

Volume 9, General Issue (2021)

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Collister, L.B., & Cantrell, M.H. (2021). From "Patchy Endorsements" to Intentional Advocacy: Deconstructing Bias in the Language of Open Access. *Journal of Librarianship and Scholarly Communication*, 9(General Issue), eP2395. https://doi.org/10.7710/2162-3309.2395



THEORY

From "Patchy Endorsements" to Intentional Advocacy: Deconstructing Bias in the Language of Open Access

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This paper argues that linguistic features common in discourse around Open Access Publishing are socially constructed in ways that lend themselves to implicit bias against the Open Access (OA) movement. These biases materialize through common linguistic practices such as de-centering OA and highlighting the uncertainty of OA Publishing, resulting in "patchy endorsements" of the status quo of Subscription Publishing. Following previous research that demonstrates how educational content on OA can lead to cognitive load and biases that reinforce the status quo in scholarly publishing, we analyze publicly available, online content from our own institutions with an eye towards how these biases manifest specifically in the practice of librarianship. Using examples from this analysis, we suggest strategies and intentional language that can be used by librarians and other OA advocates to counteract bias and shift towards a construction of OA Publishing as the status quo. While many strategies and difficult negotiations are needed to functionally establish OA as the default in scholarly publishing, language choice is a device through which advocates at any level can advance towards an open-centered culture.

Received: 08/11/2020 Accepted: 12/17/2020

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IMPLICATIONS FOR PRACTICE

- 1. Small adjustments to language used on websites, flyers, and in conversation can have powerful impacts on how readers and listeners perceive OA.
- 2. We identify five particular features of language to pay attention to in order to de-center Subscription or Closed-Access Publishing as a default publishing option and reduce unintentional patchy endorsements.
- 3. We share several examples from our own websites and conversations that illustrate these biases, with suggested changes to address these issues.

INTRODUCTION

In this work, we apply a social construction perspective to the language of publishing, particularly about Open Access (OA). We argue that the language used about OA—by librarians, scholars, publishers, institutions, and participants across the spectrum of academic publishing—reifies and validates a socially constructed reality where Subscription Publishing (or Closed-Access Publishing) is the default and expected mode of publication, or the status quo. We identify two themes and five specific linguistic features of regular, everyday phrases and word arrangements that do the work to construct this reality by activating and reifying bias towards the status quo, and we supply several examples of ways to change language intentionally to shift the perception of publishing defaults. Because we are librarians, we recognize that there is an emphasis in the profession on providing information rather than advice, which may actually exacerbate biases towards the status quo. In this study, we focus on source texts from our libraries (the University of Colorado Boulder Libraries and the University Library System, University of Pittsburgh) about OA, in order to demonstrate a case study on our own work of how these ideas may be put into practice by readers. Recognizing other attempts to move the needle on OA such as funder and institutional OA policies, the proliferation of OA business models, and new forms of agreements to enable OA Publishing, we suggest that in order to truly realize OA as the status quo, we need to attend to that most basic of tools that humans use to represent their realities: language.

LITERATURE REVIEW

Language and Social Construction

John R. Searle writes in his book *The Construction of Social Reality* (1995) that language does work in society to represent agreed-upon conventions, or institutional facts. He describes

how sentences like "a touchdown counts as six points" create realities only through mutual, common understandings of language. To fully understand this sentence, we must know that it references a socially agreed-upon set of behaviors, rules, and consequences known as "American Football" and a bounded experience where these behaviors, rules, and consequences apply, known as a "game." Furthermore, we must know that a "point" in the physical world is a construct created by humans to measure success at this purely invented task. A person speaking or writing the sentence "a touchdown counts as six points" presumes that the perceiver of this sentence has at least some knowledge of the social reality of American Football in order to comprehend the sentence. It is through the use of language, such as the word "touchdown," that we call these realities into existence and reference shared understandings of these realities.

These realities that are created by language are socially constructed, and most of them are arbitrary. A touchdown could be worth 7 or 5 points; the physical world does not alter, only the arrangement of letters and symbols in rule books and numbers that appear on screens and sheets of paper. This human behavior is not limited to games and sports; social construction also informs our perspectives, knowledge, and biases about people and identity. When someone says the word "woman," a whole set of social knowledge comes with that word, and that knowledge may be different based on social aspects of culture, age, ethnicity, history, and a host of other factors. Anthropologists and linguists have studied the many ways that humans socially construct their realities and identities, including membership in age groups (Henne-Ochoa & Bauman, 2015), sex and gender categories (Eckert & McConnell-Ginet, 1995), ethnicity (Mendoza-Denton, 2008), language fluency (Lindemann & Moran, 2017), disability (Schuelka, 2018), expertise (Cummins, 2019), and classifications of the edibility of food (Yeh, 2016), to name just a few of the subjects of the extensive research on this topic.

These socially constructed realities can become the status quo, and the language that we use can show bias towards the status quo, or bias against that which does not conform to the status quo. As one example, Lindemann and Moran (2017) describe how the use of the phrase "broken English" reflects a socially constructed reality where English is the status quo, and not speaking English natively means deficiency and not conforming to the status quo in language and potentially other ways. These biases and constructions are not solely the purview of individuals. Individual actions and beliefs become habituated and then become organizations and institutions. In their seminal text on social construction, Berger and Luckmann write that institutions "by the very fact of their existence, control human conduct by setting up predefined patterns of conduct, which channel it in one direction as against the many other directions that would theoretically be possible" (1966, p. 55). Reusing the American Football concept, the rules and regulations governing the reality of

American Football are controlled by organizations such as the National Football League, which sets up predefined patterns of behavior, rules, and systems under which the game of American Football is played. Importantly, for Berger and Luckmann, institutions can be both organizations that exist to reify the status quo (e.g. courts and police to uphold the law) and they can be concepts that embody some component of social organization (e.g. the institution of paternity, which in many cultures carries kinship and guardian relationships in addition to genetic heritage). Institutions are seen by individuals as "possessing a reality of their own, a reality that confronts the individual as an external and coercive fact", and, since the individual did not actively shape most institutions, it "confronts them as a given reality that, like nature, is opaque in places" (Berger & Luckmann, 1966, pp. 58–59).

