Ethics (COPE); outreach to publishers via industry meetings, webinars, and articles (such as this one!); and development of case studies and testimonials. Fresh discussions with implementers will undoubtedly elicit further strategies for actions.

Potential future work for the Peer Review Terminology includes expansion to peer review of books or data sets, among other published objects, and determination of a machine-readable version of the terms.

NISO and the Peer Review Terminology industry volunteers are proud of the standard publication, pleased to be supporting it, and eager to connect with colleagues about any questions or issues.

References and Links

1. NISO. ANSI/NISO Z39.106-2023, Standard Terminology for Peer Review. 2023. [accessed February 8, 2024.] https://www.niso.org/publications/z39106-2023-peerreview.
2. STM. Working Group on Peer Review Taxonomy. [accessed February 8, 2024.] https://www.stm-assoc.org/standards-technology/peer-review-taxonomy-project/.
3. NISO. Open Teleconference September 2022 - Peer Review Terminology, September 12, 2022. [accessed February 8, 2024.] https://www.niso.org/events/2022/09/opentelecon-peerreview.

CONTINUED

4. Ross-Hellauer T. What is open peer review? A systematic review [version 2; peer review: 4 approved]. F1000Research 2017;6:588. https://doi.org/10.12688/f1000research.11369.2.
5. STM. A Standard Taxonomy for Peer Review. 2020. [accessed February 8, 2024.] https://osf.io/hzewj.
6. NISO. STM's Peer Review Taxonomy To Be Formalized As An ANSI/NISO Standard, NISO Press Releases. 2021. [accessed February 8, 2024.] https://www.niso.org/press-releases/2021/07/stms-peer-review-taxonomy-be-formalized-ansiniso-standard.
7. NISO. Welcome to NISO! [undated; accessed February 8, 2024.] https://www.niso.org/welcome-to-niso.
8. NISO. A Standard Terminology for Peer Review (poster). 2023. [accessed February 8, 2024.] https://groups.niso.org/higherlogic/ws/public/download/28908/Peer_review_terminology.pdf.
9. Willis M. What's in a name? Defining peer review in a standardized way. The Wiley Network, September 25, 2023. [accessed February 8, 2024.] https://www.wiley.com/en-us/network/publishing/research-publishing/editors/whats-in-a-name.
10. Royal Entomological Society. Author Guidelines, Peer Review. Med Vet Entomol., 2024. [accessed February 8, 2024.] https://resjournals.onlinelibrary.wiley.com/hub/journal/13652915/homepage/forauthors.html#Peerreview.

(Continued from p. 7)

3. UKRIO. Expert interview with Jana Christopher, MA, Image Data Integrity Analyst. [accessed January 21, 2024]. https://ukrio.org/ukrio-resources/expert-interviews/jana-christopher-image-integrity-analyst/.
4. Christian J. (2023) Magazine publishes serious errors in first AI-generated health article, Futurism. Neoscope, 2023. [accessed January 21, 2024]. https://futurism.com/neoscope/magazine-mens-journal-errors-ai-health-article.
5. Committee on Publication Ethics, STM. Paper mills: research report from COPE & STM. 2022. [accessed January 21, 2024]. https://doi.org/10.24318/jtbG8IHL.
6. STM. STM Solutions releases MVP of new paper mill detection tool, STM. 2023. [accessed January 21, 2024]. https://www.stm-assoc.org/papermillchecker/.
7. https://huggingface.co/spaces/umm-maybe/AI-image-detector
8. https://www.aiornot.com/

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for joining. It may also be useful to study other journals who have initiated such charges and associated discounts or waivers to observe their changes in membership.

Conclusion

Current data support the idea that individuals may join the ACG to avoid paying the OA APC. Societies may see increases in membership if offering APC waivers or discounts for individuals who are members of their organizations.

Prior Presentation

This paper was previously presented as a poster at the Council of Science Editors annual meeting in Toronto, ON, Canada, April 29–May 2, 2023.

References and Links

1. Björk BC, Solomon D. Open access versus subscription journals: a comparison of scientific impact. BMC Med. 2012;10:73. https://doi.org/10.1186/1741-7015-10-73.
2. Nicholas D, Rodríguez-Bravo B, Watkinson A, et al. Early career researchers and their publishing and authorship practices. Learned Publ. 2017;30:205–217. https://doi.org/10.1002/leap.1102.
3. Morrison H, Borges L, Zhao X, Kakou TL, Shanbhoug AM. Open access article processing charges 2011–2021. Sustaining the Knowledge Commons, 2021. [accessed January 23, 2024]. https://sustainingknowledgecommons.org/2021/06/24/open-access-article-processing-charges-2011-2021/.
4. https://gi.org/membership/join-acg/
5. Web of Science Total Documents Published 2018–2022.

Authoring Surveys: Guidance for Societies, Publishers, and Publishing Professionals

Rebecca A Costantini

Survey methodology is a vast and complex discipline, one that often requires years of research practice and advanced academic credentials (don't worry, you don't need a PhD to understand this primer!). Surveys are created and deployed by researchers, market research teams, government entities, and organizations to understand the behaviors, opinions, and attitudes within and across different populations. Surveys are also a popular method; a recent Google search for "creating a survey" yielded more than *one billion* results.

This primer offers advice on survey best practices, with a specific focus on the beginnings of the survey creation process—from choosing a survey tool and writing survey questions, to articulating the purpose of a survey and accessibility considerations. These best practices will provide a foundation to help you collect reliable, quality data to understand your target audiences more deeply. Please note: This primer does not claim to be an all-encompassing source of survey knowledge; it is an introduction to 6 considerations when creating surveys.

Think Like a Respondent

One way to approach creating a survey requires thinking like a survey respondent. Dillman et al.[1] describe this approach as the *respondent state of mind*, which is meant to push the survey creator to think through the objectives, questions, language, response options, and other survey aspects from the perspective of a respondent. The authors provide several questions to consider when doing this, such as, "What will the respondent here or see first?", "Will [they] be able to understand the questions?", and "How will [they] know where to start and what the navigational path is through the questionnaire?".[1p94] Other questions to consider include: "Will the respondent understand the survey instructions and what is expected of them?", "What information will the respondent feel comfortable sharing?", and "Are the response choices clear, and do they provide respondents with satisfactory options to answer the questions?".

