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Appropriating the Literature: Alcohol Industry Actors' Interventions in Scientific Journals

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ABSTRACT. Objective: One research group has recently published three articles on the ways in which alcohol companies and industry social aspects organizations (SAOs) communicate with the public. These articles show how the information produced by the alcohol industry works to produce doubt and uncertainty. Replies from SAOs were published in the respective scientific journals. This article examines these "moments of controversy," asking in what ways, on which grounds, do the SAOs contest the claims made about them? **Method:** Three moments of controversy were examined, prompted by articles on SAO information on cancer, on use of Twitter, and on pregnancy and fertility. The articles (n = 3), the responses from the SAOs (n = 8), and the replies by authors Petticrew and colleagues (n = 4), were analyzed, identifying the rhetorical repertoires at work. **Results:** The responses by SAOs use two main strategies: 1. Posing narrow questions of accuracy rather than engaging with the overall findings of the articles on the context and framing of information; and 2. Making normative claims about what it is to do good science, suggesting that the articles and their findings are not. The second strategy questions the very legitimacy of research examining SAOs. The credibility of being published in the scientific literature affords the responses themselves a rhetorical function, a resource for later use to signal doubt and uncertainty. **Conclusions:** The SAO interventions in the scientific literature generate controversies. Furthermore, the published traces they leave in the scientific literature enhance SAOs' ability to make credible claims that the original findings were controversial. (*J. Stud. Alcohol Drugs, 82,* 595–601, 2021)

WE HAVE KNOWN for some time that powerful industry actors such as tobacco companies have sponsored and shaped science in deliberate attempts to distort the scientific consensus on the damage caused by their products. There are well-documented examples of how industries have worked to create doubt as to the status of knowledge claims in order to prevent or delay regulatory actions (Oreskes & Conway, 2011). When the consensus is disputed, scientists are often not the audience at all. In the case of tobacco, the purpose was to create doubt in the public and uncertainty for policy makers.

There has been little previous formal study of the extent and nature of alcohol industry involvement in science (McCambridge & Mialon, 2018), partly because alcohol science is a smaller field than is tobacco research. There have, nonetheless, been deep concerns strongly articulated about industry activities in and around the research community. There has been a series of controversies stretching back approximately 30 years (McCambridge & Mialon, 2018). The ways in which alcohol industry actors use science to influence policy have been more extensively studied (McCambridge et al., 2018), as have the activities of industry organizations that refer to themselves as social aspects organizations (SAOs; Babor, 2009; Mialon & McCambridge, 2018).

The scientific consensus that has been well established for more than four decades is that the most effective ways to reduce alcohol harms are by increasing price and reducing availability (Babor et al., 2010). Such measures reduce drinking in the general population, which in turn reduces a wide range of harms to health and society closely related to population levels of drinking. This evidence runs contrary to the business interests of the alcohol industry. There is no body of evidence that constitutes a serious scientific critique of the population-level evidence base. As a result, alcohol companies generally try to avoid such evidence and limit attention to it in policymaking while rhetorically being strongly committed to evidence-based policymaking (McCambridge et al., 2018; Stafford et al., 2020). Industry actors focus attention on more targeted measures, or on other interventions that will have little or no effect on overall sales and, thus, population-level consumption (McCambridge et al., 2014a). Across the world, alcohol industry actors, rather than the science, have been more influential with policy makers (for reasons not elaborated on here). Alcohol harms globally are growing and will do so further as the biggest and most powerful companies target low- and middle-income countries for market development (Ferreira-Borges et al., 2017).

SAOs and other industry organizations make strong claims that their own practices, including the information they disseminate to the public, are evidence based. To do so, they employ scientific and medical professionals who occupy somewhat invidious positions but who, for the purposes of this analysis, we assume do their best to make the information available as accurate and useful to the general public as possible.

To do research on the alcohol industry itself is to engage in a controversial and contested field. Alcohol industry actors challenge research findings that do not reflect well on them, sometimes aggressively. For example, a U.K. government–

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funded evaluation study of a major public–private partnership in public health (the Responsibility Deal) led to the authors being attacked by the Portman Group with a spurious set of claims, including that they had a "track record of campaigning" (Knai et al., 2015). The senior author, Mark Petticrew, is a distinguished scientist, respected internationally for a range of innovative and distinct contributions to public health research, including on the health effects of social interventions, complex interventions, and systematic reviews.

