EXPLORING IDEOLOGICAL MESSAGES IN NEWSPAPER EDITORIALS AND NEWS REPORTS ON THE FIRST HUMAN GENE-EDITING CASE[1]

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Abstract – This chapter explores evaluative standpoints, opinions and potentially ideologically charged messages in newspaper editorials and news reports covering the birth of the first human gene-edited twins. The corpus under analysis consists of British tabloid and broadsheet news reports and editorials covering the case. The analysis is carried out applying the combined paradigm of Critical Discourse Analysis, Argumentation Theory and Appraisal Theory, with a predominantly linguistic focus. The evidence adduced indicates that most news reports and editorials pass negative evaluative messages starting from their headlines and ending with the local textual structures. The readership is oriented towards a given interpretation of the event using negative judgment and negative affect derived from the headline. The texts of news reports and editorials demonstrate overlapping sequences of evaluation and argumentation. News reports tend to provide the reader with a more explicit yet depersonalised evaluation of the event, as the responsibility for the opinion expressed is shifted to third parties through the mechanism of attribution. Editorials, on the other hand, tend to argue the preferred outlook by syntactic structures and, specifically, concessive constructions and concur-counter patterns.

Keywords: news reports; editorials; appraisal; CDA; argumentation; gene-editing.

1. Background

Media discourse has always been a strategic place for the study of power relations and inherent ideologies (Fairclough 1995), even more so, when the topics covered by the media are of a sensitive and ethically charged nature. Journalists writing about events characterised by scientific uncertainties and disagreements are vulnerable to sources of information with clashing

viewpoints, which can undermine the notions of balance and fairness in favour of sensationalism (Allan 2002, p. 72).

In her influential work on scientific journalism, Nelkin (1995) observed that science journalists working for the daily press are in pursuit of dramatic stories and breaking news. Little has changed since then, and coverage of science-related events has a great potential for "elbowing its way onto the front page" (Russell 2010, p. 19). The shift from traditional to online news (Hermida 2010; Russell 2010; Trench 2007) has brought about strict deadlines, which have made journalists rely heavily on pre-packed accounts of events, such as press conferences or news releases (Murcott, Williams 2012), which are often stripped for quotes. At times, science journalists are not able to do "in-depth reporting" (Russell 2010, p. 16) in the new digital realm. In addition, science-related news reports may be written by part-time journalists or reporters with other specialisations (Crow, Stevens 2012; Meyers, Davidson 2016). Besides such extensive at-source knowledge mediation, editors may change news stories "to fit their judgments about how to maximize reader interest" (Nelkin 1995, p. 108). In other words, news reports, despite their declared informative communicative purpose and knowledge dissemination potential, are subject to the inclusion of ideologically charged messages on account of the inherent selectivity of newsworthy elements (Allan 2002, 2009; Garzone 2014; Nelkin 1995).

On the other hand, another newspaper genre – the editorial – has the openly argumentative communicative purpose of "influencing the opinions of the readers" (van Dijk 2017, p. 208) as it provides commentary and evaluation of the event, "setting forth opinions and ideas" (Garzone, Degano 2008, p. 23), rather than reporting facts in an impersonalised and objective "reporter voice", typical of news reports (White 2012). Being explicitly subjective, editorials feature a complex overlapping between argumentation, discourse and ideology (Breeze 2016, p. 2). As a media genre, an editorial differs from a news report (McCabe, Heilman 2007; van Dijk 1985) in its lack of a conventional structure (schema or superstructure, van Dijk 1989, 1992), even though van Dijk does identify a number of moves, dividing it into a) definition of the situation, b) evaluation and c) conclusions (van Dijk 1992, p. 244). Despite the amount of attention paid to this genre, most studies are case-based, with an exception of Le (2010), who provides a theory of editorials (van Dijk 2017).

This study provides an overview of how news reports and editorials write about the birth of the first gene-edited twins, which forms the factual background to this study. From the point of view of media coverage, such an event as the birth of the first humans whose genes were edited is of particular interest because of its ethical and scientific complexity. In November 2018, the global community was shaken by the announcement of the birth of twin

baby girls, whose genes were edited to make them HIV resistant at the embryo stage. The person responsible for the editing and for bringing the project to term was a Chinese scientist, He Jiankui. The news was leaked on the first day of the Second International Human Genome Editing Summit in Hong Kong, where the global scientific community gathered to showcase the recent developments of the technology (discovered only in 2012), which allows to cut out undesired elements of the DNA and replace them with healthy ones. Soon afterwards, He Jiankui talked at the Summit, confirming the news, and the attending scientists released multiple interviews. This controversial case elicited a strong public reaction, which generated popularised explanations of the procedure in news reports, relaying information and opinions of the summit attendees, and was chosen as a topic for multiple newspaper editorials on account of its ethically challenging nature.

2. Aims and methodological framework

This chapter aims to explore the construction of ideological messages in news reports and editorials on the first human gene-editing case. How are such messages conveyed through the headlines and text of news reports and editorials? Are there any differences between news reports and editorials, and between tabloids and broadsheets? In particular, the study focuses on opinions and evaluative standpoints in terms of their linguistic and discursive realisation.

The study adopts a multi-perspective analytical framework combining methods of Critical Discourse Analysis (Fairclough 1995, 2003; van Dijk 2008, 2017), and Argumentation Theory (van Eemeren, Garssen 2012; van Eemeren, Grootendorst 2003), drawing on Pragma-dialectics and Argumentation in Discourse (Amossy 2005, 2009). The possibility to combine paradigms of discourse analysis with argumentation theory is illustrated in multiple studies (Amossy 2009; Degano 2012; Fairclough, Fairclough 2011; Reisigl, Wodak 2001; Wodak *et al.* 1999; Wodak 2009). For instance, Degano (2012) shows how both perspectives are reconciled in a study with a linguistic focus, and Amossy (2005) advances the combination of the two theoretical approaches under the label Argumentation in Discourse, where "verbal means are used not only to make the addressee adhere to a specific thesis, but also to modify or reinforce his representations and beliefs, or simply to orient his reflection on a given problem" (Amossy 2005, p. 90). Argumentation in Discourse shares with CDA the assumption that a different choice of linguistic codification leads to interpretation suggestions, bias, slant and, possibly, ideological manipulations (van Dijk

1998; Fairclough 2014) "insofar as they try to orient the audience's ways of seeing and judging the world" (Amossy 2005, p. 90).