Thinking like a respondent also involves defining a clear set of objectives—or goals—for your survey. Why are you creating the survey, and what is its purpose? What do you want to know, and who do you want to hear from? What are the topics you will investigate? For instance, are you interested in assessing the reach of a journal's readership, the effectiveness of editorial policies, or measuring authors' and reviewers' satisfaction levels with the manuscript submission process to improve the publication experience? You will position yourself for success when the goals of your survey align with the questions you intend to ask.

Write Good Survey Questions

Writing quality survey questions is arguably the most important part of the design process. It is also difficult to do. However, the questions you want answered may have already been tested and vetted. You can search for these questions using the Pew Research Center,[2] Gallup,[3] and other publicly available market research surveys. But if *you* are authoring the survey questions, it is important to first define concepts. Concepts are ideas that drive the research.[4] They help connect and anchor what you aim to investigate.

If we consider the research question, "How do editorial policies impact authors' publication experiences?", our main concepts are *editorial policies* and *authors' publication experiences*. Main concepts can be further defined into subconcepts, which will help focus what you will test and measure.[1] For example, *editorial policies* can be broken into subconcepts, such as the number of policies a journal has, correction or retraction rates, and overall author satisfaction with editorial policies. *Authors' publication experiences* can be segmented into number of publications, challenges

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Table. Common survey question types with examples.

Question Type	Example
Demographic questions: Questions that ask for information about the respondents' characteristics (e.g., location, education level, socioeconomic status).	What is the highest level of education you have completed? • Some high school or less • High school diploma or general equivalency diploma • Some college, but no degree • Associates or technical degree • Bachelor's degree • Graduate or professional degree (e.g., MA, MS, MBA, PhD, JD, MD, DDS, etc.) • Prefer not to share
Multiple choice: Respondents choose from a set of pre-defined options that can be single- or multiple select.	In your opinion, what is the most significant challenge in the publication process? • Timely peer review • Maintaining editorial standards • Disclosing conflicts of interest • Ensuring content diversity • Other (please specify) • None of the above
Likert scale: Respondents indicate their attitudes, perceptions, or beliefs using 5- or 7-point scales.	Please indicate your agreement with the following statement: "I encountered difficulties during the publication process." • Strongly disagree • Somewhat disagree • Neither agree nor disagree • Somewhat agree • Strongly agree
Rating Scale: Respondents use a numerical scale to indicate satisfaction, frequency, importance, etc.	Please rate the level of difficulty you encountered during the publication process on a scale of 1 to 5, where 1 is "not difficult at all" and 5 is "extremely difficult." • 1 • 2 • 3 • 4 • 5
Open Ended: Respondents provide free form responses to a question that does not have predefined options.	What are some of the challenges that make the publication process difficult for authors?

encountered during the publication process, and average time to publication. Remember: Clearly defined survey objectives will help you articulate your concepts. Once your concepts are aligned with the survey's objectives, it is time to consider the different question types to measure the concepts. Examples of 5 common question types are presented in the Table.

Crafting survey questions can be challenging when testing multiple concepts. To create an effective, nonbiased survey experience for your respondents, the following should be avoided when authoring survey questions:

- **Leading, biased questions.** Avoid questions that prompt—or lead—respondents to select a particular answer. Consider this example: "Given the delays authors face during the publication process, do you agree that journal editors often lack efficiency in their handling of submissions?" This question assumes that authors encounter delays in the publication process, and editors are inefficient when handling manuscript submissions.
- **Double-barreled questions.** Double-barreled questions ask about 2 topics simultaneously, which can cause confusion

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and prevent an accurate analysis of the respondents' answers.[5] Take the question: "How familiar are you with the publication process and editorial policies?" This question asks about familiarity with the publication process *and* editorial policies. Any answer provided by respondents will not accurately capture their familiarity with either the publication process or editorial policies.[4]

- **Omitting "don't know", "prefer not to answer", and "none of the above" response options.** Allow respondents to opt-out of questions they might be uncertain about or do not wish to answer.[1]
- **Inconsistent scales.** Maintain a consistent presentation of scales in your survey responses, regardless of whether they are displayed in a positive (strongly agree strongly disagree) or negative (strongly disagree strongly agree) direction. Dillman and colleagues[1] caution that a sudden change in scale direction often goes unnoticed by respondents, not because "they are being lazy respondents", but because they do not anticipate these changes in the survey flow.[1p154] As such, respondents will select the wrong responses.
- **Misleading language.** "Did you find the publication process easy?" primes respondents to believe that the publication process was easy. Instead, use language that is simple, concise, and prevents confusion and bias in your questions and responses: "How satisfied are you with the publication process?" (response options: strongly dissatisfied strongly satisfied).
- **Overburdening respondents.** Limit the respondents' response burden by ensuring question response options are not confusing, the survey is manageable to complete, and questions are organized by importance and/or relevance.
- **Lengthy surveys.** Optimize respondents' survey experiences by facilitating short survey completion times to get the best data possible. This avoids survey "satisficing"—when respondents speed through answers—survey abandonment, and respondent fatigue.[6] While there is not a prescribed completion time for online surveys, previous research suggests aiming for 10–15 minutes.[7]

To become better acquainted with survey best practices, different survey types/formats, and to participate in surveys firsthand, consider exploring well-known survey distribution platforms, such as Amazon Mechanical Turk,[8] Branded Surveys,[9] and SurveyJunkie.[10] These platforms compensate respondents to complete professionally developed market research surveys.

Choose a Survey Tool

The landscape of online survey tools is constantly evolving. Where you choose to host your survey will ultimately inform the type of survey you are conducting. The choice of tool also depends on how robust your survey needs are. Examples of popular survey software on the market today include:

- SurveyMonkey,[11] a well-known, easy-to-use platform with an available free option
- Qualtrics,[12] a platform known for market research and complex survey design capabilities and features, like analytics and dashboards and automation
- Google Forms,[13] a free tool available in the Google Workspace that has several accessible premade survey templates
- Microsoft Forms,[14] a survey tool from the Microsoft 365 suite that contains pre-built templates, similar to Google Forms

Some software options listed above require subscriptions to access additional features. Check with your institutions and/or organizations to see if you have access. There are also several other survey software and platform options available and searchable via Google.