Petticrew and colleagues went on to study the alcohol industry in various ways. This article is concerned with the nature of the controversies that have resulted and asks in what ways some of the actors studied in Petticrew and colleagues' research contest the claims made about them. By considering this question, we reveal the rhetorical repertoires by which industry actors dispute claims, and we contribute to the evidence base regarding alcohol industry involvement in science.

Method

The authors of this article are, respectively, a sociologist of science, and a public health scientist conducting research on the alcohol industry. This collaboration necessarily accepts that there is a consensus in alcohol and public health research, and that the scientific consensus matters. This situation is interesting to sociologists of science as the hegemonic policy position, supported by powerful corporate actors, runs counter to the scientific consensus. Although the sociology of science has primarily been oriented toward publicly funded research, there is attention also to issues raised by corporate actors (Latour, 2004; Penders et al., 2009). While one of the key lessons of the sociology of science has been that public debates about science need to include perspectives and expertise from outside disciplinary and institutional settings, there must also be consideration of how to address "fringe" science and when to exclude heterodox voices from these debates (Collins & Evans 2002; Collins et al., 2017).

Sociologists of science have long found scientific controversies to be fruitful sites at which to examine the social processes involved in scientific claim-making. Communication scholars have studied the rhetorical processes involved in "manufactured controversies" (Ceccarelli, 2011), and science and technology studies (STS) scholars have similarly understood these as "counterfeit scientific controversies" (Weinel, 2008, 2019). Both of these terms imply active deception or bad faith. This may be true in many cases, such as in the conspiracy to disrupt the accumulation of knowledge on the health harms of tobacco, but fringe actors may dispute consensus positions of mainstream science in the absence of any such intent.

This article examines three "moments of controversy," each initiated by an article by Petticrew and colleagues. These are an examination of the information on alcohol and cancer provided by alcohol industry organizations (Petticrew et al., 2018a), an analysis of the Twitter activity of social aspects organizations (Maani Hessari et al., 2019a), and a comparison of the scientific claims and advice regarding pregnancy and fertility offered by alcohol industry organizations and public health organizations (Lim et al., 2019). These studies were highly critical of alcohol industry organizations, including describing the ways in which they manufacture doubt, and prompted responses from SAOs that were published in the scientific journals concerned. Unlike rebuttal by press release, this dispute was firmly sited in a scientific space.

We took these articles ($n = 3$), the industry responses ($n = 8$), and the subsequent replies by the original authors ($n = 4$) as the material for this study. As researchers from different research traditions, we collaborated to conduct an analysis of claim making at work in this set of documents, using methods informed by the sociology of scientific controversies and mindful of the sensitivities involved. The analysis began with the first author, who was not immersed in the scientific literature in question, identifying the series of claims and counterclaims before the second author applied his reading of the debates, informed by his knowledge of their scientific contents and contexts—that is, his "contributory expertise" (Collins & Evans, 2002). We refined this analysis iteratively and continued until we were satisfied that we had developed a fair and rigorous description of the rhetorical repertoires at work. As described above, we are conscious of our own positioning in relation to the material analyzed, particularly the second author's work in this area. Readers are also encouraged to directly access the material from the three episodes analyzed to appraise the authors' interpretations.

Results

Controversy 1 (cancer)

Petticrew et al. (2018a) analyzed the information on alcohol and cancer provided by 26 alcohol industry organizations, including major companies, trade associations, and SAOs. This prompted published responses in *Drug and Alcohol Review* from 4 of the 26 organizations surveyed: Éduc'alcool (Canada), Drinkaware (U.K.), the Portman Group (U.K.), and the International Alliance for Responsible Drinking (IARD), all SAOs.

The Petticrew (2018a) article summarizes, and is careful not to overstate, the scientific consensus. For example, rather than identifying alcohol as a cause of cancer, they cite reviews to describe alcohol as "a well-established risk factor." The researchers find evidence that alcohol industry organizations misrepresent this consensus using three key strategies: denial/omission, distortion, and distraction. If these claims stand up, this is an example of the "manufacture of doubt."