Using this theory of social construction, we suggest that in the realm of scholarly publishing there are expectations and realities that are confirmed through precedent, codified through policies, and reinforced through our social and professional interactions. When we use a phrase such as "publish or perish," we reinscribe assumptions about the difficulty and even brutality of academic research. Even more to the point, when we use such a phrase we implicitly re-habituate a reality in which one must either publish or perish as the accepted and acceptable rules of the game—rules that are made by the institutions that present this situation as a given reality. Some of those rules include what is assumed to be inherent in the word "publish" and what attributes of "publications" fit in the presumed reality of this world, and those attributes are the focus of our investigation in this paper.

LANGUAGE AND BIAS

In previous research we found that, across the board, language used to describe, promote, and educate about OA Publishing is complex, rating high (and sometimes off the charts) on reading level scales. We found this to be true for material from a wide variety of online stakeholder groups, including libraries, publishers, advocacy groups, and even Wikipedia. Using a number of quantitative measures of complexity as well as qualitative analyses, we identified multiple levels of complexity in the sample texts. In addition to these texts being written at an advanced reading level, we found that they also had the potential to tax readers' cognition through an abundance of choices presented to the reader as well as the presence of conflicting information (Cantrell and Collister, 2019).

Complexity of this kind tends to increase the cognitive load of one interacting with the information, and that an increase in cognitive load activates the status quo bias, defined by Eidelmann and Crandall (2012) as peoples' tendency to "favor existing and longstanding states of the world." The status quo bias is a natural and pervasive reaction to structures and information that are perceived as new. In scholarly publishing, Subscription Publishing can

be considered the status quo. Our previous findings suggest that the very language used to educate about and promote OA in fact serves to implicitly push researchers back to the status quo, Subscription Publishing. An individual may even express explicit interest in or support of OA Publishing, but still engage in behaviors that reify Subscription Publishing as the status quo. Levy calls this a "patchy endorsement", capturing the idea that an implicit bias is not exactly analogous to a deeply held belief, but rather an action that may be in conflict with one's stated beliefs, for example by responding to past inference and association in a fragmented manner (Levy, 2015, p. 816).

Implicit bias is defined as "attitudes or stereotypes that affect our understanding, actions, and decisions in an unconscious manner," and is a concept most often used to describe actions, beliefs, and behaviors towards people or social groups (Staats & Patton, 2013). As bias is a very human activity, it can be found in all places that humans are, including (but not limited to) classrooms (Nilsen, Fylkesnes, & Mausethagen, 2017), social media (Gendron, Welleford, Inker, & White., 2016), workplaces (Cook Ross, Inc., 2008), courtrooms (Goff, Eberhardt, Williams, & Jackson, 2008), newspapers (Lynott et al., 2019), and healthcare (Ashford, Brown, & Curtis., 2018). Implicit bias can relate to ways that we organize ourselves socially, for example race (Graham & Lowery, 2004), gender (Dervan, Zimmerman, Thompson, & Watson., 2019), age (Gendron et al., 2016), and culture (Nilsen et al., 2017).

Implicit bias is one manifestation of our social construction of reality—we are biased towards those beliefs that align with what we expect of the world, and those biases can be shown in actions and language. To use a generic example, people may have an association of lions with manes, and can act on assumptions that lions have manes in order to identify a creature that may be dangerous to them. Implicit biases rest on associations between features and categories, and these associations are one way that people make sense of the world around them and the vast amounts of information that we see and consume. While these associations may be useful in some cases (e.g. categorizing behaviors or situations that are dangerous can help people avoid harm), in other ways the associations create false negative perceptions (or false positive perceptions) of groups, concepts, or situations based solely on associations (Pinal & Spaulding, 2018). In this work, we interrogate the associations between core expectations of publishing and access models, namely Open Access and Subscription Publishing, to look at what biases may be invoked when describing publishing options.

If we return to the idea that institutions and individuals' biases are socially constructed, then it is the case that these biases can be deconstructed. Payne & Vuletich (2018) suggest that implicit bias is a better measure of social and cultural situations than of individuals,

and therefore that solutions to these biases are better addressed through re-structuring social context rather than altering bias at the level of the individual. How do we work on changing our social context to deconstruct bias? Research shows that biases are malleable and implicit associations may be unlearned through intention, attention, and time (Staats & Patton, 2013, p. 53). One primary method to influence and change this reality is through changes in language, especially language that serves to reify the biases and implicit beliefs of the speakers and writers of language. This act can be an intentional process, such as the reclamation of once-derogatory terms (see the history of *queer*, e.g. Rand, 2014) or the use of language to intentionally disrupt assumptions about identity (see studies of drag queens in particular, e.g. Calder, 2019), and there can be multiple levels and forces that lead to the evolution of terms and the adoption and dismissal of words (see, as an example, the language of disability, e.g. Zola, 1993).

Ongoing attention to language is an important part of the de-biasing process because, as shown by Jerry Kang and colleagues, biases can be re-activated by "daily real-life exposures" that can reinforce previously-held associations (Kang et al., 2012, p. 1170). Goff and colleagues studied courtroom situations, and found that the metaphors and associations used by prosecutors activated jurors' previously held implicit biases (Goff et al., 2008). This can manifest in the terminology used to refer to groups of people or behaviors, such as Ashford and colleagues' finding that substance use language like "addict" and "drug abuser" resulted in negative perceptions of the person being described when compared with phrasing like "has a substance use disorder" (Ashford et al., 2018, p. 134). In addition to specific terminology, syntax and grammatical choice can activate implicit bias. In a letter to the editor of the journal Critical Care Medicine, the authors Leslie Dervan, Jerry Zimmerman, Ann Thompson, and Schott Watson noted that positive outcomes of CPR led by female physicians were reported in an article as "female physician leadership ... is not associated with inferior outcomes." The authors suggest that this framing (as opposed to "female physician leadership is associated with superior outcomes") may indicate that the authors expected female physician leadership to be associated with inferior outcomes, and that this may signal implicit bias against female physicians in the field. The authors suggest that "closely examining our language, as a reflection of our core values, might also help us identify and counteract implicit bias against half of those within our community" (Dervan et al., 2019, p. e383).