The idea of judging the world through the discursive reconstruction of the event as a text is central to this study, and here I draw on Appraisal Theory (Martin, White 2005), grounded in Systemic Functional Linguistics (Halliday 1994). According to Appraisal Theory, *judgment* is a subtype of *attitude*, "a framework for mapping feelings as they are construed" (Martin, White 2005, p. 42), which interprets attitudes to people and human behaviour (Martin, White 2005, p. 52). This category is consonant with the notion of *ethos* in the Aristotelian tripartition of means of persuasion, which appeals to ethics (Amossy 2001). According to White (2012, p. 57), in western English-language news journalism, attitudes are frequently passed on through quotes and attributions, making the rest of the text "strategically impersonalised", especially in broadsheets. However, it is acknowledged that evaluative meanings are not confined to the words of quoted sources only. In journalistic discourse, seemingly factual phrases may acquire an axiological value, often by association or implication (White 2012, pp. 57-58). The evaluative potential of such texts along with their (over-)reliance on attributions is a well-established feature of modern science journalism. Knowledge mediation of science-related stories in journalistic discourse has elicited some criticism among the scientific community; it was even suggested that scientists should replace science journalists to avoid such transformations of scientific content (Barel-Ben David *et al*. 2020).

As this work adopts a multi-perspective approach, I operate with methodological tools that are common to Appraisal Theory, Discourse Analysis and Argumentation Theory. Categories that perform the interpersonal function (Halliday 1994) in argumentation include forms of evaluation (Hunston, Thompson 2001), and these are also used within the pragma-dialectical approach (Degano 2012, pp. 10-11). As for the intersection with CDA, this methodology "has an approach that can be considered ethical" (Degano 2012, p. 19), on account of its interest in the linguistic codification of relations of power in society. Consequently, it can be attuned to Appraisal Theory, which is "helpful in disentangling the dialogic mechanisms by which writers stake out their own position and nudge readers towards compliance" (Breeze 2016, p. 2). This study applies both approaches without isolating the argument and the appraisal, respectively, from the language or the meaning, hence they are compatible with discourse-analytical interpretations. Whenever different categorisations are assigned, two coders are consulted and the intercoder agreement is specified (see Section 4.1).

Although the main methodological framework of this study is qualitative, I use corpus linguistics tools for lexical search and text analysis

(Sections 4.2 and 4.3), alongside and after the close reading stage. I draw on studies which apply corpus-based methodology to the study of argumentation in the discourse analytical perspective (Degano 2007, 2012; Mazzi 2007; O'Halloran 2009) and to the synergy of the above approaches with Appraisal Theory (Breeze 2016; Le 2010).

3. Materials and study design

The study analyses a small corpus of newspaper texts created using the Lexis Nexis database and electronic versions of single newspapers. The main criterion for the collection of texts was the topic: only texts overviewing the case of first gene-edited babies were selected, using "gen* editing" and "He Jiankui" as search parameters. Previous research has indicated that a vast number of texts deal with the topic of gene-editing in general (Nikitina 2020). Such an overwhelming number of texts would make a prevalently qualitative analysis challenging. As the study focused also on the attribution of responsibility, the selection was restricted to texts explicitly mentioning the name of the Chinese scientist as a "specified" social actor (Calsamiglia, López Ferrero 2003). The time was set between November 26, 2018 – the day when the news about the twins' birth was leaked to the press – and January 21, 2019. However, 90% of texts in the corpus were written between November 26 and 29, 2018, as "the newer the news, the newsier it is" (Rensberger 1997, p. 13). The corpus was subdivided into three parts, namely, Broadsheets, Tabloids and Editorials, see Table 1.

The Broadsheets corpus includes twenty-five news reports from a selection of British newspapers: *The Times*, *The Daily Telegraph* and *The Guardian*. The Tabloids corpus consists of twenty-one articles from several British tabloids: *The Sun*, *The Daily Mail*, *The Evening Standard* and *The Mirror*. These newspapers were chosen on account of their popularity and easy retrievability online for the public at large, based on the assumption that, today, digital science journalism is one of the primary sources of information on science and technology (Barel-Ben David *et al.* 2020, pp. 1-2). The Editorials corpus includes seventeen editorials. As there were not enough editorials from the UK exclusively, several other editorials from major world publications were added to make the corpora more comparable in terms of their dimensions. Consequently, the Editorials corpus includes texts published in different national editions of *The Times*, *The Observer*, *South China Morning Post*, *Washington Post* and *The Herald*. Since the extra-UK part of the corpus is numerically insignificant and all texts are instances of "English-language journalism" (Makki, White 2018), the Editorials corpus is treated as contextually homogeneous, despite potential geo-cultural variation.

The sub-corpora were normalised using MS Excel sheets to 20,000 tokens to render all frequencies comparable.

	Broadsheets	**Tabloids**	**Editorials**
Texts	25	21	17
Tokens	18,785	18,924	11,042
Types	2,823	2,171	2,446
Ave. Text length (w)	751	901	650

Table 1
Corpus composition.

The analysis is articulated in two parts: first, it deals with headlines that are understood here as semantic macro-structures (topics) of news reports and editorials (van Dijk 1988). Second, local structures are analysed for the presence of opinions and evaluative standpoints through the use of reported speech and lexical cohesion in terms of strategies of argumentation and legitimation.

4. Findings

4.1. Headlines

Newspaper articles' headlines, as most titles and headings, fall under the category of paratexts, which represent an "'undefined zone' between the inside and the outside, […] an edge, or, as Philippe Lejeune put it, 'a fringe of the printed text which in reality controls one's whole reading of the text'" (Genette 2001 [1997], p. 2). The declared purpose of headlines is to define the main topic and to summarise the contents of news articles, yet as they draw attention to the content, they may convey an ideologically biased message (van Dijk 2017, p. 209) through a range of specific linguistic means. Consequently, they have the potential to orient the readership towards one or another interpretation of the event, because "[t]he selection of a term is never innocent, and it is rarely devoid of argumentative purpose" (Amossy 2009, p. 315). Thus, headlines represent the first opportunity for journalists to communicate specific ideologies to readers (Bell 1991; van Dijk 1989).