The four SAOs adopt similar approaches in their responses. Although the response from Drinkaware states an intention to challenge the validity of the study findings, the others restrict their attention to narrow claims about their own content. None properly address Petticrew et al.'s (2018a) findings on the way this content in context works to mislead readers. The Drinkaware response differs in several ways. As a "commentary," it includes an abstract, with eight of the nine authors affiliated with universities or hospitals. By contrast, the other responses are brief letters authored by one or two individuals.

The Portman Group response (Timothy, 2018) argues that Petticrew et al. considered "a technical response [. . .] [that] was never intended to be a consumer-facing document" (p. 310), without elaborating any implications. It also states that the Petticrew article "makes a number of incorrect assertions" (p. 310) and focuses on addressing four statements. There is an implicit critique of sampling, although no effort is made here to address technical implications, for example, consistency with other data sources. Instead, the study findings are dismissed as assertions.

The Éduc'alcool response (Nadeau & Sacy, 2018) claims that Petticrew et al. made "six erroneous statements" (p. 307), and a central plank of their reply is that the document considered by Petticrew et al. was published in 2005, before the IARC added breast cancer and colorectal cancer to the list of alcohol-associated cancers in 2007. Nadeau & Sacy present a paragraph from the Éduc'alcool website, saying "This is precisely what we have been accused of hiding" (p. 307).

The IARD (Martinic, 2018) accuse Petticrew et al. of presenting a "distorted picture" and "welcome the opportunity to correct the record" (p. 308). It is ironic that the IARD claim a statement has been taken out of context, prompting a concession that none of the other responses make. They write: "the sentence could be misinterpreted by a lay person if viewed out of context. IARD will amend it to ensure that it cannot be misinterpreted" (p. 308). Aside from this, there is a refusal to engage with the arguments made by Petticrew et al.

The Drinkaware response (Larsen et al., 2018) suggests that Petticrew et al. are undermining public health by making "unjustified allegations of inaccuracy and by unwarranted attacks on its independence and integrity" (p. 304). This response largely ignores Petticrew et al.'s attention to context and audience. For example, Drinkaware's discussion of the risk factors other than alcohol for breast cancer is defended by saying that there is "overwhelming evidence of their correctness" (p. 305), and had they not included such a section, Drinkaware would be "guilty of precisely the crimes of omission of which Petticrew et al. accuse other bodies" (p. 305).

Drinkaware's strongly worded defense of their independence may be a response to Petticrew and colleagues' specific guidance to public health bodies, academics, and practitioners: "Despite their undoubtedly good intentions, we suggest that it is unethical for them to lend their expertise and legitimacy to industry campaigns which mislead the public about alcohol-related harms" (p. 301).

None of the responses address the breadth of industry organizations analyzed in the original article or the similarities between the information provided by social aspects organizations and that produced by major companies and trade associations.

A reply by Petticrew et al. (2018b) rebuts an accusation from Drinkaware that the analysis is unprofessional. Because the responses have not addressed issues to do with context and framing, there is a restatement in the reply by Petticrew et al. of the basic findings regarding the ways in which the information analyzed is misleading. Petticrew et al. welcome what they regard as minor corrections and state that "the findings and contribution of this research remain unchanged."

Controversy 2 (Twitter)

In 2019, the same research group (with overlapping author teams) published a comparative analysis of the 2016 Twitter activity of three alcohol industry–funded SAOs (Drinkaware [U.K.], Drinkaware.ie [Ireland], and DrinkWise [Australia]) and three charities not funded by the alcohol industry in those countries (Alcohol Concern [U.K.], Alcohol Action Ireland, and FARE [Australia]) in the *International Journal of Environmental Research and Public Health* (Maani Hessari et al., 2019a). This article refers to the earlier article on misleading information on cancer in setting up a series of a priori hypothesis tests in which the basic inferential structure is that any differences between the two types of organizations suggest that the SAOs lack independence. Coding procedures and content analysis methods for text and images on Twitter are described.