Articulate the Survey's Purpose

Before distributing your survey, it is important to ensure that the content of your initial reach out—whether through email, a marketing campaign, or the survey software you choose—and survey landing page—the entry point of your survey—are accessible and easy to understand. To increase respondent engagement in your survey, Stantcheva[14] recommends several best practices:

- Indicate an estimated timeframe for how long the survey will take to complete. You want to ensure that your survey can be completed in a reasonable amount of time and does not require an excessive commitment from your respondents.
- Simple language and a user-friendly survey design will help to ensure your survey is accessible to all respondents.
- Reveal *just enough* information about the survey's sponsor—the individual or organization responsible for funding and/or backing the survey—to establish credibility, gain your respondents' trust, and avoid bias wherever possible. For example, Stantcheva[14] asks us to think about the difference between including, "We are a group of nonpartisan academic researchers" and "We are a group of faculty members from the Economics Department at Harvard and Princeton" on a survey's landing page.[14p212] What is gained and/or lost by ex/including a department, institution, and/or organization name?
- Share the benefits of the research with the respondents. How will the research be used? What might the respondents learn if they participate in your survey?

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Create an Accessible Survey Experience

There are many resources available to societies, publishers, and publishing professionals to facilitate accessible survey experiences, such as the Pew Research Center,[15] Qualtrics Support,[16] and Gartner.[17] The Web Content Accessibility (WCAG) guidance[18] offers helpful resources and standards to make online content accessible. SurveyMonkey[19] also provides design and content guidance on creating accessibly compliant surveys, offering advice on survey themes, colors, images, icons, and formatting. Some survey platforms, such as Qualtrics,[20] even contain built-in features that review your survey for accessibility compliance.

Incentivize Survey Participation

If your society or organization has the resources to incentivize respondents for completing surveys, it is worth considering to potentially increase survey engagement. Respondents should be informed about incentives prior to completing a survey, and incentives should ideally support multiple currencies (if engaging a global respondent base).

Closing Thoughts

This primer presents 1 perspective on 6 best practices and principles in survey design. Survey design is complex and can be a daunting task. Be empowered to learn more about the different aspects of surveys and how they can help you unlock your understanding of your target audiences' attitudes, behaviors, and perceptions for better experiences.

References and Links

1. Dillman DA, Smyth JD, Christian LM. Internet, phone, mail, and mixed-mode surveys: the tailored design method. 4th ed. Wiley; 2014.
2. https://www.pewresearch.org/
3. https://www.gallup.com/home.aspx
4. Bryman A. Social research methods. 4th ed. Oxford University Press; 2012.
5. Pew Research Center. Writing survey questions. [accessed February 29, 2024]. https://www.pewresearch.org/our-methods/u-s-surveys/writing-survey-questions/.
6. Chudoba B. Survey completion times. Survey Monkey. [accessed February 29, 2024]. https://www.surveymonkey.com/curiosity/survey_completion_times/.
7. Revilla M, Höhne JK. How long do respondents think online surveys should be? New evidence from two online panels in Germany. Int J Market Res. 2020;62:538–545. https://doi.org/10.1177/1470785320943049.
8. https://www.mturk.com/
9. https://surveys.gobranded.com/
10. https://www.surveyjunkie.com/
11. https://www.surveymonkey.com/welcome/sem/?program=7013A000000mweBQAQ&utm_bu=CR&utm_campaign=71700000059189106&utm_adgroup=58700005410205670&utm_content=437000491889712 66&utm_medium=cpc&utm_source=adwords&utm_term=p49188971266&utm_kxconfid=s4bvpi0ju&language=&test=&gad_source=1&gclid=Cj0KCQiAw6yuBhDrARIsACf94RXETdKV2dnewRgDPUBLRcWcrU2QwY_iudBNukzO2nEFaEtKRd9z53caAgSxEALw_wcB&gclsrc=aw.ds
12. https://www.qualtrics.com/
13. https://www.google.com/forms/about/
14. Stantcheva S. How to run surveys: a guide to creating your own identifying variation and revealing the invisible. Ann Rev Econ. 2023;15:205–234. https://doi.org/10.1146/annurev-economics-091622-010157.
15. https://www.pewresearch.org/
16. https://www.qualtrics.com/support/
17. https://www.gartner.com/en
18. https://www.w3.org/WAI/standards-guidelines/wcag/
19. https://www.surveymonkey.com/mp/508-website-accessibility/?program=7013A000000mweBQAQ&utm_bu=CR&utm_campaign=71700000096739641&utm_adgroup=&utm_content=&utm_medium=cpc&utm_source=adwords&utm_term=&utm_kxconfid=s4bvpi0ju&language=&test=&gad_source=1&gclid=Cj0KCQiA5rGuBhCnARIsAN11vgSbZ7dwarlY7y7k480nud-qKYXjLYmMQS8L8_qrtC9ITji5FIyqwJMaAvdfEALw_wcB&gclsrc=aw.ds
20. https://www.qualtrics.com/support/survey-platform/survey-module/survey-tools/check-survey-accessibility/

CSE 2024 Annual Meeting: Communicating Science for a Sustainable Future

Jennifer Workman and Heather DiAngelis

We look forward to hosting the 2024 CSE Annual Meeting[1] in Portland, Oregon, May 4–7. Situated along the waterfront, our location is central to the best of what Portland has to offer. Our hotel event site[2] is minutes from the world's largest independent bookstore, unique neighborhoods, and diverse culinary and art attractions. A city with a focus on celebrating and sustaining community, Portland is the perfect location for CSE's annual in-person event!

