

The (Re)Creation of Self-Identity in Times of Crises

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Abstract

Press releases are official (electronic) statements written by corporations and institutions to deliver significant information to the media and the general public. Although theoretically informative, press releases are a self-promotional tool because the pieces of information they deliver are produced by the organization – the source – that writes the press release.

The purpose of this paper is to discuss the source of information as linguistically realized in terms of evidentiality and patterns of agency in AstraZeneca's press releases delivered during the pandemic. More specifically, this paper will offer a corpus-based analysis of all the press releases (62) issued by AstraZeneca during the pandemic to identify the patterns of agency and evidentiality, with the purpose of detecting the extent to which, if any, the company (re)construct its image before and after the deaths supposedly linked to Covid vaccine. The results seem to indicate that different rhetorical and persuasive strategies, as well as image restoring strategies, are employed: while promotion may require booster devices, hedging devices are necessary whenever the press release seems over-confident in the conveying of the pieces of information. As usual, caution is necessary not only to diminish negative face threats but also to prevent possible attacks from future investigations denying cognitive consensus.

1. Introduction

Some months after the outbreak of COVID-19, the WHO guidelines (WHO 2020a) were clear as to how nations had to behave in order to contrast the pandemic: countries should *stop, contain, control, delay* and *reduce* the impact of COVID-19. When it was clear that the epidemic had developed into a pandemic, Dr Tedros Adhanom Ghebreyesus, the Director-General of the WHO (WHO 2020b), pointed out that “all countries can still change the course of this pandemic” if they “*detect, test, treat, isolate, trace, and mobilize* their people in the response” (our emphasis). At the same time, pharmaceutical companies were working globally to combat COVID-19 and led the way in developing new vaccines and treatments. By the end of 2022, more than 5.47 billion people worldwide had received a dose of a COVID-19 vaccine, equal to about 71.3 percent of the world population (Holder 2021). This was possible because, when COVID-19 outbreaked, Pfizer and Moderna vaccines (now the two of the most widely used COVID-19 vaccines) were allowed at the end of 2020, followed in 2021 by Janssen, Johnson & Johnson and AstraZeneca vaccines. Considering that the COVID-19 vaccination represented the best possibility to resolve the pandemic, all activities were fully described in press releases. However, some side effects resulted from vaccination from all companies; the media greatly covered the side effects of AstraZeneca vaccine, which mainly affected its marketing operations. Certainly, as indicated by the press,¹ most European countries decided to stop vaccination with AstraZeneca. Table 1 below shows the timeline of the

AstraZeneca vaccination stop in 2021.

In the context of the pandemic, when all institutional activities were focussed on addressing the health crisis and the vaccination race as the best chance for society to overcome COVID-19, there was much media coverage of the side effects that AstraZeneca’s vaccine had. As mentioned above, this mainly affected AstraZeneca’s marketing activities, but, more importantly, it ruined the company’s reputation. AstraZeneca therefore tried to restore the company’s positive image through press releases.

This paper tries to explore the process whereby AstraZeneca has reconstructed its own identity as a form of semantic regeneration or reconstruction, linguistically and textually achieved in terms of practices and genres. We are thus looking at how AstraZeneca addresses the health and corporative crises and how they have been textually represented in its press releases, on what evidential patterns AstraZeneca regenerates its own identity, argumentatively construing patterns of agency and responsibility, and whether the resulting textuality has permeable boundaries. More precisely, the purpose of this paper is to discuss how, during the pandemic, AstraZeneca constructed and re-constructed its own image before and after the deaths supposedly linked to its Covid-19 vaccine, while spreading scientific information. Drawing on evidentiality (Chafe & Nichols 1986; Bednarek, 2006; Hart 2011) with a corpus linguistics approach (McEnery & Hardie 2011), we will investigate AstraZeneca’s press releases delivered during the pandemic to detect:

- how the company image is linguistically con-

Table 1 | Timeline of AstraZeneca vaccination stop in European countries

March 2021:	Austria; Estonia; Latvia; Lithuania; Luxemburg (temporarily).
11 March 2021:	Denmark; Norway; Iceland
11 March 2021:	Italy (the population’s refusal to be AstraZeneca vaccinated is virally spread on national media and social network)
12 March 2021:	Bulgaria; Romania
14 March 2021:	Ireland; The Netherlands
15 March 2021:	France; Germany; Luxemburg; Slovenia; Spain; Portugal
16 March 2021:	Latvia; Sweden
18 March 2021:	After EMA gives way to AstraZeneca vaccination in the EU, all EU states agree with it, but Norway, Sweden, Finland and Denmark express their cautious position. In France, AstraZeneca vaccine is recommended to over 55 year-old people
30 March 2021:	AstraZeneca vaccine is renamed as Vaxzevria by EMA
30 March 2021:	In Germany, Vaxzevria vaccine is recommended to over 60 year-old people
02 April 2021:	In The Netherlands, Vaxzevria vaccine is recommended to over 60 year-old people
09 April 2021:	In Greece, Vaxzevria vaccine is recommended to over 30-year-old people
	Danamarca stops Vaxzevria vaccination protocol
08 June 2021:	Italia stops Vaxzevria vaccination protocol

veyed in terms of information dissemination through evidentiality, and
- with what patterns of agency and responsibility such information is expressed.

To achieve these aims, the chapter will be developed as follows: in Section 2, we discuss the literature review with particular reference to press releases, evidentiality, and patterns of responsibility. Section 3 offers the methodological approach, while in Section 4 we present the data analysis and a discussion of how the semantic domain of evidentiality and patterns of responsibility operate in press releases to provide the frameworks that function as logical-rhetorical patterns of identity construction. Section 5 concludes the article.

1. Literature Review

1.1 The Press Release Genre

The operations of pharmaceutical companies for combatting Covid-19 were described in press releases. Press releases are short, written texts sent to the news media by companies, government agencies, political parties or non-profit organisations to inform the public about new developments in these organisations (Jacobs 2014: 583). In other words, one corporation textually encodes its own identity. Undeniably, the way in which an entity discursively constructs its position through textual production contributes to the creation of the entity's image (Catenaccio 2006). Press releases are official (electronic) statements written by corporations and institutions and made public via their official websites to deliver significant (business/specialist) information to the media and the public in relation to the company itself and the news reported as positively as possible. The main aim of press releases is to be reproduced by the media, possibly verbatim, with appealing newspaper-like headlines, followed by a lead-in paragraph, an inverted pyramid structure and boilerplate as well as some specific metapragmatic features such as third-person self-reference ('the company' instead of 'we') and (pseudo)quotation (Jacobs et al. 2023; Jacobs 1999a; 1999b; Jacobs et al. 2008).

However, although theoretically informative, press releases are a self-promotional tool because

the pieces of information they deliver are produced by the organization – the source – that writes the press release (Catenaccio 2008). Press releases thus occupy the middle ground between business corporate discourses, newspaper articles (Chen 2020), and promotion (Catenaccio 2008). For this reason, they can be regarded as a hybrid genre (Bhatia 2004) with blurred boundaries between discourses. Jacobs (1999a; 1999b) has shown that press releases are metapragmatically characterised by self-reference in the third person, self-citation, and explicit semi-performatives: they are thus pre-formulated so that journalists can copy them (in terms of form and content). Furthermore, they use 'empathic discourse' to actively encode the journalist's perspective and make use of 'pseudo-direct speech', which makes press releases seem more lively, reliable, and objective (Jacobs 1999a; 1999b). Since AstraZeneca's press releases also deal with medicine, we expect features of medical discourse. The textuality thus created through this hybridity is increasingly complex, where genres, contexts and communicative, representative, and argumentative codes have permeable boundaries.

1.2 Evidentiality

2.1 Theoretical Framework

For the purposes of this investigation, given that evidentiality in English is a semantic category, we will adopt a broad definition of evidentiality, which will be detailed in short in the next section. More specifically, we will draw on Chafe's (1986) framework without considering issues of attitude and modality, and will follow Hart's (2011) evidential model, described in the coming subsection. In this sense, we will label evidential markers as indicated in Table 2.