We believe that training and methods for addressing implicit bias can also help to address the status quo bias against OA demonstrated in our previous work. Rather than suggesting changes to individual states of mind, the strategies that we propose aim to restructure how the social context of how OA is framed through everyday linguistic turns (Payne & Vuletich, 2018). These studies and others provide the foundation for the language features that

we analyze in the following sections, as well as the interventions that we suggest to interrupt the bias towards the status quo of Subscription Publishing.

LANGUAGE AND OPEN ACCESS MESSAGING

The history and broader influence of libraries' messaging is also central to understanding why outreach and education about OA has been complex and scattered, leaving ample room for "patchy endorsements" of the status quo. McDonald and Burkhardt (2019) note that "content is, and has always been, central to the mission of the libraries" (8). However, they go on to observe that as libraries' website content began to proliferate throughout the 1990s and 2000s along with the rise of content management systems (CMS), the creation and organization of online content was often decentralized and without clear authority. "Through these tools," they argue, "we can inadvertently create more noise than signal, potentially alienating the very audiences we hope to reach" (McDonald & Burkhardt, 2019).

Although libraries now have a heightened interest in usability and user experience, many libraries are just getting started with content strategy and very few have a dedicated content strategy specialist, which can cause websites to have problems with credibility and coherence (Blakiston & Mayden, 2015; Chapman & Demsky, 2015). Although this particular issue has far-reaching implications on the effectiveness and consistency of libraries' messaging, these impacts are compounded for OA education strategies due to the many pre- or mis-conceptions about OA Publishing that may precede the interaction.

In a review of the extensive library surveys that have been conducted amongst faculty regarding OA, Otto (2016) found widespread confusion and inconsistency in faculty's understanding of the definitions of open access, self-archiving, and institutional repositories. And while there is a significant amount of literature encouraging libraries to market OA and their institutional repository, very few publications have discussed the specific messages to be adopted. Otto (2016) begins filling this gap by providing examples of OA messaging at their own institution, Rutgers University. The strategies offered focus on speaking to faculty member's "highest hopes," being proactive rather than reactive, and conveying the message with positive terms and tone. "Our avoidance of evangelism is evident in both content and tone" Otto asserts. "We are neither promoters nor enforcers; we simply convey the fact of the Policy and a picture of the OA landscape as it stands; we deliver the facts, answer questions, and facilitate" (Otto, 2016, p. 27). Indeed, this approach speaks to our suggestions that follow by both understanding the existence of preconceived notions and biases about OA but proactively avoiding the re-assertion of those biases or of introducing concepts that may exacerbate complexity and confusion.

Hopefully our study and Otto's represent only the beginning of further research proposing concrete and effective strategies for libraries' messaging about OA.

METHODOLOGY AND IMPLICATIONS FOR PRACTICE

To apply this theory to real examples of language in use, we engaged in a case study of our own materials in order to demonstrate how these observations and principles may be applied to readers' own work. We identified web pages affiliated with our respective institutions that provide information or resources about OA. We chose OA as a specific topic in order to limit the scope of this study, as well as because there is a particular dichotomy in OA (OA Publishing versus Subscription Publishing) that made the analysis clearer and more focused. It was also a timely topic, as this case study was performed when OA Publishing models were seeing a surge of interest due to the rise of discussions around Transformative Agreements and Plan S.

Four representative pages were selected from the University of Pittsburgh, as well as three representative pages from the University of Colorado Boulder, to be included in a language analysis. The samples from each institution represent roughly similar amounts of text, though the content of the web pages varied, including two OA landing pages, two pages on OA funding information, OA definitions, a podcast transcript, and a Libguide. Importantly, these texts were generally aimed at scholars who were learning about publishing options, and therefore represent foundational or educational material about OA. The materials that we analyzed were not industry discussions, deep research into business models, or other very important OA discussions that were aimed at specialists in libraries or publishing.

In order to analyze the language used in the pages described above, we coded all of the web pages (those from our own institutions as well as the pages from the other author's institution) for the presence of five language choices identified in the literature described above as activating bias: de-centering OA through word choice, de-centering OA through word order, hedging or powerless language, disclaimers, and complex language. Each of these will be described in more detail in the relevant section below with examples from the case study. The coding process included identifying and copying the language excerpt in question into a spreadsheet, categorizing the excerpt into one of the five language choices, and providing notes or justification on that choice. Each author coded the pages individually first, without seeing the other author's work, and then we conducted a review together in order to compare the results as well as identify and resolve any inconsistencies.

We share our full list of examples in a dataset¹ and use a few examples in the sections that follow to illustrate how these language features that reinforce implicit biases can arise in texts. We suggest small edits to texts that we could apply to our own works in our contexts. We encourage readers to apply a similar review methodology on their own OA websites and other related outreach materials, including partnering with another colleague at another institution to conduct these reviews together, and consider the ways in which adopting minor language adjustments could advance their advocacy work by both normalizing and centering OA within their individual contexts. We hope that this practice will result in more observations and research that build upon this case study.

Below, we categorize our findings from our texts into two broad themes: centering/decentering OA Publishing and highlighting uncertainty. Each language choice that we coded for does work to contribute to these themes that reify the status quo of Subscription Publishing, and in each section we share changes that could interrupt this process of reification.