Maani Hessari et al. (2019a) found that "AI-funded bodies were significantly less likely to tweet about alcohol marketing, advertising and sponsorship; issues related to alcohol pricing, including MUP [minimum unit pricing]; physical health harms, including cancers, heart disease, dementia and diabetes; and fertility and pregnancy. They were less likely to tweet about anger/aggression as a consequence of drinking too much; and about the impact of alcohol on emergency services" (p. 5). By comparison, "Alcohol industry-funded bodies were significantly more likely to tweet about drinking too much, cutting down, children and underage drinking, teens/parents, staying safe while drinking, alcohol units and guidelines, calories/obesity, and alcohol-free or low alcohol drinks. They are also more likely to tweet about drink driving" (p. 6). Drinkaware is identified with Twitter activity that was most dissimilar to the non–industry-funded organizations.

Maani Hessari et al. (2019a) interpret these differences to be "consistent with previous evidence that the purpose of such bodies is the protection of the alcohol industry's reputation" (p. 8). The problem with the word *purpose* is that it invites questions of impropriety and deception. The authors may be on much firmer ground had they interpreted their evidence in terms of the function, content, or effects of alcohol industry corporate social responsibility (CSR) organizations. The authors acknowledge that their study is unable to access the intentions behind the content.

Of the three industry-funded organizations studied, only Drinkaware responded (Sim et al. 2019). Drinkaware.ie (Ireland) and DrinkWise (Australia), which were also included in the earlier "cancer" study, did not respond. The response comes from the Independent Medical Advisory Panel and does not list the other affiliations of the panel members. They allege that the study objectives are "intended to undermine the charity's independence and value," saying that it is "at best inaccurate, and in reality highly misleading" to call Drinkaware an "alcohol industry CSR organisation" and not an "alcohol educational charity." They take specific issue with the passage discussing "purpose," stating in relation to the organization "we are confident that there is no such purpose." They suggest that this is "not based on any factual evidence, but on the beliefs of the authors." They do not discuss the evidence from other studies cited or the scientific substance of the article itself. This response focuses on attacking Maani Hessari and colleagues as scientists and looks to be largely an exercise in reputational damage limitation. For SAOs, being seen to produce biased information or act in industry interests undermines their raison d'etre. The panel make much of their formal independence (acknowledging funding in a conflict-of-interest statement, unlike previously), without addressing the data that call the independence of their content into question.

This reply references the Drinkaware response to Petticrew et al. (2018a), stating that Maani Hessari et al. fail "to acknowledge published rejection of many of the unsupported assertions in that article" (Sim et al., 2019, p. 1). In other words, Larsen et al. (2018) is used as a resource by which to challenge future research on the activity of SAOs. The normative attack on the scientific practices of Petticrew and colleagues is extended to the journal; "we wondered if perhaps the journal had encountered difficulty in identifying external reviewers who might have been alert to possible bias?", before claiming that a reviewer should "have spotted that the only 'validation' of the authors' assertions, is to their own previous paper." Unlike their response to the "cancer" article, which addresses the specific claims made about Drinkaware, in this case neither the data, the methods, nor argument of the article are examined, merely dismissed as "unwarranted assertions that do not stand up to scientific scrutiny" (p. 1).

Maani Hessari et al. (2019b) address the question of purpose in their reply. They point to a body of literature that supports the claim that SAO organizations "are funded by the industry as part of efforts to avoid regulation and to protect sales [. . .] The panel may believe that Drinkaware's activities contribute to improving people's health. However, their belief does not reflect the evidence—an evidence base which peer-reviewed research, such as the current paper, as well as previous papers, contributes to" (p. 2). Maani Hessari et al. (2019b) themselves make normative claims of what it is to do good science, writing that the Drinkaware response betrays "an unusual understanding of the scientific process, apparently suggesting that a peer-reviewed publication based on systematic data collection and analysis is merely 'assertion', whereas their letter to the editor, is 'evidence'" (p. 2).