CSE has a rich history as a trusted and timely resource in the field of scientific communication, which is why we're delighted to share that the theme for this year's meeting is "Communicating Science for a Sustainable Future." As we began planning this year's meeting, we reflected on some of the biggest challenges and opportunities within the scholarly publishing landscape. Our theme is inspired by the ongoing collaboration we see happening in the CSE community and across our industry. We believe communication and community are both necessary strengths and should drive our focus. The annual meeting is an invaluable event for engagement, networking, discussing evolving trends, and planning for the future together.

The program for this year's annual meeting will cover a wide range of topics. We will feature a general session structured as a conversation with CSE's Industry Advisory Board. Attendees will hear from experts on the evolving directions of our industry and ways in which we can navigate the future together. Another general session will bring back the well-attended Ethics Clinic hosted by the CSE Editorial Policy Committee. The last day of the annual meeting will feature a special closing session that explores the opportunities and risks of generative artificial intelligence in scholarly publishing, from which attendees will take away current examples of policies and guidance for use in their own organizations.

In addition to our 3 general sessions, our program will also include 21 concurrent sessions on May 6th and 7th. Topics will include research integrity, early career engagement in peer review, a jam session for manuscript editors, launching a new Open Access journal, FAIR data, and much more! Our schedule will also include 5 short course add-on options,[3] including the Short Course on Publication Ethics and the Short Course on the Business of Publication Management. As they have in past years, short courses will take place on May 4th and 5th ahead of the main annual meeting events and will feature topic matter experts.

We are also excited to announce that educational posters will be back this year. Posters provide the opportunity to communicate important original research with attendees during the annual meeting. Posters are displayed in the exhibit hall and create additional opportunity for

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Jennifer Workman is Business Development Manager at Wiley Partner Solutions. Heather DiAngelis is Associate Director of Publications at Transportation Research Board: National Academies of Sciences, Engineering, and Medicine.

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The CSE Manual, Ninth Edition: 10 Years in the Making

Peter J Olson

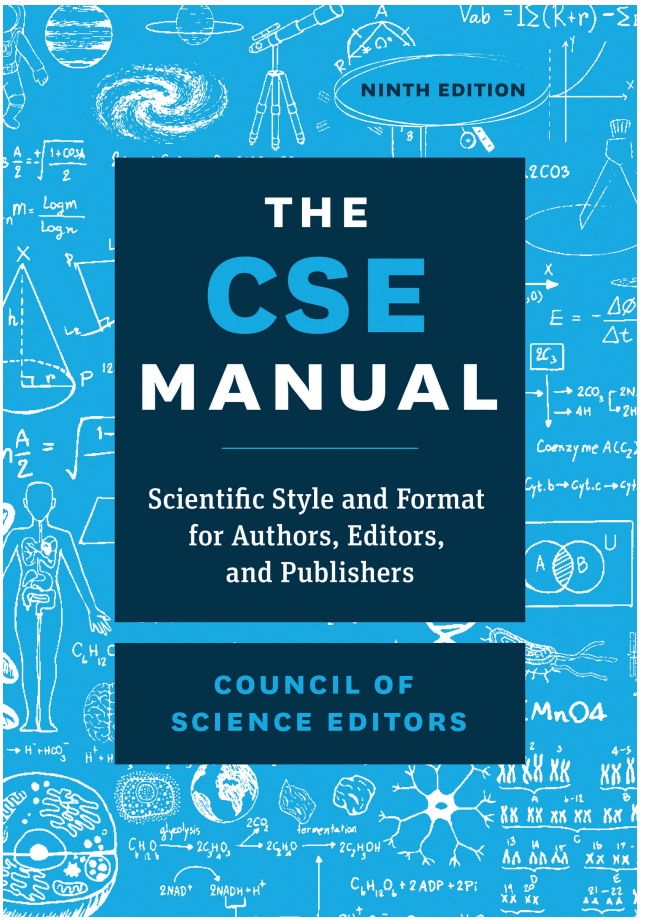
It may be hard to believe, but it's been a decade since the release of the eighth edition of *Scientific Style and Format*, CSE's longstanding and indispensable reference manual for a wide range of scientific publishing organizations and professionals. Now, on the eve of the 2024 Annual Meeting, CSE is poised to release the ninth edition of the manual—and to say that this accomplishment "took a village" would be quite the understatement.

Four dozen chapter editors, almost as many peer reviewers, and a core advisory group—all of whom, in aggregate, represent an astonishing breadth of scholarly publishing experience and expertise—devoted an immeasurable number of collective hours over the past several years to painstakingly review, revisit, and revise the manual's content to ensure that it is as up-to-date as possible. In partnership with the expert production team at The University of Chicago Press, this team of science editing specialists has made great strides in updating the manual's content to reflect the most current trends of terminology, usage, practical application, and operational guidance, both within the framework of the scientific community and the world at large.

The extent to which chapters have been revised runs the gamut from minimal to considerable. Whereas some chapters required little alteration, others have undergone substantial modifications in terms of structure and content. Michael E Fitzgerald, project manager for the ninth edition, has penned a preface that provides users with a comprehensive and thorough overview of the manual's most noteworthy revisions and enhancements,[1] and readers who purchase a print copy or an online subscription will undoubtedly reap the benefits of his eloquent summary. In the meantime, the following snapshots offer a glimpse of some of the more notable updates in this next iteration.

What's in a Name?

Perhaps the most noticeable change is to the manual's title. The previous 3 editions have sported the primary moniker *Scientific Style and Format*, with *The CSE Manual* relegated to the subtitle. However, as Fitzgerald notes in his preface, users of the manual rarely referred to the main title colloquially, and survey data and anecdotal attestations suggest that it is more widely known as *The CSE Manual* in scholarly publishing parlance.[1] In effect, the people have spoken—thus the ninth edition will be entitled *The CSE Manual: Scientific Style and Format for Authors, Editors, and Publishers*.