Theme 1: Centering/De-centering Open Access Publishing

Theme 1 focuses on "centering"— that is, identifying central concepts that are related to a term or an idea. Through word choice, language users can highlight (explicitly or implicitly) the central or presumed constructions of an idea like "publishing." When we talk about publishing, what characteristics or parameters are assumed, and what are called out? Which are highlighted, and which are de-emphasized? In this section, there are two strategies for disrupting the construction that subscriptions are inherent to the idea of publishing, and both strategies involve word choice: substitution and order.

Word Choice Substitution

Adjusting language to minimize implicit bias can be described as "centering" or "re-centering." Following the work of Pinal and Spaulding (2018), we focus in this work on the idea that "subscription" is a central concept in the idea of "publishing" and on the linguistic acts that further reify that centering. For example, by comparing "open access journals" versus "traditional journals", this creates a binary between open access and traditional, with the core concept of "tradition" being subscription fees. This centers subscription fees within the tradition of journal publishing, and decenters or "others" that which is not Subscription Publishing. Nilson, Fylkesnes, & Mausethagan (2017) studied the linguistics of teacher

¹ http://bit.ly/PatchyEndorsements; full data for the entire Open Access Language project including our previous publication is available at https://github.com/parnopaeus/oalanguage/ (data for this paper can be found in the "Patchy Endorsements" folder).

educators talking about cultural diversity, and define *othering* as "the manner in which social group dichotomies are represented via language." That which is branded the "other" is generally less accepted by the speaker or writer of the phrase.

Here is a specific example from our case study of common linguistic practices privileging Subscription Publishing, taken from one of the sample web pages:

With Hybrid OA, some traditional journals (i.e., generally those that are published by for-profit scholarly presses) offer an option for authors to make their individual articles freely accessible to anyone worldwide, for an additional fee. (https://pitt.lib-guides.com/openaccess/typesofoa)

While this explanation of the hybrid form of OA Publishing accurately represents how this model generally arises and provides a pathway for OA to authors, the linguistic act of accentuating that this model originates from "traditional journals" elevates this and other subscription models and decenters other routes to OA by making the association that they are implicitly non-traditional. Traditional, here, may also be viewed as a linguistic proxy for calling those journals both more established and even more prestigious, thus reifying their centeredness within the sphere of scholarly publishing.

De-centering subscription fees in this case can be achieved through a simple linguistic move: using the term "subscription journal" instead of "traditional journal." This is a word substitution along the lines of those proposed by Ashford and colleagues (2018) regarding substance use; however, instead of choosing to use words that frame Subscription Publishing as positive (by aligning it with the tradition of journal publishing), we suggest a more neutral, fact-based word choice of "subscription journal" to avoid triggering implicit bias. This substitution also highlights the "subscription" parameter of the publishing system, which may serve to bring it to the attention of authors who may not typically think about library budgets or access beyond the institution. Through a one-word change, the implicit association between tradition and subscriptions is broken, and the central socially constructed concepts of "journal" are reconfigured.

There are a variety of word choices that serve this central function of either centering Subscription Publishing or decentering OA Publishing. Another example from our dataset is from an excerpt of an interview in which an interviewee claims that OA Publishing provides worldwide access whereas that opportunity may not have been available "through the standard type of publications" (https://www.colorado.edu/libraries/2019/10/21/cuatl-ep-5-open-access-cu-boulder). The speaker here centers Subscription Publishing by assuming its status as "the standard" even as the speaker sought to convey the overall benefits of OA

Publishing. This is compounded when, later in the interview, the interviewer asks the subject, "And how did open access emerge as a new model for scholarly publishing?" While factually true that OA as a concept and business model has not been around as long as Subscription Publishing, the inclusion of the word "new" here is unnecessary for comprehension of the question and further de-centers open access by placing it in linguistic opposition to "traditional" and "standard" publishing. As a final example, both of these linguistic practices are apparent in the following text:

Open access is compatible with copyright, peer review, revenue (even profit), print, preservation, prestige, quality, career-advancement, indexing, and other features and supportive services associated with conventional scholarly literature. (http://openaccess.pitt.edu/open-access-defined)

Here, the language explicitly links core publishing characteristics as central to "conventional scholarly literature" (presumably Subscription Publishing); whereas, for OA Publishing, the various legal and quality-control procedures are explicitly enumerated.

This implicit de-centering of OA Publishing through word choice also occurs through the presumed linkage between OA and the payment of author fees. Recent studies have shown that about 71% of the journals in the Directory of Open Access Journals (DOAJ) do not charge article processing fees as part of their business model (Crawford, 2019), yet it was a common practice in the texts analyzed for this paper to elide this fact by presenting payment for OA publication as the default, a linguistic phenomenon known as presupposition. Presupposition occurs when speakers assume that readers know some information and reference that information when discussing some other information (Beaver & Geurts, 2014). An example of a presupposition is "The President of France stopped collecting stamps," which presupposes that France has a president who had, at one point, engaged in the act of collecting stamps. Furthermore, most linguists agree that when a hearer or reader encounters some presupposed information, they adjust their knowledge state to include that presupposed information to some degree (Beaver & Geurts, 2014). That is, if the hearer was unaware that France had a president, then they would need to accept the presupposed information embedded in "the President of France" in order to understand the full sentence "The President of France stopped collecting stamps."