Controversy 3 (pregnancy and fertility)

Later in 2019, Lim et al. published a study in this journal comparing the scientific claims and advice offered on the effects of alcohol on pregnancy (and fertility) by the websites of alcohol industry organizations and SAOs with equivalent web pages produced by public health organizations. The design of this study combined aspects of the previous two, surveying a similar range of organizations to the first study with the comparative dimension of the second study. This study also located the alcohol industry data within the wider context of what is known about other industries. The Portman Group was not included, but there were responses from the three other respondents to the first article, which again restrict their comments to narrow claims about the content for which their organization is responsible.

Lim et al. (2019) found that alcohol industry–related websites emphasized uncertainty and ambiguity with regard to the science, identifying passages making it appear that the science was confused, that there was a serious debate between scientists, or that the issues were unsettled. For example, the DrinkWise page states that there is "confusion about how much one can safely drink during pregnancy" (p. 257). Passages such as these present the "controversy" as being open, and are a feature of the manufacture of doubt (Oreskes & Conway, 2011) and attempts to maintain a "counterfeit scientific controversy" (Weinel, 2019).

The IARD response from a senior scientific staffer (Tujague, 2020) argues that Lim et al.'s "assertions" were "misleading." As previously, the approach taken is to correct specific information without addressing findings on framing and rhetorical impact. Indeed, as to "purpose," Tujague specifically calls out Lim et al. for offering no evidence on intent, which Lim et al. had identified as a study limitation.

The response from Drinkaware, again from the medical advisory panel (Sim et al., 2020), grounds its rebuttal in the "reasonableness" of their efforts at getting the information correct. This is set in contrast to the authors, who are

described as being in "ideological opposition to any kind of engagement with 'industry'" (p. 388). Sim et al. invite "constructive engagement with other informed third parties" and "challenge any right-minded person to check Drinkaware's web content" (p. 388). Again, they ignore questions of framing, stating that, "Drinkaware links to some of the very sources of information quoted as reliable at the start of Lim et al.'s article" (p. 388).

Sim et al. (2020) also moralize their criticism of Lim et al. They say that "the public deserve to know about the possibility of a multifactorial etiology to breast cancer. To suggest that only women who drink alcohol get breast cancer is to cast an unwarranted and damaging slur upon those women unfortunate enough to develop breast cancer, whether or not they consume alcohol" (p. 388). Lim et al. (2019) do not make any such claims. This extends the rhetorical strategies used by Drinkaware against the credibility of the authors; from unprofessional, to unscientific, and now as moral transgressors. The Drinkaware content is also noteworthy in that it contains an incorrect and far from trivial claim about itself, that it was "established by the U.K. Government in 2006." The Drinkaware website was created by the Portman Group, which in 2006 signed a memorandum of understanding with U.K. Government agencies that it should be spun off as a separate, independent charity (McCambridge et al., 2014b).

Éduc'alcool's response from their Director General (Sacy, 2020) rests on narrow claims about content. Sacy suggests that the Éduc'alcool information is fundamentally the same as that provided by the Public Health Agency of Canada, without engaging with questions of context or framing. Sacy emphasizes the credentials and institutional affiliations of Éduc'alcool collaborators, reminds the reader of the earlier dispute, and implies that Petticrew and colleagues are unscientific: "As any true scientist understands, science is an ever-evolving web of knowledge that is consistently being updated, based on new results and discoveries. It is perplexing that the authors managed to criticize a statement that reflects the truth" (p. 384). They go on to suggest: "the biased approach used by Lim et al. (2019) makes it difficult for reputable and scientifically rigorous organizations to take into account their criticism" (p. 385).

The authors of the Lim et al. article wrote two responses to these criticisms (Petticrew et al., 2020a, 2020b). Responding to Éduc'alcool's claims about science and the reference to scientific credentials, they write, "It is a basic scientific principle that contentions must be based on evidence [. . .] rather than arguing from authority like this" (Petticrew et al., 2020b, p. 386), and reiterate what is known about alcohol industry organizations within the wider scientific literature. Responding to IARD and Drinkaware, they repeat points made in the previous disputes: "Both organizations point to accurate information on their websites as evidence that their information overall is accurate. This is neither logical nor relevant to our analysis. We have nowhere claimed that all the information on their website is inaccurate" (Petticrew et al., 2020a, p. 393). This sums up the scientific substance of the SAO interventions; making narrow claims about accuracy while ignoring substantial engagement with the issues of framing, context, and impacts on readers.