A Matter of Policy

The Greek philosopher Heraclitus is quoted as saying that "The only constant in life is change"—and editorial policy is no exception. Chapter 2, "Publication Policies and Practices"

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(edited by Jessica L Striley, Emmanuel A Ameh, and Thomas A Lang), includes several timely updates concerning (among other things) institutional review board approval, disputed authorship, peer reviewer responsibilities, and recommendations for reporting scientific misconduct. Several of these updates integrate or expand upon guidance from the Committee on Publication Ethics (COPE),[2] the International Committee of Medical Journal Editors (ICMJE),[3] and the World Association of Medical Editors (WAME).[4]

References, Revamped

Bibliographic references are a critical component of any scientific publication, so it makes sense that the requisite chapter of *The CSE Manual* is one of its larger ones. That said, one of the primary goals identified by the editors of Chapter 29, "References" (edited by Peter J Olson, Iris Lo, Jessica LaPointe, and Kelly Newton), was to make its content more easily digestible. Much of this objective has been accomplished by removing obsolete passages, eliminating the repetition of example templates, adding intuitive cross-references between sections, and compressing verbose instructional language.

Conciseness was not only applied to the chapter's infrastructure; certain reference types themselves have also been streamlined. The most substantial update in this regard is a reduction in the number of author names listed at the beginning of a reference. As of the ninth edition, the maximum number of authors listed is 5, and references with 6 or more authors should list only the first author followed by "et al." This recommendation was made largely with an eye toward online and mobile platforms, where conciseness is key. Additionally, access dates for online sources are now required only when the date of publication, copyright, or revision cannot be determined, and publisher locations are no longer needed (partly because this information has become less relevant, but also because many book publishers have multiple locations).

One of the most important features of the "References" chapter is its many examples, which help users envision the practical implementation of specific reference types. In the ninth edition, examples have been added for reference types that were heretofore not represented—such as journal preprints, motion pictures, and YouTube videos—and distinct social media platforms are now represented in lieu of a single, generalized example. In an effort to legitimize the chapter's content, fictional examples that had been fabricated to demonstrate more esoteric or rarely used reference styles have been replaced with examples references to of actual publications from the scientific literature. Finally, several examples have been updated to more accurately represent the scientific community at large (more on that later).

Filling the Figure Void

The CSE Manual is unquestionably one of the most comprehensive reference manuals of its kind, and has been for some time. Yet something has been missing from previous editions: figure examples. In Chapter 30, "Tables, Figures, and Indexes" (edited by Thomas A Lang and Jessica S Ancker), a bevy of statistical graphs have been added to enhance CSE's guidelines for the effective visual presentation of study results. One particularly useful aspect of this expansion is that many of the examples of what to do are accompanied by examples of what *not* to do. The latter examples demonstrate graphing techniques that result in ambiguous formatting, misrepresentation of data, and even optical illusions that can undermine a study's findings, and their respective captions clearly explain the shortfalls of such techniques. These examples are complemented by new recommendations for the effective plotting of data lines within statistical graphs (in Section 30.2.2.3, "Plotting Symbols").

Delving Deeper into the Electronic Age

Not all chapter editors of *The CSE Manual* can profess to being chapter authors as well. This is not the case for the editor of Chapter 33, "Digital Standards of Scholarly Journal Publishing," which will make its debut in the ninth edition. Sun Huh, former president of the Korean Council of Science Editors and the Korean Association of Medical Journal of Editors, has authored this new chapter to offer guidance regarding a broad range of electronic publishing principles, practices, and tools that have recently become commonplace. A timely component of this chapter is Section 33.12 ("Artificial Intelligence Programs in Journal Publishing"), which addresses the various electronic editing and content management tools that are now available to assist with the development and preparation of scientific publications.

An Eye Toward Diversity, Equity, Inclusion, and Accessibility

The years that have passed since the publication of the eighth edition have seen an unprecedented and long-overdue shift in awareness of diversity, equity, inclusion, and accessibility in the scholarly publishing industry—or rather, the general lack thereof. To that end, the team of chapter editors and peer reviewers for the ninth edition comprised science editors from multiple countries spanning 6 continents, and several aspects of the manual have undergone revisions designed to more deeply diversify the content in terms of both its recommendations and representation.

Leonard Jack Jr and Otito Iwuchukwu, in their capacity as 2021–2023 co-chairs of CSE's Diversity, Equity, Inclusion, and Accessibility Committee, lent their collective expertise when

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peer-reviewing Section 7.4 ("Inclusive Language") and Section 8.3 ("Human Groups") to ensure that CSE's recommendations for sociodemographic group terms are both current and conscientious. For example, the ninth edition recommends capitalizing the terms "Black," "Indigenous," and "White" and using "Latinx" as a gender-neutral alternative to "Latino" and "Latina." Additionally, it now includes guidance regarding the use of "they" as a singular pronoun, particularly when discussing research study participants who identify as nonbinary or who may have withheld their gender identity.

Many of the guidelines provided in *The CSE Manual* rely on real-world examples to demonstrate the proper execution of a particular concept, style convention, or formatting principle. For those examples that include names of individuals, previous editions overwhelmingly featured the names of White male medical scientists from the United States. The editors of the ninth edition have made a concerted effort to diversify these examples via the inclusion of several international researchers and women scientists while also selecting individuals who represent a wider variety of scientific fields. More visually oriented examples—such as molecular structures, pedigree diagrams, and the aforementioned statistical graphs—will be accompanied by alt text in the online version to expand the accessibility of the manual for readers who have visual impairments, cognitive or learning disabilities, or other circumstances that might prevent them from viewing this content.

The completion of the ninth edition of *The CSE Manual* constitutes a massive yet meticulous undertaking on the part of several committed and highly respected individuals in the scholarly publishing community. That said—and to evoke Heraclitus once again—it would be sensible to expect that certain guidelines will continue to evolve, perhaps within months or even weeks of the manual's official release. Yet one thing that has not changed (and is unlikely to change) is the fierce dedication of the purveyors of one of CSE's preeminent publications, a dedication that will most assuredly be applied to future editions for years to come.

For up-to-date information regarding the official release of the ninth edition of *The CSE Manual*, visit https://www.councilscienceeditors.org/cse-manual.