Table 2 below displays the percentage of headlines that conveyed a positive, a negative or a neutral attitude towards the event. The table indicates individual assessment by two coders, the mean value and the intercoder

reliability.[2] The latter equals 90% on average, which measures up to a high reliability of rating (Cho 2008, p. 345).

Attitude	Rating by	Broadsheets	Tabloids	Editorials
Positive	Coder A	4%	0	6%
	Coder B	8%	0	12%
	Mean value	**6%**	**0**	**9%**
Neutral	Coder A	24%	14%	18%
	Coder B	28%	24%	23%
	Mean value	**26%**	**19%**	**21%**
Negative	Coder A	72%	86%	76%
	Coder B	64%	76%	65%
	Mean value	**68%**	**81%**	**71%**
Intercoder reliability		92%	90%	88%

Table 2
Attitude in headlines.

The criteria for the assessment of headlines are grounded in Appraisal Theory (Martin, White 2005) and, more specifically, rely on the category of judgment (Martin, White 2005, p. 42), that is to say the negative or positive evaluation of human behaviour and character by reference to social norms of acceptability. The headlines were classified into three macro-categories: positive, see example (1), negative, see example (2), and neutral, see example (3). However, annotations of discourse in linguistics differ from annotations in other fields, such as medicine, for instance, in that they involve a certain degree of interpretative openness (Hoek, Scholman 2017, p. 2). In addition, since the headlines were annotated as autonomous units, their brevity and pragmatic richness (Isani 2011) might increase cases of coder indeterminacy. Consequently, a third category – labelled "neutral" – was introduced to cater for titles where different interpretations are possible. In such headlines attitudinal variation may stem from elsewhere in the text and may hinge on "the reader responding with a particular inference" (White 2012, p. 59) as in (3) – is it positive that the scientist edited eleven embryos before the final experiment or not? In addition, "neutral" coding was reserved for cases when the headline evoked both positive and negative sides of the event, as "the peril and promise" in (4).

(1)   *Don't dismiss* gene editing on account of one rogue case; He Jiankui's work on
         Crispr babies has been condemned. But the *beneficial possibilities in his work*
         are endless [The Observer] [3]

[2] The intercoder reliability, expressed in per cent, is calculated as the number of agreement scores
     divided by the total number of scores in MS Excel.
[3] Emphasis, in italics, has been added by the author, in all examples.

*L*ingue e
*L*inguaggi

(2)   China's *'unethical'* experiment to create gene-edited babies could *spell disaster for humanity* [The Telegraph]

(3)   Scientist edited genes in 11 embryos before twins were born [The Times]

(4)   The *peril and promise* of gene editing [Editorials – Washington Post]

An insignificantly small number of headlines were positive (on average, 6% in broadsheets, 0 in tabloids and 9% in editorials).[4] A multi-pronged interpretation was possible in 19%-26% of headlines. The key trend, undoubtedly, revolved around negativity, with the highest concentration of negative headlines in tabloids (81%) and the lowest in broadsheets (68%), marking a difference between these two newspaper types.

As the prevalently adverse attitude was pinpointed by both coders, a second round of rating was carried out to identify its type. Appraisal Theory divides the category of *judgment* into *social sanction* and *social esteem*. The former judges 'veracity' (how truthful someone is) and 'propriety' (how ethical someone is), and the latter evaluates "'normality' (how unusual someone is), 'capacity' (how capable they are) and 'tenacity' (how resolute they are)" (Martin, White 2005, p. 52). In this study, the 'doom and gloom' outlook was solicited in a variety of ways (see Table 3), playing on the lack of propriety (illegality and immorality) and the corresponding negative social sanction, as well as on the lack of normality (demonisation) leading to negative social esteem. In addition, some headlines banked on a blend of negative social sanction and social esteem (mixed), while others invoked the lack of tenacity and instability, combining negative social esteem and a discursively created negative affect (unpredictability). Table 3 presents the assessment of negative headlines by both coders and the mean value of their assessment. The intercoder agreement is 93% on average, which is highly reliable (Cho 2008, p. 345).

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[4] The mean value of the rating by both coders is used here and elsewhere in the text.

Attitude	Type of negative judgment	Rating by	Broadsheets	Tabloids	Editorials
Social sanction	Illegality	Coder A	50%	16%	0
		Coder B	50%	25%	0
		Mean value	**50%**	**21%**	**0**
	Immorality	Coder A	22%	17%	62%
		Coder B	19%	19%	46%
		Mean value	**21%**	**18%**	**54%**
Social esteem	Demonisation	Coder A	11%	39%	0
		Coder B	12%	44%	0
		Mean value	**12%**	**42%**	**0**
Social sanction / esteem	Mixed	Coder A	11%	28%	0
		Coder B	13%	12%	9%
		Mean value	**12%**	**20%**	**5%**
Social esteem / affect	Unpredictability	Coder A	6%	0	38%
		Coder B	6%	0	45%
		Mean value	**6%**	**0**	**42%**
Intercoder reliability			94%	94%	91%

Table 3
Negative attitude in headlines.

The illegality trope spiked in broadsheets, with half of headlines tackling the scientist's legal transgressions, as in examples (5) and (6). Depicting the scientist as a non-law abiding person, who fakes forms (6) and could face the death penalty (5), serves as a premise for arriving at a negative evaluative standpoint as to his personality, and his research, by extension. Under the pragma-dialectical view of argumentation, this type of argument would fall under the symptomatic type, because violating the law is symptomatic of people who lack propriety.

(5)   Chinese scientist who genetically edited babies *under armed guard* amid fears
        he could *face death penalty* [The Telegraph]

(6)   Gene editing baby doctor *faked forms* [The Times]

Similarly, headlines building on the lack of ethical standards (7) and low moral ground (8) serve as a premise for a negative evaluative standpoint concerning the quality of research and the personality of the researcher. Again, these headlines nudge the readers towards viewing He Jiankui as an untrustworthy and ethically troublesome figure.