In addition, we will take into consideration that some evidential markers can overlap the boundaries between evidential categories. For instance, in the excerpt "In addition, the COV-BOOST trial *showed* that a third dose booster of Vaxzevria induced significantly higher immune responses" the verb 'show' is metonymically used to represent the *reasoning* path the researcher did after analysing their data (Maci 2022).

Evidential category	Type	Reliability	Examples of evidential markers
Perception	Sensory evidence	OBJECTIVE	it appears; it looks
Proof/obviousness	Deduction Inference (by reasoning/ by perception)	OBJECTIVE	we see; results show; data indicate; we demonstrate it is obvious; it is clear
Public knowledge	Belief	INTERSUBJECTIVE	It is widely held; it is known it is believed; we believe
Expert knowledge	Hearsay	INTERSUBJECTIVE	SUBJ says; we claim; we discuss; we argue; we report; we announce; we recommend; citation
Epistemic commitment	Speaker's competence	SUBJECTIVE	no proof data suggest

Table 2 | Evidentiality markers (Chafe 1986; Hart 2011)

2.2 A Diachronic Look at the Concept

The first scholar to possibly introduce the notion of 'evidentiality' was Boas (1911: 124) who, in describing suffixes of American languages, pointed out that "certain suffixes are used to show by which of the sense the fact stated was observed, or whether it was inferred from evidence". However, it was Jakobson (1957) who introduced the term *evidentiality* as a label for a verbal category indicating the source of information on which the speaker/writer's statement is based.

It was not until the 1980s that a great interest in evidentiality began to blossom (just to quote a few of them, see, for instance: Chafe & Nichols 1986; Willett 1988; DeLancey 2001; Aikhenvald 2004; 2015; 2018; Aikhenvald, Dixon 2003; Hart 2011).

The definition of evidentiality is somewhat complicated, because for some languages evidentiality is a conceptual or semantic category that "states the existence of a source of evidence for some information; that includes stating that there is some [auditory, sensory, inferred] evidence, and also specifying what type of evidence there is" (Aikhenvald 2004: 1; 2007; Chafe, Nichols 1986; Squartini 2007). In other languages, evidentiality is a grammatical category (Aikhenvald 2018; Willett 1988). This has brought to two different definitions of evidentiality: one narrow and the other broader.

The narrow definition of evidentiality states that it indicates the source of the information, i.e. whether the information was seen, heard, inferred or told (Aikhenvald 2004; 2018; Aikhenvald, Dixon 2003) through

grammaticalised expressions, especially morphemes (Aikhenvald 2004, 1; Mushin 2001: 35). This leads to the almost complete exclusion of English from such studies (Bednarek 2006).

The broader definition of evidentiality, the one chosen for this study, states that it indicates the source of the information, i.e. whether the information was seen, heard, inferred, or told (Aikhenvald 2004; 2018) and various attitudes toward knowledge (Chafe, Nichols 1986; Chafe 1986: 262) as a semantic category. In this sense, evidentiality deals with issues of truth, certainty, doubt, reliability, authority, inference, stance, and evidence (Chafe, Nichols 1986; Mushin 2001).

The semantic domain of evidentiality is closely connected with that of epistemic modality (Palmer 2001), and the two have been analysed in various degrees of relation. While Chafe (1986) incorporates modality under evidentiality, others (De Haan 1999; Nuyts 2001b) see evidentiality and modality as two distinct entities which are interrelated: the speaker's epistemic stance (as reflected in modality) is determined by the type of the evidence they have for their assertion (Nuyts 2001b: 27). As indicated by Hart (2011), epistemic modality involves an evaluation on the part of the speaker where, depending on the means of knowing, one can be more or less confident in and therefore committed to the truth of one's assertion (De Haan 1999). However, Mushin (2001: 58) notes that "speakers are motivated to adopt a particular epistemological stance partially on the basis of their source of information, but also on the basis of their rhetorical intentions, on how they want their utterance to be understood and treated in the moment of interaction" (see also Hart 2011). This involves two