References and Links

1. Council of Science Editors, Style Manual Task Force. The CSE manual: scientific style and format for authors, editors, and publishers. 9th ed. Council of Science Editors in cooperation with The University of Chicago Press; Forthcoming 2024.
2. https://publicationethics.org
3. https://www.icmje.org
4. https://wame.org

(Continued from p. 27)

engagement and discussion around problem-solving topics in scientific communication. Product posters are also available as an option for exhibitors through our Partnership Prospectus.[4]

The annual meeting would not be complete without networking opportunities included throughout the event. Attendees can make new friends or reunite with old ones through Dinner Conversations, as well as during the fun arrival excursions planned for Sunday, May 5th. Browse the exhibit hall to meet publishing experts and discuss your organization's unique needs. We will also feature morning yoga and on-site professional headshots. And don't miss out on great food and conversation at the Welcome Reception, President's Reception, and Awards Luncheon.

Join us in Portland May 4–7 as we prepare to learn and engage together!

References and Links

1. https://cse.memberclicks.net/annual-meeting-2024
2. https://book.passkey.com/event/50712318/owner/3508/landing
3. https://www.councilscienceeditors.org/short-coursesq-l
4. https://www.councilscienceeditors.org/partnership-opportunities

Ask Athena: Publication in Predatory Journals

Ask Athena is *Science Editor's* advice column for your most challenging publishing and editing questions. Submit your questions to scienceeditor@councilscienceeditors.org

Dear Athena,

I have a question about predatory journals. Recently, as a paper was going through review at one of our journals, the authors notified us that their paper had been published in a predatory journal. They had tried to get it taken down but had not made any progress with the other journal. They were hoping that, knowing the other journal is not truly legit, we could still consider their paper at our journal.

What should we tell them? They didn't realize the other journal was predatory when they submitted their paper. They did not actually want their paper published there and have requested the other journal take it down. It seems like a real shame to penalize the authors for a simple mistake.

—*Puzzled About Predators*

Dear Puzzled About Predators,

This is unfortunately something we are seeing more and more of. So-called predatory journals tend to have some characteristics in common.[1] They may try to emulate well-established journals by making a minor change to the journal title or even just pretending to be that journal. They typically charge high fees, publish papers without reviewing them first, and may even threaten authors who try to have their paper taken down once they realize their mistake, as the authors in your question have experienced.

According to the guidelines from the Committee on Publication Ethics,[2] the news for your authors is not good. Whether they wanted to or not, the authors published their paper in this other journal. It is available online, probably has a DOI, and may be copyrighted to that journal. Unfortunately, this constitutes prior publication, and the authors therefore may not submit their paper for consideration in another journal. There is nothing your journal can do for them.

The one thing you can offer them is to continue to pursue the other journal in asking them to remove the publication. If the authors did not actually consent to having their paper published there, they might have some luck enlisting legal help. Some predatory journals will relent in the face of threatened legal action. In the (unlikely) event the authors are successful in having their paper taken down, they could then submit it to your journal.

You may recommend a good resource to the authors called Think. Check. Submit.[3] This is a website that helps researchers identify trusted publishers versus those that might be predatory, so they can hopefully avoid making the mistake these authors have fallen into.

Ultimately, this outcome will no doubt be difficult for the authors to hear, but hopefully it will be a learning opportunity for them.

Always,
Athena

Answers to Ask Athena questions are a group effort by members of the CSE Education Committee.

https://doi.org/10.36591/SE-4701-14

References and Links

1. Elmore SA, Weston EH. Predatory journals: what they are and how to avoid them. Toxicol Pathol. 2020;48:607–610. https://doi.org/10.1177/0192623320920209.
2. Committee on Publication Ethics. Predatory journals: what they are and how to avoid them. [accessed January 25, 2024]. https://publicationethics.org/case/duplicate-publication-predatory-journal.
3. https://thinkchecksubmit.org/

C4DISC Update: Increasing Communication and Expanding Communities

Patricia K Baskin

The Coalition for Diversity in Scholarly Communications (C4DISC) was founded in 2017 by 10 trade and professional associations representing organizations in the scholarly publishing industry to discuss issues of diversity and inclusion within the industry. CSE was one of these founding organizations. Since its inception, the Coalition has created and posted best practice toolkits and guidelines, along with providing other training resources and events for members and partners.

C4DISC held its inaugural Community Meeting on January 24, 2024. This meeting was aimed at those in publishing organizations with a remit of DEIA in their roles, along with C4DISC's members and partners. The meeting reviewed C4DISC's activities in 2023 and plans for 2024. This call was recorded and can be accessed at https://www.youtube.com/watch?v=me7lltNr9Uk.

During 2023, C4DISC strategic priorities included formulating a content strategy around toolkits and other guidelines, increasing communications and outreach by hiring a part time communications staff member, and establishing a Community of Practice (CoP) for all those interested in networking with others regarding DEIA issues.

The CoP virtual meetings are held on the second Thursday of every other month to anyone working in scholarly communications organizations and are focused on sharing resources, learning from each other, creating best DEIA practices in organizations, and exploring opportunities for participating in cross-industry initiatives. More than 218 members have registered for the CoP. The meetings are informal; they are not recorded, and no minutes are taken. The first call on August 8 with 70 participants did not have a particular topic; discussions centered on what participants hoped to gain from meeting with others and ways to hold themselves accountable for meaningful change. The discussion topic for the second CoP call on October 12 focused on use of inclusive language and visuals. The third call, on December 15, focused on psychological safety in the workplace; attendees shared multiple examples of what workplaces have done well and where improvements need to be made.

Two new toolkits were in development throughout 2023, including a Toolkit for Disability Equity and a Guide on Building for DEIA in Peer Review. The latter should be especially interesting to CSE members as it will contain practical suggestions for editors regarding the actions they can take to diversify editorial boards and reviewer pools. Both toolkits are planned for launch in early 2024.

On February 6, C4DISC hosted its first 2024 CoP call on the topic of recruitment and retention. Those who participated discussed hiring and onboarding staff and partners/vendors, including editors, authors, and reviewers, and ways employees can support new colleagues. Future CoP meetings and topics will be announced on the C4DISC website.

Also in 2024, C4DISC will publish the Workplace Equity Project results and develop plans for creation and implementation of future toolkits. Also planned is a new Member and Partner DEIA Showcase webinar series.