(7)   *Ethics and safety* are key with *probe into claims of gene editing* [Editorial –
        South China Morning Post]

(8)   An *experiment* to create the world's first gene-edited babies *undermines public
        trust* [Editorial – The Times]

Both illegality and immorality tropes coalesce into the central premise in broadsheets and editorials, where negative sanction totals up collectively 71% in broadsheets and 54% in editorials. A fair divergence emerges: editorials appealed predominantly to the ethics of their audience through the trope of immorality (54% of cases), and broadsheets targeted the readers' logic through the trope of illegality (50% of cases). In other words, editorials and broadsheets relied almost exclusively on sociocultural values, which goes in line with previous findings (Le 2010, p. 23). By contrast, both sociocultural categories in tabloids amounted collectively to 39% of cases only (21% for illegality and 18% for immorality). Such a divergence may be tentatively read as a strategy to cater for the different readership of these newspapers.

Explicitly derogatory lexis (9) spearheaded the trends in tabloids (42%). Along such clear-cut demonisation and even dehumanisation (10), 20% of tabloids' headlines made recourse also to the trope of illegality or immorality (11). On the contrary, no demonizing headlines and only 5% of mixed headlines appeared in editorials, drawing a clear distinction between news reports and editorials.

(9)   *MONSTROUS*' Chinese scientist who created '*mutant* gene-edited babies' FIRED for his rogue experiments - but ANOTHER woman is still pregnant [The Sun]

(10)   China's modern-day *Frankenstein babies* – and a new genetic experiment that could *wipe out mankind* [Daily Mail]

(11)   *Disgraced* Chinese scientist who performed '*monstrous'* gene-editing on human embryos is living *under armed guard amid fears he could face the DEATH PENALTY* for his *heinous experiment*, claim scientists [Daily Mail]

In addition to ethically charged headlines, editorials deployed the strategy of balancing between the negative social esteem and the discursively created negative affect in 42% of cases. By pointing out the insecurity about the consequences of gene-editing application, editorials appealed to pathos, to a certain extent (12). This strategy distinguishes editorials from news reports, in whose headlines it was either absent (tabloids) or insignificant (6% in broadsheets). Under the pragma-dialectical perspective, this type of headlines could be paralleled to causal arguments: the scientists gaze into the future because this technology/its application is fraught with unknown factors, impinging upon the sense of security of humankind. In other words, instead of targeting the personality of the scientist, editorialists set a stage for public discussion, presumably to stimulate the readers to think about possible foreboding outcomes.

(12) Editing the future of the human race; Scientists look at the ways in which
genetic engineering technology could play out. [Editorial – South China
Morning Post]

Negative appraisal emerged as the main tendency, yet the sub-corpora
diverged in the use of premises. A net distinction was traced between the
quality and popular press, and several trends were found that were specific to
editorials only.

4.2. Opinions and evaluative standpoints in news reports

A close reading confirmed the widely acknowledged peculiarity of news
reports: to shift the responsibility for derogatory lexis and strong opinions
using direct and indirect speech via the mechanism of "attribution" (Sinclair
1986) or "projection" (Halliday 1994, p. 250). Example (11) in the previous
section is a case in point: the phrase "claim scientists" at the end of a strongly
phrased title illustrates how such a denial of responsibility, along with a
negative assessment, often started from the headline. The trend was further
substantiated in the body part of news reports. The quantitative part of the
analysis indicated a particularly prominent role (see Table 4) of *verbal
processes* (Halliday 1994), also known as *communication* or *speech act verbs*
(Biber 2006), in news reports. These verbs, see examples (13) and (14),
belong to a "special subcategory of activity verbs that involve communication
activities" (Biber 2006, p. 247) and include such verbs as *say*, *tell*, *call*,
describe, *claim*, *explain*, *mention*, etc. News reports abound in such verbs to
convey an opinion belonging to a third party distinct from the journalist, in a
clear attempt to arrive at an "absolution from responsibility", which has
become so commonplace in modern journalism (Calsamiglia, López Ferrero
2003, p. 149). Editorials, conversely, used comparatively few communication
verbs to convey evaluative standpoints and opinions, relying on other
discursive strategies (see 4.3).

	Broadsheets	**Tabloids**	**Editorials**
Communication verbs	401	562	134

Table 4
Normalised frequencies of communication verbs in the top 400 words.

(13) Prof Julian Savulescu, from the University of Oxford, *said*: "*If true*, this
experiment is monstrous. These babies are genetic guinea pigs." He *added*:
"This experiment exposes healthy normal children to risks of gene editing for
no real necessary benefit." And Dr Sarah Chan, from the University of
Edinburgh, *called* it a cheap publicity stunt and *branded* it "despicable".
[Tabloids – The Sun]

(14) "It is impossible to overstate how irresponsible, unethical and dangerous this is at the moment," *said* Kathy Niakan, a scientist at the Francis Crick Institute, in London, who was present at the summit. "There was a worrying lack of oversight or scrutiny of his clinical plans before he started human experiments and a complete lack of transparency throughout the process". [Broadsheets – The Guardian]

Although the reliance on other sources might seem proof of the reporter's impartiality, it is evident that, by preferring some quotes over others, journalists are responsible for "giving a slant to what is said" (Calsamiglia, López Ferrero 2003, p.149). A clear pattern emerged as to the use of communication verbs along with attributed evaluative standpoints, exemplified in (15). First, the author of the quote was introduced by the title "Dr" or "Prof" followed by the expert's name and his or her affiliation (underlined) making this source "specified" (Calsamiglia, López Ferrero 2003). Next, a communication verb was placed (in bold), followed by the appraising point, in inverted commas.

(15) <u>Dr Kiran Musunuru, a gene-editing expert at the University of Pennsylvania,</u> **described** it as "unconscionable", and **called** it an "experiment on human beings that is not morally or ethically defensible". *And* <u>Dr Eric Topol, of the Scripps Research Translational Institute in California,</u> **said**: "This is far too premature. We're dealing with the operating instructions of a human being. It's a big deal." *But* <u>Harvard University's George Church</u> **said** HIV is a "major and growing public health threat", and **described** the gene-editing experiment as "justifiable". [Tabloids – The Sun]

The expert's affiliation and title adjacent to the quote serve a legitimating function, leading the readership towards trusting the appraisal in light of the expert's weight in the field. Such source descriptors inherently invoke attitudinal assessments because the attributed material is presented as associated with a trustworthy source (White 2012, p. 60). Remarkably, tabloids use such honorifics three times more frequently (normalised frequency=249) than broadsheets (NF=80), relying heavily on the credit associated with academic ranks.