We encounter presupposition in phrases such as "[...] to pay for reasonable article processing or publishing fees charged by full open access publishers" (https://www.colorado.edu/libraries/research-assistance/open-access/open-access-fund); these phrases presuppose that to publish in an OA journal is necessarily accompanied by a cost, especially when no other scenarios are presented in the adjacent text. A reader encountering these explanations of

OA may be even more concerned when it is presumed that author payment should be implicated from the beginning of the research process. One text describes how funds are available "to support open access to research articles where publication fees are not covered by grants or other funding sources. The CU Boulder Libraries encourages authors to include publication fees in grant requests whenever possible. This fund isn't intended to replace such funding sources" (https://www.colorado.edu/libraries/research-assistance/open-access/ open-access-fund). This language not only presupposes the inevitability of publication costs, but also puts the reader of this text in a potential position of oversight for not "including" or already having the money for publication. Shaming authors or implying an exclusivity to OA Publishing are certainly not the intention of these texts. However, it is possible that language can have positive intentions (in this case, to inform authors of available options and resources) but at the same time "inadvertently perpetuate negative attitudes, stereotypes, judgements, and assumptions," as was found by authors studying social media posts of medical students in a senior mentoring program (Gendron, Welleford, Inker, & White 2016). Simple language changes can counteract the effect of implicit bias that this kind of presupposition can cause. Recognizing the variety of OA business models, de-centering the concept of article processing charges, and approaching the subject from a place of empathy can counteract the implicit bias caused by linguistic practices that reinforce an economic exclusivity of OA rather than its principles of equity and inclusion. Many OA advocates point out the existence of color figure charges or extra page charges for subscription journals as a counterpoint to the normalization of APCs, therefore showing that fees for publishing are not unknown in all kinds of scholarly journals. Therefore, as a change to this language, we would suggest using phrases like "Article Processing Fees (APCs) for some journals", or even "page charges or color figure fees for Subscription Journals, and/or Article Processing Fees (APCs) for some OA journals." Using language that indicates that APCs are only in place for a subset of OA journals is another word choice strategy that can be effective, for example "For journals that charge APCs..." or "If you encounter an APC when publishing in an OA journal, sources for funding include..."

We all use techniques of othering and presupposition in our language every day; categorization is a basic mechanism for organizing and making sense of the world's complexities, so we cannot be expected to fully eliminate these as linguistic practices (Gendron, Welleford, Inker, & White 2016). We should, however, recognize these practices as potential vessels for our implicit biases and agents of social construction. By recognizing these acts, it is possible to channel our language and conduct in a different direction, to begin the work of constructing a new social reality (Berger & Luckmann, 1966). Mindfulness of word choice by OA advocates that recognizes and mitigates these implicit biases may go a long way in counteracting more explicit biases that persist in scholarly publishing.

Word Choice Ordering

Research on working memory has repeatedly shown that, in general, there is a limit on how much can be kept in the mind at once for recall, and that limit is generally 3–5 items at a time (Cowan, 2010). Different parts of a list also have different impacts on memory and perception of the items, known as a serial position effect. For example, research into a phenomenon known as the "recency effect" indicates that people tend to remember the most recent item that they heard, or the last item in a list, and that the early items in a list are vulnerable to forgetting because of cognitive load (Hu, Allen, Baddeley, & Hitch, 2016). This can impact what participants can recall if, for example, a speaker presents a long list of examples in quick succession. Neuroimaging techniques have shown that short-term memory is used to recall the last item in a list, while the first item in a list is stored in long-term memory (Talmi, Grady, Goshen-Gottstein, & Mocovitch, 2005). The first item in a list, in particular, is known to have a "primacy effect," especially in descriptions (e.g. people described as "fun, witty, and vicious" are perceived more positively than those described as "vicious, fun, and witty") (Sullivan, 2019).

Based on this research, we advise advocates to keep in mind these effects when describing OA. We found several examples of this from the website sample used in our previous study (Cantrell and Collister, 2019) and included this category as a coding option in the current case study, where we did not find any examples. However, in case it is of use to readers who may attempt a similar process with their own materials, we present the examples here and invite others to do further investigation on this particular category.

The primacy effect may impact sentences such as this one: "Open access publication is usually subject to payment of an article processing charge (APC) paid by the author, institution or funding body" (https://us.sagepub.com/en-us/nam/faqs). With the author being the first item in the list of potential payers of an APC, the primacy effect may cause the impression that it is most common for authors to pay this fee.

Consider also the recency effect in a statement like this one:

The same assessments of a journal's quality that you would normally apply should be used to scrutinize open access journals in terms of status, scope, suitability, publication speed, Impact Factor, article-level metrics, archiving policy and availability in indexing services, etc. Have you checked the background of the journal? How long has the journal been established? (http://cms.iopscience.org/68207673-b42e-11e3-9d6d-29411a5deefe/J-VAR-LF-0214-Open-Access 7.pdf?guest=true)

The long list of items for scrutiny starts with "status" and ends with "availability in indexing services" (excepting the "etc."). Status primes the reader with the idea of prestige, and the listing in indexing services may give a similar perception of prestige and status. Scope and suitability, arguably two of the fundamental components for deciding where to publish one's paper, are in the middle of the list where they are most easily overlooked or forgotten.

When building lists such as these, we encourage authors and speakers to pay special attention to what items come first (for impressions and primacy) and last (for quick recall) in the list. In particular, the authors of this study have made efforts to put OA Publishing options first in a list when they are used as examples of something positive, such as author Collister's recent utterance "commonly recognized journals like *PLOS One*, *Nature*, or *Science*". We also suggest that if you must reference a contentious measure like Journal Impact Factor (Paulus et al., 2018) then avoid putting it at the beginning or the end of the list in order to not afford it high importance.

Theme 2: Highlighting Uncertainty

Where Theme 1 focused on centering—what parameters and characteristics are central to a concept like "publishing"?—Theme 2 focuses on framing. Framing refers to conventional, socially constructed ways of understanding a situation or an interaction (Goffman, 1986). It may seem strange if we see two groups of people repeatedly running into each other on a grassy field, but once we know that the frame of that particular interaction is "a game of American football," then the interaction seems more comprehensible because we have invoked a kind of situation that has been collectively constructed and agreed upon. Framing can be accomplished through language about a situation, and language users can frame information in different ways to convey attitudes or interpretations of that information (Tannen, 1993). The frame can impart implicit bias onto information—for example, as discussed above when Dervan and colleagues (2019) noted that the work of female physicians was described as "not associated with inferior outcomes" rather than being "associated with positive outcomes." While both of these phrases convey similar information, the first one frames the information with an expectation of inferior outcomes.