For information about participating in C4DISC activities (sharing suggestions for toolkits, participating in working groups, volunteer activities, letting C4DISC know about your DEIA events), access the C4DISC website (https://c4disc.org). To join the CoP or to invite colleagues to join, access the form at https://forms.gle/pByxXVPoBDwQvWv87.

Patricia K Baskin, MS, is Senior Director and Executive Editor, American Academy of Neurology Publications. Patricia wrote this piece on behalf of the Coalition for Diversity and Inclusion in Scholarly Communications.

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Transition Story: Karen Klein

Karen Potvin Klein

During a transition, you can't always see the path ahead clearly. That was certainly true for me, and my own transition story has had different chapters, with both professional and personal components.

I began my career at the *New England Journal of Medicine* (stupendous luck!). Several jobs later, after relocating and marrying a PhD student in English, I became the managing editor at *Hypertension*. But when my husband landed a promotion at Wake Forest University, I had to leave my wonderful job—back then, remote work didn't exist. My career at journals was ending.

During our house-hunting trip, I met with a department chair at Wake Forest. Unbeknownst to me, he had been looking for a medical editor for years. But they needed someone who had experience with research grant applications, and I had none. He said, "Don't worry, I'll teach you." And he did.

The work was overwhelming at first, but thanks largely to my very patient boss, I became familiar with the acronyms, the do's and don'ts, and the strategies behind successful proposal writing. That position became the foundation of my 28-year career at Wake Forest—and in the last decade or so, I was the only medical editor at the institution. Gradually, the workload grew punishing, and my enthusiasm for it waned.

One day, I was surprised to receive an email from a researcher who had left Wake Forest, but wanted me to continue editing his proposals. Although at first the work was only occasional, my client was an enthusiastic source of referrals, and the assignments multiplied. Eventually, I realized that I regained my lost enthusiasm when I worked for myself. I began considering how to transition to a full-time freelance editor.

For anyone weighing a change to freelancing, based on my experience, I offer 3 pieces of advice.

- Take your time, if possible. I took 2 years, during which I could accept assignments at a sustainable pace, do some marketing, and make financial projections. Importantly, by including my then-employer in my plans, they have remained one of my biggest clients.
- Consider how the flexibility of freelancing can enable positive changes in your life. In my first year as a full-time freelancer, my husband and I bought a second home in Santa Fe, New Mexico, where we now spend most of the year. Living the dream, as they say.
- Be realistic. Swings in income and workload are common. Marketing yourself may be distasteful. Finally, it may take time for your business to flourish. While I've had a taste of these, nothing was a deal-breaker, and I've learned from each experience.

Since beginning my business in 2018, I've worried about unnecessary things (enough work) and adjusted to unanticipated things (the pandemic). Nonetheless, my quality of life has improved immensely, I've grown my skill set, and I've been financially successful thanks to my generous colleagues and clients. Despite being a risk-averse person, the unpredictable path of transition has been deeply rewarding for me—in multiple ways.

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From the Outside In: Moving From Freelance to Full Time

Bernadette Hromin

My career in editing began as a freelance medical and scientific editor. In the beginning, there was nothing quite like the feeling of striking out on my own, applying my editing services to the varied projects of a variety of clients: from research scientists, physicians, and educational companies to editors looking to subcontract work and larger publishers interested in expanding their freelance teams. I didn't realize it at the time, but beyond the usual benefits of working the freelance business paradigm—the freedom of project choice; the flexibility of the work schedule; the chance to create my own business name, motto, and website; and the absolute convenience of office location (daily commutes typically entailed a short stroll from my bedroom to the home office!)—the greatest benefit of all was the ability freelancing provided me to get to know my clients from the outside in. For the freelance editor, an outside-in approach allows them to observe and get to know their clients, the typical work projects sought by the client, and whether or not a long-term relationship with the client is something that the editor hopes to foster.

According to Webster's dictionary, freelancer is a noun indicating "…a person who pursues a profession without a long-term commitment to any one employer…" and one "…who acts independently without being affiliated with or authorized by an organization."[1] A person who acts independently of an employer must be both the employee *and* the employer. They must be comfortable playing any and all roles of the employer: the visionary, the manager, the legal counsel, the marketer, and the scheduler. And amid these diverse roles, they must also find the time to edit! During my years freelancing, I enjoyed the challenges of wearing so many organizational hats, in addition to and on top of the editing work that I was doing. I did precise, detailed work on a small scale. After all, a one-person business can take on only so many projects. I was my own rate-limiting step. However, as time went on, for all the independence and experience that the freelance life offered me, I found myself longing to be part of a team. In a team, I could still do precise, detailed work, yes, but on a much larger scale and within the type of hierarchical structure that is the veritable sum of all its parts.

By advertising to, conversing with, securing projects from, and working for my clients, I was given a front-seat view not only into their research interests, project types, and writing abilities, but I could also gauge their general work philosophy. Who was their target audience? Did they need writing or editing expertise, or both? What was their mission statement? What were their ethics and goals? And most importantly, did my clients' mission, ethics, goals, and needed skill set align with my own? I began to realize that freelancing afforded me a very unique opportunity not available in other modes of employment: the ability to peer behind the curtain and within the inner workings of a client business and interact with the in-house team. Could I envision myself as a permanent part of this team? Or do I prefer to offer my editorial services from the outside, unmoored, without allegiance to any one person or company? Will these people with whom I work continue to

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be repeat clients, or could I envision their eventual transition from client to coworker?

The answer to these questions did not surface immediately, so I cast a wide net when searching for new projects. I grew my portfolio. I worked with individual physicians on short, patient case reports. I helped a group of international scientists choose a journal for manuscript submission that best reflected the kind of research they did. I worked directly with authors to prepare, write, and edit articles, and I worked with them indirectly, through companies looking to subcontract editorial work. I edited manuscripts for biology and biochemistry journals, and I edited manuscripts for medical journals of a variety of specialties and subspecialties. I composed and proofed examination questions for future nurses and physicians. I transcribed medical presentations, organized succinct summaries, and created review material. The more clients with whom I engaged and the more varied projects I took on, the more I learned about the type of editor I wanted to be and the type of subject matter on which I wanted to focus. In peering within the client mindset, I also began to recognize myself. As time went on with more clients encountered, I drew up a list of advantages and disadvantages to my freelance work style. Do I want to continue this adventure of ups and downs, from project to project, through times of editorial feast and famine, or do I want to stop and commit full time to a client with whom my professional goals, work ethic, and career objectives align?