In tabloids, the quotes act as standpoints, without any specific data elaboration from the journalist, and they are linked by the conjunction "and" placed sentence-initially. Typically, such placement of standpoint serves the cross-legitimation function, as the combined expertise of two or more scholars conveying a similar opinion reinforces the assessment provided. However, there are cases when such quote-embedded opinions are juxtaposed using the contrastive conjunction "but", (15). The peculiarity of these cases is that the journalists do not convey their own opinion but merely re-arrange the quotes of the others, attributing the responsibility for the content of such opinions to external sources, and adding only conjunctions to clarify whether

the opinions are consonant ("and") or opposing ("but"). Such selection and re-arrangement of quotes are not devoid of ideological implications, because it is the journalist who puts these propositions into play, even though the attitudinal content is not directly attributed to the reporter.

Against this background it is truly noteworthy how He Jiankui's statements were rarely used as quotes in tabloids. His stance was conveyed using indirect speech mainly, (16), and frequently relying on the communication verb *claim* with negative connotations, defined as 'non-factive' by Hyland (2002). By using *claim*, journalists question the factual status of the following information, thus contributing to the overall adverse assessment by stepping back from the quoted source (White 2012, p. 62). Alternatively, news reports with negative headlines cut the scientist's quotes extracting the 'juicy' pieces only for sensational effect, as is exemplified in (17), thus depriving the scientist of his voice. Such a technique may be construed as biased, bordering on ideologically charged, because it leaves the scientist in a marginalised position in the general heteroglossic background of the texts (Bakhtin 1981), that is to say in the general diversity of voices and viewpoints.

(16)   Of course the scientist in question, He Jiankui, an associate professor of
       biology at China's Southern University of Science and Technology, does not
       describe it like this. *He claims* he is responsible for a medical breakthrough
       that can render newborns immune to infection by the HIV virus. He did it, *he
       said*, using a cutting-edge technique called CRISPR (or Crispr-Cas9 to give it
       its full name) to change the babies' DNA before they were born. [Tabloids –
       Daily Mail]

(17)   But speaking at a genome summit in Hong Kong, *Jiankui said* he was *"proud"*
       of his work. He *also said that "another potential pregnancy"* of a gene-edited
       embryo was in its early stages. [Tabloids – The Sun]

Contrariwise, broadsheets, and specifically broadsheets with positive headlines (see Section 4.1), provided the readers with fuller quotes from the scientist, thus enabling him discursively to defend his standpoint (18), using reporting verbs without an expressed evaluation.

(18)   The study participants are not ethicists, He *said*, but "are as much authorities
       on what is correct and what is wrong because it's their life on the line." "I
       believe this is going to help the families and their children," He *said*. If it
       causes unwanted side effects or harm, "I would feel the same pain as they do
       and it's going to be my own responsibility." [Broadsheets – The Daily
       Telegraph]

Consequently, another distinction emerged between tabloids and broadsheets. Tabloids, together with derogatory lexis in headlines, tended to deprive the

scientist of his voice. Cropping his quotes to the 'spicy' bits created a slanted representation and, arguably, an imbalance of power, as it reduced the dialogic nature of reports. The inclusion of fuller quotes, which characterised broadsheets with positive or neutral headlines (see 4.1), created a more 'objective' representation of the event, or at least involved less mediation from the original source's message. The heteroglossic backdrop included also the scientist's voice, so dampening the effect of an overall inequality in power.

4.3. Opinions and evaluative standpoints in editorials

According to van Dijk (1988, p. 177), lexical choice is "an eminent aspect of news discourse in which hidden opinions or ideologies may surface". Similarly, Fowler (1991), working in the tradition of Systemic Functional Linguistics (Halliday 1994), suggested in his analysis of news discourse that alternative linguistic patterns have different values with ideological implications. This study relies on the assumption that lexical cohesion choices have a potential ideological discourse function.

The editorials made systematic recourse to the dynamic process of lexical cohesion to shape the meaning of texts and to contribute to its overall ideological construction. The close reading stage revealed a strong tendency to convey opinions and standpoints using lexical cohesion and, specifically, connectives with predominantly adversative meaning and the meaning of contrast, such as *but*, *while*, *although*, *though*, *however*. Although other structures were used likewise, this study focuses on the most recurrent of them to assess qualitatively their embedding patterns. Table 5 illustrates that such connectives are in pole position in editorials while relatively lagging behind in tabloids.

	Broadsheets	**Tabloids**	**Editorials**
Connectives	131	93	170

Table 5
Normalised frequencies of connectives with adversative meaning / contrast.

These connectives frequently co-occurred with the adverbials of certainty, such as *obviously*, *certainly*, *clearly*, *definitely*, *evidently*, *of course*, etc. The co-occurrence of adversative/contrastive connectives with adverbials of certainty created so-called *concur-counter patterns* (Breeze 2016), namely patterns where different standpoints are presented argumentatively through shifting alignments to cater for a different readership (19, 20, 21). These patterns added to the heteroglossia (Bakhtin 1981) of editorials.

(19) It is, *of course*, everyone's hope that the twin girls will grow up healthy and
      happy, *but* the possibility that they may face potential health risks cannot be
      overlooked. [Editorial – South China Morning Post]

(20) *Certainly*, any alteration to the germline should be undertaken only with the
      greatest of care and with far more knowledge than we currently possess. Hence
      the condemnation of He. *But* the possibilities inherent in genome-editing
      techniques to help prevent and treat disorders, from cystic fibrosis to cancer,
      are tremendous. [Editorial – The Observer]

(21) The prospect of genetically eliminating crippling diseases is *certainly*
      appealing, *but* this promise masks a darker reality. [Editorial – The
      Philadelphia Inquirer]

Concur-counter patterns go in line with rhetorical concessives (König 2006),
used to concede the first assertion and to emphasise the second opposing one.
For instance, in (19) the editorialist agrees with the hope for the healthy
future of the twins, which is discursively marked by *of course*. However, the
next statement counters the previous one and concurs with another part of the
readership, the one preoccupied about the potential health risks. Similarly, in
(20) *certainly* flags concession that caution is advised when dealing with
gene-editing techniques. Yet immediately *but* shifts the alignment and
expressly acknowledges the positive possibilities of the technology. The
concordance search traced such co-occurrences also in cases where the
adverbial of certainty was not placed sentence-initially, as in (21). Curiously,
although the corpus of editorials at hand is small, the ratio of co-occurrences
of adversatives/contrastives with adverbials of certainty is consonant with
previous findings by Breeze (2016) on a larger corpus, thus confirming her
hypothesis that this pattern may be peculiar to the editorial genre. No such
co-occurrences were found in news reports.

