NARRATIVE VOICE IN POPULAR SCIENCE IN THE BRITISH PRESS: A CORPUS ANALYSIS ON THE CONSTRUAL OF ATTRIBUTED MEANINGS

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The media reporting of science has been under scrutiny for some decades now, and the importance of the mediating role of journalists in communicating complex issues to large, non-specialist audiences has become increasingly evident. Articles which appear in newspapers have a determining role in mass communication in society in general, and media popularizations remain one of the main ways in which science is communicated "outside the realm of science itself" (Calsamiglia and Van Dijk 2004: 371) to audiences who have little or no knowledge of the specialised fields in which this knowledge was generated. Over the last thirty years, discourse analysts have examined the reporting of issues as varied as climate change, food poisoning or vaccines, illustrating how institutional pressures within the media may lead to an imbalance or even systematic bias in reporting, which is often materialised through the selective use of specific information sources and the choice of discursive role allotted to different expert and non-expert voices within the text.

Along similar lines to these discourse analytical studies, but from a more technical linguistic perspective, the previous literature yields various approaches to analysing media science reports. Linguists have examined the way in which media writers indicate the status of information sources (e.g. de Oliveira and Pagano 2006), the roles of different types of reported speech used to convey contents (e.g. Casado Velarde and de Lucas 2013), the use of recontextualisation and reformulation

(Gotti 2014), and the strategies used to highlight novelty and engage readers (Luzón 2013). The study by Miriam Pérez Veneros, recently presented as a PhD thesis at the University of Salamanca, is designed to provide deeper insights into the way the presentation of scientific information from different sources can be understood, through a detailed systematic linguistic analysis of the strategies of attribution and averral used by journalists to integrate the information that they have gathered into the text.

As the author herself explains, journalists writing about science operate within a specific set of constraints: on the one hand, they want to disseminate scientific knowledge, bringing in authoritative 'expert' voices in order to establish the legitimacy of the claims being made; on the other, like all journalists, they want to attract readers' attention and maintain their interest. Journalists can achieve these goals by a careful orchestration of their own and others' voices. Particularly important in this process is the notion of projection, that is, the way in which writers make reference to/bring forth a previously worded representation of the world. Reported speech is obviously one of the key affordances through which projection is achieved, and one which offers writers multiple means of modulating their stance towards the reported content and its sources, while averral, in which the writer is presented as the source of the language event, is also extremely important. Here, the author starts from Thompson's (1996) parameters for the description of language reports, covering voice, message, signal and attitude, and Calsamiglia and López Ferrero's (2003) classification of citation styles into direct, indirect, integrated and inserted citations. However, she expands these perspectives by offering a useful overview of "clines of speech presentation" (116) and various classifications of reporting verbs (Thompson and Yiyun 1991; Caldas-Coulthard 1994), as well as Thompson's (1994) classification of the functions of the reporting signal and Halliday and Matthiesen's (2004) breakdown of verbs serving as 'process' in clauses reporting ideas. To complete this (already complex) panorama, she also builds a broad and detailed picture of the participants in such processes and their discursive roles, integrating these into her overall taxonomy covering attribution, averral, verbal and mental processes, and participants. She then uses this as the basis for her annotation scheme to tag the units of voice in her corpus of 180 texts from *The Guardian*'s "Science" section. She identifies all the instances of attribution, averral and (simple or complex) units of voice in this corpus. She finds that attribution is more frequent than averral (61% vs. 39%), a phenomenon which can be explained by the fact that journalists rely on others' voices to lend credibility and reliability to the texts they write. In hypotactic projections, indirect speech is more common than direct speech, and in around one tenth of cases this is embedded in various ways. Particularly interesting are the cases of indirect speech in which the projecting clause occurs at the end, which seem to be

particularly common in first paragraphs of popularisation articles, and the cases of partial rewordings and fragments of quotes embedded in journalists' narratives. With paratactic projections, direct speech is particularly important in legitimising the text: "the journalist includes a quotation not just to show that he/she is relying on faithful sources of attribution, but also because he/she wants to justify their own previous interpretation of the information" (205). Her study also reveals the presence of a number of "combined structures" (207) in which the journalist either rephrases or evaluates the words that (we assume) the scientists used. She concludes that "[j]ournalists interact with and contextualise knowledge for readers by building up a discourse in which, even if they include voices coming from external sources of information to give credibility and reliability, their voice can also be heard" (253).

All in all, this piece of research provides an exhaustive overview of some of the linguistic resources used to communicate science in the press. The previous bibliography from both Systemic Functional Linguistics and several complementary models (e.g. Hunston and Thompson 2000; Bednarek 2006; Hyland 2009) is consistently and conscientiously used. The taxonomy has a thorough grounding and is carefully explained, with illustrative examples for each category. The results bring out a number of ways in which specific resources co-occur, which opens up a new avenue for research. However, it is a little disappointing to observe that at the exact point where for many of us the really interesting part begins, the analysis stops: for example, when reporting her most interesting results, the author writes: "Even if the journalist keeps distance from the information included in the quotation, there are some cases in which he/she uses a non-neutral verbal process to reproduce the experts' words" (247). However, perhaps because this is strictly a linguistic, rather than a discourse, study, no further information is provided about the context where this happens, or even the actual verb used. Similarly, she concludes, probably correctly, that the journalist "aims at mediating between the scientists and the readers in an institutional-and-personally-detached way" (265), but again, it is clear that this conjecture would need to be investigated further, and the notion of 'institutional' and 'personal' voice would require theoretical elaboration. It is to be hoped that future studies will take up this challenge and apply the extremely useful taxonomies and lists (presented in full in the appendices to this publication) to different corpora of media texts: not only to science popularisations, where their relevance is indisputed, but perhaps also to texts on political and social issues where the journalist's 'objective' reporting may often convey a considerable degree of subliminal bias. In particular, future research should use the excellent tools presented here to consider how and why different (expert and non-expert) voices are presented in the context of particular issues, and how exactly these voices are subtly legitimised or delegitimised in the text.

Researchers could also build on the present study to look in more detail at the commonplace notion that science popularisation is a hybrid genre and/or an instance of overlapping registers (Matthiesen and Teruya 2016), and explore exactly how and where the evidence for this hybridisation or register overlap is to be found, or alternatively, to track how generic transformations and recontextualisations are performed in terms of language and discourse.

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