In my life experience thus far, I have found that oftentimes, the answers we seek find us when we least expect them. Eventually, I found myself part of the freelance manuscript editing team of a large and world-renowned medical publisher. Through this position, I edited and formatted the medical manuscripts of numerous medical specialties. I was able to interact with several in-house editorial teams: the graphics designers, production and layout, the proofreading team, fellow manuscript editors, and the managerial staff. Having an educational background in medicine, I was very pleased to be editing this subject matter on a regular basis. I really enjoyed the work that I was doing, and I was able to see how all the moving parts of this great publishing machine came together to transform a raw-ore manuscript into a carefully hewn and polished printable gem.

Over my 2 years working with this publisher, I appreciated the people with whom I collaborated to accomplish this work. As I became better acquainted with the team, they, in turn, came to know me. In the end, when the opportunity for a full-time position presented itself, I did not hesitate to apply. And when the time came to interview, it was not a sterile question/answer period between manager and stranger; rather, it was like a conversation between old friends. This led to me being hired, and the rest, as they say, is history. It will never cease to amaze me how predictably unpredictable life can be. For all of our planning, we often arrive at our current location simply by chance. When I think about how fortunate I am to have found my place, I find my thoughts drifting to a favorite poet of mine, Robert Frost, who said it best: "Two roads diverged in a wood, and I—took the one less traveled by, and that has made all the difference."[2(p599)]

References and Links

1. https://www.merriam-webster.com/dictionary/freelancer
2. Frost R. The road not taken. In: Perrine L, Arp TR, eds. Literature—Structure, Sound, and Sense. 6th ed. Harcourt Brace College Publishers; 1993:599.

An Auditory Transition

Barbara Gastel

"How do you spell _____?" a college friend of mine asked his roommate.

"It's spelled _____!" I (the future editor) yelled back from several doors away.

The classmate marveled that I had heard him—and perhaps wondered what else I had overheard. Indeed, as an undergraduate with acute hearing, I overheard more than I probably should have. A few years later, when I chided a fellow medical student for mumbling, he claimed I had poor hearing. However, at a health screening soon after, I learned that my hearing was exceptionally good.

As I embarked on decades of university teaching, keen hearing continued to serve me. I could easily understand the most soft-spoken students. Also usefully, I could discern murmured conversations in the back of the classroom.

Recently, though, more students seemed to mumble. I attributed the change to the masks being worn in the COVID pandemic. But when the masks came off, these students' enunciation still seemed lacking. More meeting rooms seemed to have poor acoustics—which I ascribed to ventilation systems enhanced to hinder virus transmission. I found myself mishearing words; in a noisy restaurant, a colleague's mention of a topless bar turned out to be of a tapas bar. I could no longer hear my old radio clearly. And when I replaced the radio, little improvement ensued. Maybe I, rather than the radio, was having the problem.

Perhaps, I thought, I was now experiencing just average hearing. To document my current baseline, I saw an audiologist. He found that, in fact, I had a mild to moderate hearing loss. Genetics had finally caught up to me. Maybe my initial excellent hearing had delayed its impact.

The audiologist prescribed hearing aids. In function and appearance, this technology has greatly improved since my grandmother and then my father endured hearing loss. The devices are barely more conspicuous than earbuds. They are rechargeable. They help me understand the mumblers and enjoy the chirping birds. They aren't, however, as effective as eyeglasses, which fully correct my vision. I still have difficulty understanding some voices. Clattering dishes now sound painfully brash. If you sneeze loudly near me, you can almost scrape me off the ceiling.

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Technology is just one part of coping with diminished hearing. I proceeded to read a little about lipreading—or, more broadly, speechreading. I learned that this practice can include inferring meaning from context and guessing what is intended when a word seems incorrect. These thought processes are some I use in editing. Perhaps their use delayed my recognizing my hearing loss.

Out of curiosity, I sought information on careers suited for the hard of hearing. In a quick search, *writer* and *proofreader* repeatedly surfaced. Sometimes, *professor* appeared. I did not see *editor* listed, though it seems suitable for reasons similar to writer and proofreader. Given one of my hobbies, I was pleased to see *pastry chef* near the top of one list.

I also read about contending more generally with trouble hearing. Some advice was obvious—such as having people look at you when they speak. I did, however, gain new tips. I learned that in restaurants—where the background noise can especially hamper hearing—it's best to be seated in a corner or next to a wall. The reading also advocated being upfront about hearing loss rather than bluffing about understanding. (Hence, in part, this essay.)

Fortunately, my hearing loss tends to hinder communication only during the audiological equivalent of stress tests. In quiet, well-lit environments with people facing me from nearby, I usually can understand well, even without hearing aids. I also can comprehend easily on the telephone. Zoom meetings—which let me see speakers' faces—are a boon, and I rarely use the captions (which, distractingly, I proofread and edit). My audiologist says my hearing is likely to remain essentially stable for many years.

Much as suiting environments for wheelchair users helps others too, providing an auditorily friendly milieu can benefit many. My students—especially those who are nonnative English speakers or themselves have poor hearing—appreciate efforts to have everyone speak clearly and project well. Also, my hearing loss prompted me to improve the videoconferencing system in my classroom. The students (especially those attending remotely) welcome the better audio, and so do colleagues using the room.

My transition from superb to subnormal hearing has taken some adjustment. But as someone who likes experiencing new situations and solving problems, I have found the adjustment stimulating in ways. I now have more empathy with—and, I think, communicate better with—people with such difficulties. I feel fortunate that my professions place only limited demands on hearing. I know I'm privileged to be able to afford good assistive technologies. And I hope that sharing my experience will benefit, or at least interest, others.

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