Discussion

The responses by SAOs raise narrow questions of content accuracy, rather than engaging with the overall findings of the articles, and make normative claims about good science. When Delbourne (2011) writes that "Scientists, their allies, and opponents engage in struggles not just over what is true, but who may validate, access, and engage contentious knowledge" (p. 67), it reminds us that these struggles are not only about "being correct." Researchers might reasonably expect that any future studies of SAOs will involve work fending off counter claims by the actors studied. This back-and-forth in the peer-reviewed literature produces "moments of controversy," three of which we have examined. We argue that these controversies are scientific in location only, being published in peer-reviewed journals.

The arguments made by Petticrew and colleagues are largely not contested; rather, specific details are addressed out of context. This is ironic, given that their argument is that the context in which a claim is made can cultivate doubt and uncertainty. Alleged deficiencies in information are used not to interrogate the validity of the claims made but as a platform for wholesale rejection and condemnation of the scientists. There are no attempts to understand the findings in relation to the limitations of the methods used or literature on which they build. While defending their reputations, the SAOs frame the articles as bad science, with Drinkaware also explicitly attacking the editorial and review processes that led to the papers being published.

Although these moments of controversy—part of a larger discussion regarding the purposes and functions of industry-funded organizations that relate to science (Babor & Robaina, 2013)—are found in a scientific forum, the object of dispute slips from the substantive findings to the legitimacy of studying the social aspects organizations themselves. The forum is important. These replies become scientific artefacts, legitimated by publication in the scientific literature, a resource to be used in subsequent disputes as we see in the later responses of both Drinkaware and Éduc'alcool. In the future, it will be possible to write, "previous papers by Petticrew and colleagues have been heavily criticized," attaching several references to add credibility to such claims, just as Sim et al. (2019) use Larsen et al. (2018). It is key to remember here that whereas the audience for a genuine scientific controversy includes other scientists in the field, the audiences for a counterfeit scientific controversy are people outside the field (e.g., the public, policy makers, journalists). These audiences cannot

be expected to possess the tacit knowledge, obtained by socialization in the research community, that would allow them to discriminate between sources and to identify genuine disputes between scientists.

The scientific content of these exchanges matters little when their existence can be mobilized to support the credibility of the claims of SAOs. Others have shown that corporate actors publish in the scientific literature to build their credibility as serious participants in the scientific conversation (Penders & Nelis, 2011; Sismondo, 2009). In this case, a body of citable "inscriptions" (after Latour & Woolgar, 1986) are created that have potential to circulate in perpetuity in an economy of claim and credibility, disrupting knowledge claims about the function of SAOs. This study shows that alcohol science is not well equipped to handle the appropriation of its essentially trust-based processes.

We argue that this kind of dispute is irreconcilable, as it is not possible for SAOs to recognize the validity of claims that pose such an existential threat. The SAO interventions are thus highly defensive, designed to protect the reputations of the organizations. The replies, printed in peer-reviewed journals, thus operate as public relations exercises given legitimacy by being located within the scientific literature, without making any contribution other than an occasional correction (which instead could be published as such).

It is appropriate for journals to consider why they publish this kind of content, which adds to the burden of doing work in this area, manufacturing doubt about (and distracting attention from) important scientific issues, in part by facilitating attacks on published research and researchers. These organizations can write what they like on their websites, but why should journals publish such harmful material? Gatekeeping is an essential part of doing good science. Editorial judgment will be a better arbiter than blanket prohibitions, although decision-making also must take account of the potentially conflicting interests of journals in attracting readers to content. Discussions among editors of addiction journals may help build understanding of the consequences of publication decisions such as have been studied here and inform the emergence of norms within the scientific community. Further research is needed on the ways in which alcohol industry actors make scientific interventions by funding research, disseminating findings to the general public, and publishing in journals and elsewhere, not least because the extent of involvement in the peer-reviewed literature appears much more extensive than has previously been appreciated (Golder et al., 2020).

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