In this section, we argue that language about OA Publishing frames OA as risky, uncertain, and complex. The linguistic features that do this work are powerless language, particularly disclaimers and hedging, and complex language.

HEDGING, DISCLAIMERS, AND POWERLESS LANGUAGE

Powerless language, including tag questions, hesitations, disclaimers, and particularly hedges, have been found to negatively impact perceptions of not only the speaker, but also of the message being relayed by a person using powerless language (Blankenship & Holtgraves, 2016). Negative perceptions of the message can include uncertainty, ambiguity, or even negative evaluations of the truthfulness of a statement; all of these can be triggered by powerless language, and they can all trigger implicit bias. In our dataset, we specifically looked for hedges and disclaimers and found several examples of each. Some of these examples are innocuous, but others could send a message of uncertainty that advocates might want to avoid. First, we will discuss the hedging examples, then the disclaimers.

Hedges

Hedges are linguistic devices that signal less than full certainty; a classic example is the phrase "sort of" as in "she is sort of tall" (Lakoff, 1973). An example of hedging from our case study texts is describing Open Access materials as "digital, online, free of charge, and free of most copyright and licensing restrictions" (https://pitt.libguides.com/openaccess). Using the hedge "most," while technically true, plants uncertainty in the readers' mind about how they may be able to license or use such materials. Which copyright and licensing restrictions are still available? A similar phrase was used in another text: "Open access (OA) is a way of publishing your research that enables it to be freely accessible to the public and usually has limited copyright restrictions" (https://www.colorado.edu/libraries/research-assistance/open-access). The hedge "usually" in this sentence conveys information that is technically correct and may be used as a proxy for a longer discussion of gratis versus libre OA; however, without that background knowledge, this hedge plants an expectation that there is variation and uncertainty in what restrictions are in place. A change to this sentence to avoid the uncertainty imposed by hedging could be "is licensed for reuse" or "able to be reused by others."

Another example of hedging from our texts that conveys a truthful situation while introducing uncertainty that undermines one of the important values of scholarly publishing is describing OA materials as: "These works are often, but not exclusively, peer-reviewed" (http://openaccess.pitt.edu/open-access-defined). The hedge "but not exclusively" combines with another hedge, "often," to create layered uncertainty about whether or not to expect peer review with Open Access materials in particular. A rephrase of this information to avoid this frame could instead read, "Published peer-reviewed materials like articles and book chapters are available OA as well as materials like conference presentations, posters, data, and more."



Disclaimers

A disclaimer is a "verbal device employed to ward off and defeat in advance doubts and negative typifications which may result from intended conduct" (Hewitt & Stokes, 1975). Disclaimers often discussed in linguistics literature include the construction "I don't mean to sound X, but Y" (example: "I don't mean to sound arrogant, but...") (El-Alayli, Myers, Petersen, & Lystad, 2008) as well as more generic sounding disclaimers such as "not a guarantee of future performance" (Cheng & Ching, 2018). Disclaimers in general are meant to avoid unwanted perceptions of one's words or deeds; however, the use of disclaimers may backfire, as they prime readers or listeners in advance to expect the very thing that they are being warned about and to "even distort information [...] to try to confirm their expectancies" (El-Alayli et al., 2008, p. 131; see also Jones, 1986). Disclaimers also have an impact on bias, demonstrated by many studies on the use of disclaimers on digitally altered images of women models in fashion magazines (Ata, Thompson, & Small, 2013; Harrison & Hefner, 2014; Selimbegović & Chatard, 2015; Tiggemann, Slater, Bury, Hawkins, & Firth, 2013). These studies showed that when viewers saw images of models accompanied with a disclaimer saying that the images were digitally enhanced (that is, retouched in photo editing programs), the viewers' own negative thoughts of their body image and comparisons to the models increased. In one study by Selimbegović and Chatard (2015), even one single exposure to a disclaimer activated implicit bias held by viewers against non-idealized standards of beauty. Disclaimers, therefore, can be seen to activate biases by making them explicit and stated.

Disclaimers in language about publishing may seem innocuous and intended to warn readers that there are many potential situations; however, by priming the readers to expect uncertainty with a disclaimer, the disclaimer itself seeds uncertainty in the reader's mind. Our analysis found some disclaimers that were included out of necessity and fit with the more generic types of disclaimers like those described by Cheng and Ching (2018). These include sentences describing a truthful situations like "not all OA journals are indexed by DOAJ" (http://pitt.libguides.com/openaccess) and those that have legal implications like "Funding doesn't imply an endorsement of any journal, nor does it imply an assessment of the quality or research value of any article." (https://www.colorado.edu/libraries/research-assistance/open-access-fund)

Beyond these potentially legally-necessary disclaimers, there are other linguistic disclaimers that, instead of warning people about a potential consequence, work to prime readers to expect something that may not have previously been on their minds. This is problematic when using language that frames OA Publishing with disclaimers that describe it as a "revolution" that is undergoing "rapid change" or "gaining steam" (https://www.colorado.edu/

libraries/research-assistance/open-access). While perhaps originally meant to engage with scholars who wanted to be on the cutting edge of research practices, OA is no longer new; the Budapest Open Access Initiative (BOAI) declaration was made in 2002, 18 years before the case study in this paper took place, and much of the language used about OA may have originated in writing from the early years such as the BOAI. With OA established, phrases like "revolution" and "rapid change" highlight uncertainty by priming readers to expect uncertain footing when publishing Open Access. These disclaimers explicitly signal that the reader may encounter changing information or uncertain outcomes from their OA Publishing. This framing may also signal that this kind of publishing is a passing fad, and that they should seek something more established and well-known to ensure that their article is taken seriously and continues into the future. This is especially problematic when this uncertain language is contrasted with language about "traditional" publishing (or, as we suggest, Subscription Publishing) that suggests a known process, a timeless publishing experience, and more certain ground.