      Along with the above concur-counter patterns, editorials also used
classical concessive constructions to mingle two different opinions in a single
sentence. The conceptual basis of concessive constructions, to summarise
König (1988, 2006), lies in the assertion of two situations (facts) against a
background of conflict or incompatibility. Typically, the rhetorical effect of
concessive constructions is that the opponent's premise is accepted, but its
consequences are not accepted (Mazzoleni 1990, p. 23). According to
Garzone (2005, p. 137), from the ideational point of view, "[…] concessive
constructions are typically used to present inhomogeneous or contrasting
eventualities and data, conferring upon them a degree of coherence, also
thanks to the pragmatic inference required for understanding the utterance
itself. Among other things, they allow to present together negative and
positive aspects as equally inescapable sides of reality". In the texts at hand,
editorialists topicalised the dominant (negative) assertion by using a

contrastive framing, which inherently implied a subjective and evaluative slant.

Some of such constructions employed the so-called 'stance bundles' (Goźdź-Roszkowski 2011, p. 138-139), for example *it is* phrases, followed by an evaluative adjective, which activated attitudinal content. For instance, in (22) the hypotactic construction with *while* is followed by the conceded statement *is undeniable*, with a stance bundle *it was not wise* in the main clause. Other concessive constructions belong to the rhetorical type (23; 24) and are signalled by the modal verb *may*. Such constructions typically are built around the inference that "it is not the factual content of the two clauses that is incompatible", but "the conclusions or arguments that are based on these assertions" (König 2006, p. 823).

(22) W*hile it is undeniable* that biologist He Jiankui made a significant breakthrough in genetic modification, *it was not wise* of him to proceed in haste. [Editorial – South China Morning Post]

(23) He's work *may be unethical*, *but* there is nothing ethically superior in condemning future generations to terrible medical conditions if it were possible safely to eliminate them. [Editorial – The Observer]

(24) He *may be convinced* that he got this splice correct, *but* there is no certainty that it will not have other effects. [Editorials – The Japan Times]

As epitomised above, the information flow could typify the event both in a negative light (22, 24) and in a positive light (23), with the former tendency prevailing. Such standpoints reflected the chief orientation given at the level of headlines (see Section 4.1). The representation of the opposing view was typically discursively construed as irrelevant due to the inherent conflict with the following standpoint, the one supported and topicalised by the editorialist. Consequently, on the surface both premises were discursively presented; however, only one was given a real weight. Often, the disputed assertion was not even flagged by a concessive connective (25, 26), making such sentences virtually indistinguishable from adversative sentences with a paratactic link (König 2006, p. 823).

(25) Genetic research holds the promise to prevent, cure, and even eliminate disease. *But* when it is used to create made-to-order "super children," we have crossed a moral line from which there may be no return. [Editorials – The Philadelphia Inquirer]

(26) This all sounds good, *but* the technology is still in its infancy – especially in its application to the human germline. [Editorials – The Irish Times]

Clearly, advocating one viewpoint and rebutting the opposing opinion is a subtler way of influencing the opinions of the readership, which allows editorials to fulfil their persuasive potential. Skilful juggling with various concessive moves enables the editorialist to achieve an effective argumentative strategy and to advance a possibly ideological position without appearing straightforwardly biased. Arguably, it requires the audience to navigate prudently through the propositions put into action.

5. Conclusions

This study stemmed from the assumption – amply supported in the literature on science journalism – that media coverage of controversial science, such as the case of the first gene-edited twins, would inescapably tap into some kind of knowledge mediation and clashing viewpoints. The study sought to contribute to the scholarship directed at describing and explaining the linguistic realisation of alternative standpoints and potentially ideological messages in science news using a combination of insights from Appraisal Theory, Critical Discourse Analysis and Argumentation Theory. The findings reveal the mainstream negative portrayal of the event with some 'duelling' undercurrents. The resultant picture ranges from explicitly evaluative to implicitly ideological, with a varying degree of argumentation involved. Despite the declaredly different communicative goals – to report and to persuade – both news reporters and editorialists introduced elements of evaluation and a certain degree of strategic manoeuvring in the same experiential content at a variety of levels.

The first layer of visibly attitudinal elements was represented by headlines. They acted as semantic macro-structures (topics) preparing the readers for a specific response and perception of the event. Contrary to the viewpoint that news reports are written in an impersonalised 'reporter voice', where straightforward evaluations are restricted to quotes, most headlines passed on an explicitly attitudinal message. As headlines were created by journalists and in most cases were not directly attributed to third persons, their evaluative nature suggested a potentially ideological slant. Predictably, most headlines expressed a negative judgment, but it was conveyed through different evaluation patterns marking a watershed between the quality press and tabloids. Negative attitude ranged from a predominantly openly negative social esteem in tabloids, attacking at times the scientist's personality rather than his work, to prevalently negative social sanction in broadsheets and editorials, invoking unacceptability of illegal or unethical actions. Most headlines exploited the symptomatic relationship between one facet of the event and the mainly adverse conclusion. Besides social sanction, the editorials sub-corpus also featured headlines with negative affect, passing

thus a more personal and covert message and exploring also causal arguments appealing to the logic of the readers.