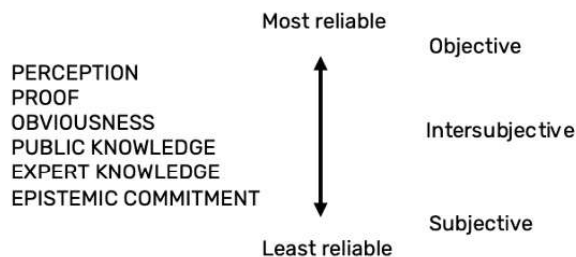


Fig. 1 | Evidential model (adapted from Hart, 2011, p. 760).

notions in evidentiality: *subjectification* and *objectification* (Hart 2010). The distinction between them has to do with how confident the speaker is that the hearer will ‘take their word’ for the truth of the assertion. In *subjectification* the speaker’s assessment of the proposition is legitimised solely on the speaker’s reputation as a reliable source of information (with privileged access to certain states of affairs or means of knowing) and is realised with epistemic certainty (for instance, *must*, *will*, and zero-marked modality). In *objectification*, the speaker’s means of knowing is made available to the hearer: in this sense, the speaker’s assertion can either be verified or corroborated by others (Hart 2011). Following Bednarek (2006), Hart (2011) arranges a scale of ranging reliability corresponding to the degree of the speaker’s subjectivity involved. This range is represented in Figure 1. As explained by Hart (2011: 760):

PERCEPTION provides attested sensory evidence. PROOF and OBVIOUSNESS both constitute indirect evidence inferred from results and reasoning respectively. And PUBLIC KNOWLEDGE is reflected in indirect reported folklore. We can further identify EXPERT KNOWLEDGE as a form of evidence reflected in hearsay. EPISTEMIC COMMITMENT can also be considered a form of evidence in so far as it suggests the speaker is ‘qualified with the knowledge required to pass judgement’ (Fowler 1991: 64). In other words, EPISTEMIC COMMITMENT includes a claim to authority on the topic at hand (Fowler 1985; Fairclough 1989) which, if believed, implies something about the competence of the speaker and serves to satisfy the first preparatory condition for assertion.

2.2.2. Patterns of Agency and Responsibility

According to Terkourafi (2015), pragmatic competence is expressed with conventionalised expressions rather than with grammatical ones. In other words, in a particular context, expressions become conventionalised for a speaker if they are used enough in that context to achieve a particular illocutionary goal. The illocutionary force of these conventionalised constructions depends on the type of subject accompanying the verb (Terkourafi 2015). Therefore, the identification of social actors in the social processes of a reality described through language are of importance to identifying patterns of agency and responsibility.

The representation of social actors in the world has been investigated by various scholars and defined in a variety of terms such as *averral and attribution* (Hunston 2000), *metaphorical modalization* (Halliday 2005) and *interactional and interactive strategies* (Hyland 2005). Investigation about the identification of patterns of attribution of responsibility and evidentiality have been carried out by numerous scholars. Mithun (1986: 89) is the first to identify the issue of responsibility in evidentiality: the source of knowledge can determine the degree of the addresser’s responsibility for the truth expressed in a claim – which allows the addressee to evaluate the claim’s truth. Willet (1988) indirectly describes the notion of responsibility in reference to issues of knowledge reliability and indicates whether it is either *direct* (the speaker has direct access to the source of evidence) or *indirect* (the speaker has indirect evidence because she/h is told or infers it).

The concept of responsibility attribution is further elaborated by Whitt (2010) based on Langacker’s (1990) concept of subjectification. According to Langacker (1990: 5), the objective and subjective semantic construal of a speech act is distinguished in terms of the speaker’s participation or involvement in the propositional meaning through *subjectification*. In other words, *subjectification* is the relationship between the speaker, the subjects of the proposition and the meaning and interpretation of the uttered proposition, which runs along a line expressing the degree of participation of the speaker in this construction of meaning (Maci 2022). In this respect, Langacker (1990: 7) distinguishes between

off-stage and on-stage properties conveyed by the proposition, which refer precisely to the strategies used to reveal the speaker's involvement in the construction and interpretation of a factual assertion. If the speaker is not involved in this construction, it is an off-stage scenario (*objectivity*); if the speaker is involved, it is an on-stage scenario (*subjectivity*).