Another kind of disclaimer that we found in our website analysis was explicitly calling out OA Publishing as having a feature that most scholars would agree that any kind of scholarly publishing should be expected to have. For example, "Open Access does not mean an "open door" for publication" (http://openaccess.pitt.edu/open-access-defined). While possibly intended to differentiate OA Publishing from vanity publishing, this sentence instead may actually introduce the idea to an otherwise unfamiliar reader that OA might be perceived as an "open door" for publication and might be a type of vanity press. By introducing that idea, the disclaimer introduces doubt in the mind and makes a connection that may not have previously existed. Other examples of these kinds of priming disclaimers from our evaluation include²:

"<u>All major</u> OA initiatives for scientific and scholarly literature insist on the importance of peer review." (https://pitt.libguides.com/openaccess)

"Open Access <u>is compatible with copyright</u>, peer review, revenue (even profit), print, preservation, prestige, quality, career-advancement, indexing, and other features and supportive services associated with conventional scholarly literature." (http://openaccess.pitt.edu/open-access-defined)

Each of these sentences introduces a potential connection between OA and an undesirable thing (questionably quality or oversight, lack of peer review, incompatibility with ex-

² The disclaimer language is indicated with underlining by the authors of this study; the underlining is not present in the original text.

pected features of publication) specifically by disclaiming that it would have these things that would otherwise be expected and thus left unstated. This may activate the human tendency to accommodate presuppositions in a way that works against the message that is being conveyed. Imagine a reader completely unfamiliar with OA trying to decide between publishing options encountering a sentence like "All major OA initiatives for scientific and scholarly literature insist on the importance of peer review." A reader might wonder why it was necessary to say that explicitly; shouldn't peer review be a part of *all* scholarly publishing? Is there an issue with some "minor OA initiatives" and peer review? Perhaps the journal they are submitting to is *not* a major OA initiative?

In each of these examples from our case study, we agreed that the best intervention would be to remove the disclaimer altogether. Unless there is an important fact that needs to be conveyed (e.g. "not all OA journals are indexed by DOAJ") or a legal reason to use a disclaimer (e.g. "funding does not imply endorsement"), avoid using disclaimers unnecessarily. In combination with suggestions in other sections, the necessary information should be able to be conveyed without introducing uncertainty and doubt. Another method which may work for some disclaimers was described in Otto (2016, p. 26) as reframing a disclaimer in positive terms; one example from Otto's work is to change from the original "The OA Policy does not limit where you can publish" to "Publish in the journal of your choice."

Complexity

OA Publishing can be a complex process, demonstrated in recent years through the proliferation of business models, regulations, and funding streams. However, for the average author, extensive information about business models or unnecessary jargon can serve to convey more about the complexity of the situation than the desirability of publishing OA.

There are many ways that complexity can manifest in language, but for the purposes of this analysis, we refer to semantic complexity, which refers to "the richness and predictability of the words in the text" (Tolochko & Boomgaarden, 2019, p.1789). Bertrand, Chugh, and Mullainathan (2005) found that time constraints, cognitive load, ambiguity, and lack of attention being paid to a task were all factors that could trigger implicit attitudes. In previous work, we found that language used on websites to describe OA was extremely complex, scoring at the top end of reading level tests and sometimes ranking off existing readability charts (syntactic complexity). It is important to note that while complexity in language might have positive effects on learning for those extremely familiar with a topic, Tolochko & Boomgaarden (2019) point out that unfamiliarity with subject matter "leads to detrimental effects of complexity" on learning (1786-7). Those to whom we might want to advocate the most about OA, for example, might react the most negatively to complex texts.

Furthermore, attempting to read very complex texts with ambiguous language leads to high cognitive load, which has been shown to activate bias towards the status quo (Cantrell & Collister, 2019). When implicit bias already aligns Subscription Journals with the status quo—such as through use terms like "traditional"—increased complexity in reading journal submission instructions, descriptions of business models, and even adding more steps to the act of publishing OA can trigger those implicit biases and result in pushing authors towards Subscription Publishing options which may be perceived as easier to understand.

Complexity in texts often manifests in convoluted procedural instructions or explanations. In the texts examined for this article, this often materialized in descriptions of author options for copyright and licensing. Here are two illustrative examples:

OA terms and conditions apply that specifically permit non-profit and scholarly uses of the work and that permit the copyright owner to include a limited number of other conditions, such as attribution of the work to the original author. (http://openaccess.pitt.edu/open-access-defined)

Encourage faculty who publish articles to either retain ownership of their copyright and only transfer the right of first print and electronic publication or transfer copyright but retain the right of self-archiving of post-prints (https://pitt.libguides.com/openaccess/oauniversities)

Both of these examples reference the proliferation of options and conditions that govern OA licensing. Where Subscription Publishing only offers one default option, the many "options" and "conditions" of open access licenses represent additional education and work that must be taken on by the author, ultimately increasing their cognitive load and thus their bias towards publishing models that may appear to take less effort. Subscription Publishing presupposes that authors are familiar with and accept many conditions; OA Publishing often explains all of the options in intricate detail, leading to a perceived increase in complexity when in reality many of those details and options were glossed over or pre-selected for Subscription Publishing outlets.

Adjacent to the complexity of OA licensing procedures is a second mode of complexity that introduces new and unfamiliar terms and concepts into these already convoluted procedures. While abstract terminology and definitions may be useful for both librarians and publishers in seeking common understanding around different methods of publishing, these may further cloud the issue for some authors. For example, it may not be necessary for authors to be able to fully understand the uses and nuances of terms such as Green, Gold, Hybrid, Libre, Gratis, Strong, and Weak OA (https://pitt.libguides.com/openaccess/

typesofoa). As long as an author understands the basics of price, permissions, and venues for making one's work available it's likely not necessary that they become familiar with these terms. To avoid added complexity that leads to bias, we recommend using descriptive rather than symbolic terminology. For example, in the material for our case study, Green OA was better described as "Self-Archiving," and Gold OA was better described as "OA Journal Publishing." Additionally, instead of referencing types of OA based on their abstract licensing terms, it may be more helpful to describe openness as a spectrum in which on one side resources are only free to read and on the other side resources are free to read, share, reuse, repurpose, and remix.