Attitudes from headlines found further support in the text by local structures conveying opinions and standpoints. News reports and editorials diverged significantly in the use of reported speech as a responsibility shifting mechanism. In keeping with previous research, news reports, and tabloids in particular, attributed evaluative points to third parties. Interviews were extracted for 'juicy' and sensational quotes, and these advanced specific value positions. A peculiar detail was identified: tabloids did not use He Jiankui's full quotes, leaving him in a downgraded position against the overall heteroglossia. Along with an aggressive portrayal of the scientist in headlines, the silencing of his voice created an imbalance of power. This is not to suggest that broadsheets and editorials presented an entirely 'objective' picture. These newspaper types employed lexical cohesion and syntactic structures to orient the message, resulting in more subtle, yet tinged, messages, requiring more careful navigation from readers. Finally, the research identified a specific pattern for editorials only, used to concede with one position and to counter it within the same utterance. Concur-counter patterns, and more generally, concessive constructions, seemingly represented both sides of the coin, although only one part of the statement seemed to carry more weight, rendering such patterns potentially ideological if the socially preferred message was placed in the rhetorically strong position.

In general, the blunter the attempts to sway public opinion by the choice of linguistically charged words and expressions were, the less power the texts had over potential ideological implications, and *vice versa*. Even though it would be simplistic to assume a direct relationship between a public response and a more or less obvious ideological framing of the event, some trends emerge. On an overt-covert influence cline, the tabloids could be tentatively defined as the most deliberately evaluative, but strategically impersonalised, as part of the attitudinal burden was unloaded onto third sources. On account of often blatantly derogatory lexis, and lack of elaborate syntactic constructions, news reports in tabloids appeared to be the least manipulative and, to the discerning eye, quite easy to see past. The editorials, conversely, wielded the least overtly evaluative lexis with the highest potential for ideological manipulations, because the preferred message was dexterously presented in a stronger rhetorical position, rebutting argumentatively the dispreferred premise or conclusion.

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References

Allan S. 2002, *Media, Risk and Science*, Open University Press, Buckingham-Philadelphia.

Allan S. 2009, *Making Science Newsworthy: Exploring the Conventions of Science Journalism*, in Holliman R., Whitelegg L., Scanlon E., Smidt S. and Thomas J. (eds.), *Investigating Science Communication in the Information Age: Implications for Public Engagement and Popular Media*, Oxford University Press, Oxford, pp. 149-165.

Amossy R. 2001, *Ethos at the Crossroads of Disciplines. Rhetoric, Pragmatics, Sociology*, in "Poetics Today" 22 [1], pp. 1-23.

Amossy R. 2005, *The Argumentative Dimension of Discourse*, in van Eemeren F.H. and Houtlosser P. (eds.), *Practices of Argumentation*, John Benjamins, Amsterdam, pp. 87-98.

Amossy R. 2009, *The New Rhetoric's Inheritance. Argumentation and Discourse Analysis*, in "Argumentation" 23, pp. 313-324.

Bakhtin M. 1981, *The Dialogic Imagination: Four Essays* (Transl. by Emerson C. and Holquist M.), in Holquist M. (ed.), University of Texas Press, Austin.

Barel-Ben David Y., Garty E. and Baram-Tsabari A. 2020, *Can Scientists Fill the Science Journalism Void? Online Public Engagement with Science Stories Authored by Scientists*, in "PLoS ONE" 15 [1], e0222250.

Bell A. 1991, *The Language of News Media*, Blackwell, Oxford, Cambridge.

Biber D. 2006, *University Language: A Corpus-based Study of Spoken and Written Registers*, John Benjamins, Amsterdam.

Breeze R. 2016, *Negotiating Alignment in Newspaper Editorials. The Role of Concur-Counter patterns*, in "Pragmatics" 26 [1], pp. 1-19.

Calsamiglia H. and López Ferrero C. 2003, *Role and Position of Scientific Voices: Reported Speech in the Media*, in "Discourse Studies" 5 [2], pp. 147-173.

Cho Y. 2008, *Intercoder Reliability*, in Lavrakas P.J. (ed.), *Encyclopedia of Survey Research Methods*, SAGE Publications, Thousand Oaks, CA, pp. 345-346.

Crow D.A. and Stevens J.R. 2012, *Local Science Reporting Relies on Generalists, Not Specialists*, in "Newspaper Research Journal" 33 [3], pp. 35-48.

Degano C. 2007, *Presupposition and Dissociation in Discourse: A Corpus Study*, in "Argumentation" 21, pp. 361-378.

Degano C. 2012, *Discourse Analysis, Argumentation Theory and Corpora. An Integrated Approach*, Arcipelago Edizioni, Milan.

Fairclough I. and Fairclough N. 2011, *Practical Reasoning in Political Discourse: The UK Government's Response to the Economic Crisis in the 2008 Pre-Budget Report*, in "Discourse & Society" 22 [3], pp. 243-268.

Fairclough N. 1995, *Media Discourse*, Edward Arnold, London.

Fairclough N. 2003, *Analysing Discourse: Textual Analysis for Social Research*, Routledge, London.

Fairclough N. 2014, *Language and Power*, 3rd edition, Routledge, London.

Fowler R. 1991, *Language in the News: Discourse and Ideology in the Press*, Routledge, London.

Garzone G. 2005, *Pragmatic and Discoursal Features of Annual Executive Letters:*

Observations on the Rhetorical and Evaluative Function of Concessive Constructions, in Bondi M. and Maxwell N. (eds.), *Cross-Cultural Encounters: Linguistic Perspectives*, Officina Edizioni, Rome, pp.130-143.

Garzone G. 2014, *News Production and Scientific Knowledge: Exploring Popularization as a Process*, in Caliendo G. and Bongo G. (eds.), *The Language of Popularization: Die Sprache der Popularisierung*, Peter Lang, Bern, pp. 73-107.

Garzone G. and Degano C. 2008, *Rhetoric and Bias in Editorials: The Lebanese Crisis of 2006 in the British Press*, in Garzone G. and Catenaccio P. (eds.), *Language and Bias in Specialized discourse*. CUEM, Milan, pp. 21-49.

Genette G. 2001 [1997], *Paratexts. Thresholds of Interpretation*, (English trans. Levin Jane E.), Cambridge University Press, Cambridge.

Goźdź-Roszkowski S. 2011, *Patterns of Linguistic Variation in American Legal English. A Corpus-Based study*, Peter Lang, Frankfurt am Main.

Halliday M. A. K. 1994 [1985], *An Introduction to Functional Grammar*, Second Edition, Edward Arnold, London.

Hermida A. 2010, *Revitalizing Science Journalism for a Digital Age*, in Kennedy D. and Overholser G. (eds.), *Science and the Media*, American Academy of Arts and Sciences, Cambridge, MA, pp. 80-87.