Unfortunately, with the exception of small linguistic alterations, reducing the complexity of our language about OA is dependent on reducing the complexity of the tasks associated with OA more generally. How do we mitigate the complexity of the task, then? The most straightforward way is to shift the default to OA Publishing. When OA Publishing is the path of least resistance, it will benefit from bias towards the status quo. Hybrid journals report a low uptake of open access options, but that reality makes sense when authors experience the extra steps of choosing OA, selecting a license, figuring out how to pay for an Article Processing Charge if there is one, and then dealing with invoices. The task is complex, the language used to describe the task is complex, and authors are undoubtedly dealing with the time pressure of a "publish or perish" culture that presses them to publish as much as they can as quickly as possible. Removing extra steps and delays in the publishing workflow will mitigate this pressure to choose Subscription Publishing options in hybrid journals. Therefore, to remove the complexity (and the associated cognitive load) that comes with having to choose to publish Open Access, journals could choose to go all OA or all subscription, with only one possibility available for authors in that particular journal.

If the publishing workflow and system remain complex, then another (less effective) strategy may be to simplify the language and the actions required to publish OA. This, arguably, has been the goal of the Transformative Agreements movement, which have been described as aiming to make OA the status quo and make it easier for authors to choose to publish OA (ESAC, 2020). While this may make it easier for some authors in some journals, these agreements are piecemeal and rest on the foundational complexity of the current system and hiding the complexities from authors' eyes. These agreements are costlier for institutions, and shift the focus from people with access to *read* journal articles to those with access to *publish* journal articles. Shifting the complexity does not make a system less complex.

CONCLUSION

Developments in the world of OA Publishing can seem monumental—new business mod-

els, journals flipping from Subscription to OA, governmental policies enacted. Every day, librarians, scholars, and advocates are doing the work on the ground to promote OA, foster engagement with Open Access, and drive towards a more openly accessible future for publishing. What can an individual do to move the needle and bring OA from the future to the present?

In this work, we aim to give readers some linguistic interventions to try in their writing and speaking about OA in order to participate in a collective social move towards a reality where Open is the default. Berger and Luckmann (1966, pp. 85–86) describe the role that language plays in influencing knowledge and understanding as, "Language objectivates the shared experiences and makes them available to all within the linguistic community, thus becoming both the basis and the instrument of the collective stock of knowledge." We encourage OA advocates at all levels to use language as an instrument; instead of providing patchy endorsements to the status quo, consider some language interventions that can help us construct a more open and accessible publishing ecosystem that is the default, here and now.

We summarized research that shows that concepts can be centered and amplified through carefully chosen words and the order in which they appear, and then applied that research in the context of OA advocacy. Most notably in this section, we advised that advocates for Open Access pay special attention to the first and last items in lists and descriptions, and that advocates avoid the use of the word "traditional" and other synonymous terms when describing Subscription Publishing models. Building on this advice, we also summarize that much of the language around OA, including that on this study's authors' own websites and guidance, highlights uncertainty about OA, such as its efficacy and future prospects. Our past research has shown that uncertainty can activate implicit bias towards the status quo. If, through using language like "traditional," Subscription Publishing is constructed as the status quo, then any deviation—real or perceived—from that status quo is understood as risky and uncertain. We advise that OA advocates make some simple changes to language to avoid this perception. Avoid powerless and uncertain language, such as using hedges like "probably" or "usually," to describe OA Publishing policies. To a greater extent, avoid disclaimers like "Open access does not mean an open door for publication," which may introduce uncertainties that were not even at the forefront of a reader's or listener's mind. And finally, avoid complex language describing OA, such as complicated procedural instructions, multi-part tasks for potential authors to complete, or long-winded analyses of gold vs. green open access on your basic publication information pages. The more complex a text is, the more likely it is to increase the cognitive load of the recipient, and the more likely that recipient is to give up and go back to what you may have already deemed to be the status quo: Subscription Publishing.

It must be kept in mind that we do not intend this advice to cover all situations. Indeed, deep discussions of different publishing models and sequences are of great help and interest—but not often to the general community, and certainly not to an author who is trying to get their paper published. We encourage librarians to deploy this advice when addressing more general audiences, including when crafting basic websites and guides and when speaking to people for whom this may be new information. We in no way endorse concealing or obscuring information, but promote taking a more active role in gauging what level of information is needed in a given circumstance, and encourage deeper dives when that is either desired or needed. We also encourage open and transparent reflection amongst all audiences about how and why terms such as "traditional publishing" and "conventional scholarly literature" persist in our lexicon. We hope our own self-reflection on our websites will encourage readers to look at their own material and share their experiences and ideas for moving forward. Maybe you will find a new example or piece of advice to add to our list. We also know that this advice can extend to other contexts—most notable is the area of Open Education, where many advocates and practitioners have been using these methods, for example by pushing back against language about "inclusive access" (e.g. Reed, Hofer, Meinke, & Butterfield, 2018). We encourage you to write about it and to see where our approaches overlap, and what we may be able to learn from your contexts.

Finally, we acknowledge that the language suggestions in this piece are a practical matter, and the outcome we aim for is much more complicated. Through these small changes to our language and framing around OA, we hope to shift the perception of OA away from something new, radical, and uncertain. While OA, like the internet itself, may once have seemed new and full of the promise of the unknown, it is not so any longer. Where once Subscription Publishing was the default because of the cost and labor of dissemination, these tools could now be reserved for protecting sensitive, private information instead of over-extended to close off all science and scholarship. It is time to use our language, one of the most fundamental tools available to us, as an instrument; by making a few small adjustments to our social construction of science and scholarship, we can collectively step towards a better and more open future.

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