Hoek J. and Scholman M. 2017, *Evaluating Discourse Annotation – Some Recent Insights and New Approaches*, in *Proceedings 13th Joint ISO – ACL Workshop on Interoperable Semantic Annotation (isa-13)*, Montpellier, France, pp. 1-13.

Hunston S. and Thompson G. 2001, *Evaluation in Text: Authorial Stance and the Construction of Discourse*, Oxford University Press, New York.

Hyland K. 2002, *Activity and Evaluation: Reporting Practices in Academic Writing*, in Flowerdew J. (ed.), *Academic Discourse*, Longman, New York, pp. 115-130.

Isani S. 2011, *Of Headlines & Headlinese: Towards Distinctive Linguistic and Pragmatic Genericity*, in "Asp" 60, pp. 1-22.

König E. 1988, *Concessive Connectives and Concessive Sentences: Cross-linguistic Regularities and Pragmatic Principles*, in Hawkins J. (ed.), *Explaining Language Universals*, Blackwell, Oxford, pp. 145-166.

König E. 2006, *Concessive Clauses*, in Brown K. (ed.), *Encyclopaedia of Language and Linguistics*, Vol. 2, Elsevier, Amsterdam, pp. 820-824.

Le E. 2010, *Editorials and the Power of Media: Interweaving of Socio-cultural Identities*, John Benjamins, Philadelphia.

Makki M. and White P.R.R. 2018, *Socio-cultural conditioning of style and structure in journalistic discourse: The distinctively 'objective' textuality of Iranian political news reporting*, in "Discourse, Context & Media" 21, pp. 54-63.

Martin J. R. and White P. R. R. 2005, *The Language of Evaluation: Appraisal in English*, Palgrave Macmillan, New York.

Mazzi D. 2007, *The Construction of Argumentation in Judicial Texts: Combining a Genre and a Corpus Perspective*, in "Argumentation" 21, pp. 21-38.

Mazzoleni M. 1990, *Costrutti Concessivi in Alcune Lingue d'Europa*, La Nuova Italia, Florence.

Meyers O. and Davidson R. 2016, *Conceptualizing Journalistic Careers: Between Interpretive Community and Tribes of Professionalism*, in "Sociology Compass" 10 [6], pp. 419-431.

McCabe A. and Heilman K. 2007, *Textual and Interpersonal Differences between a News Report and an Editorial*, in "Revista Alicantina De Estudios Ingleses" 20, pp. 139-156.

Murcott T.H.L. and Williams A. 2012, *The Challenges for Science Journalism in the UK*, in "Progress in Physical Geography" 37 [2], pp. 152-160.

Nelkin D. 1995, *Selling Science. How the Press Covers Science and Technology*, W.H. Freeman and Company, New York.

Nikitina J. 2020, *Representation of Gene-Editing in British and Italian Newspapers. A Cross-Linguistic Corpus-Assisted Discourse Study*, in "Lingue e Linguaggi" 34, pp. 51-75.

O'Halloran K. A. 2009, *Implicit Dialogical Premises, Explanation as Argument: A Corpus-Based Reconstruction*, in "Informal Logic" 29 [1], pp. 15-53.

Reisigl M. and Wodak R. 2001, *Discourse and Discrimination: Rhetorics of Racism and Anti-Semitism*, Routledge, London.

Rensberger B. 1997, *Covering Science for Newspapers*, in Blum D. and Knudson M. (eds.), *A Field Guide for Science Writers*, Oxford University Press, New York.

Russell C. 2010, *Covering Controversial Science: Improving Reporting on Science and Public Policy*, in Kennedy D. and Overholser G (eds.), *Science and the Media*, American Academy of Arts and Sciences, Cambridge, MA, pp. 13-43.

Sinclair J. 1986, *Fictional Worlds*, in Coulthard M. (ed.), *Talking about Text: Studies Presented to David Brazil on his Retirement. Discourse Analysis Monographs No. 13*, English Language Research, University of Birmingham, pp. 43-60.

Trench B. 2007, *How the Internet Changed Science Journalism*, in Bauer M. and Bucchi M. (eds.), *Journalism, Science and Society: Science Communication Between News and Public Relations*, Routledge, New York, pp. 133-141.

van Dijk T.A. (ed.) 1985, *Discourse and Communication: New Approaches to the Analysis of Mass Media Discourse and Communication*, De Gruyter, Berlin-New York.

van Dijk T.A. 1988, *News as Discourse*, Erlbaum, Hillsdale, NJ.

van Dijk T.A. 1989, *Race, Riots and the Press: An Analysis of Editorials in the British Press about the 1985 Disorders*, in "Gazette" 43, pp. 229-253.

van Dijk T.A. 1992, *Racism and Argumentation: Race Riot Rhetoric in Tabloid Editorials*, in van Eemeren F. (ed.), *Argumentation Illuminated*, Foris, Dordrecht, pp. 242-259.

van Dijk T.A. 1998, *Ideology: A Multidisciplinary Approach*, Sage, London.

van Dijk T.A. 2008, *Discourse and Power*, Palgrave Macmillan, Basingstoke.

van Dijk T.A. 2017, *How Globo Media Manipulated the Impeachment of Brazilian President Dilma Rousseff*, in "Discourse & Communication" 11 [2], pp. 199-229.

van Eemeren F.H. and Garssen B. 2012, *Exploring Argumentative Contexts*, John Benjamins, Amsterdam-Philadelphia.

van Eemeren F.H. and Grootendorst R. 2003, *A Systematic Theory of Argumentation: the Pragma-dialectical approach*, Cambridge University Press, Cambridge.

White P.R.R. 2012, *Exploring the Axiological Workings of 'Reporter Voice' News Stories – Attribution and Attitudinal Positioning*, in "Discourse, Context & Media" 1, pp. 57-67.

Wodak R., de Cillia R., Reisigl M. and Liebhart K. 1999, *The Discursive Construction of National Identity*, "in Discourse & Society" 10 [2], pp. 149-173.

Wodak R. 2009, *Critical Discourse Analysis: History, Agenda, Theory, and Methodology*, in Wodak R. and Meyer M. (eds.), *Methods for Critical Discourse Analysis*, Sage, London, pp. 1-33.