Drawing on Langacker (1990), Whitt (2010: 359) argues that evidentiality is:

- *subjective* when the author of the text only is involved in the construction of the evidential source and in the interpretation of the factual claim (similar to the on-stage strategy proposed by Langacker (1990);
- *intersubjective* when the linguistic expressions indicate that "the evidence is available not only to the S[peaker]/ W[riter], but also to a larger community" (Whitt 2011: 348).

According to Nuyts (2001a: 35) the notion of subjectivity belongs to the domain of evidentiality: when the speaker alone has access to evidence, we have subjectivity; when the evidence is known and shared by a larger group of people who can reach the same conclusion as the speaker/ writer, we have intersubjectivity (Nuyts 2001b: 393). As indicated above, we will adopt Hart's (2011) model. This is the preferred one because it simultaneously refers to issues of evidentiality and subjectivity along a scale of ranging reliability corresponding to the degree of the speaker's subjectivity.

3. Methodological Approach

3.1 Corpus Description

For this study, 61 AstraZeneca press releases (*Press Releases – AstraZeneca, 2023*) were collected from the company's website where press releases are uploaded (<https://www.astrazeneca.com/media-centre/press-releases.html>), i.e. all press releases containing "COVID-19" as the company's proposed tag, in the period from 20 May 2020, when the news about the vaccine was published, to 8 June 2022, i.e. one year after Italy stopped administering AstraZeneca's vaccine. In this way, we were able to create a corpus of 42,491 words (4,038 types; 52,565 tokens), which

was then divided into three sub-corpora representing the press releases before the withdrawal of the vaccine (AZPre), during the cautious stop of the vaccine (AZDuring) and after the withdrawal of the vaccine (AZAfter), namely:

- AZPre (7,489 words – 1,157 types; 8,688 tokens), collected from 21 May 2020 to 14 March 2021;
- AZDuring (6,864 words – 1,493 types; 8,036 tokens), collected from 16 March 2021 to 21 May 2021;
- AZAfter (28,138 words – 2,749 types; 35,841 tokens), collected from 15 June 2021 to 8 June 2022.

The gap between 21 May 2021 and 15 June 2021 is due to the fact that AstraZeneca did not issue any press releases tagged "COVID-19" during this period.

3.2 Procedure

The main corpus was uploaded to SketchEngine (Kilgarriff et al. 2014) for quantitative data analysis. SketchEngine is a corpus tool commonly used for lexicography but is also used with a variety of functions such as wordlist, word sketch, concordance, keyword, N-grams, and so on. Given the different size of the three sub-corpora, relative frequency is offered for all comparable data. In order to determine which evidential markers were used in the main corpus and in the sub-corpora, a word list of all verbs (as lemmas) occurring in the main corpus was compiled. This resulted in 411 verbs (5,323 total frequencies). All verbs were then checked in their concordance line to determine whether or not they had an evidential function. This was followed by a manual check to better contextualise evidential verbs. The result was 56 evidentials (583 frequencies). However, since some of these verbs are hapax or occur twice in the corpus, we set a frequency limit of 3 hits, assuming that each subcorpus could have at least one occurrence of the verb under study. This resulted in 34 evidential verbs with at least 3 occurrences (551 total frequencies). Each verb occurrence was then analysed according to whether it occurred in AZPre, AZDuring or AZAfter press releases. In the following section, we will offer the data analysis and interpretation.

4. Data Analysis and Discussion

4.1 Evidential Verbs

A list of all evidential verbs found in the collected corpus of AstraZeneca’s press releases can be seen in Table 3 below:

Item	#	Relative frequency p.m.w.
show	98	1,864.36
say	73	1,388.75678
demonstrate	53	1,008.27547
report	36	684.86636
confirm	31	589.74603
announce	28	532.67383
recommend	21	399.50537
know	18	342.43318
discover	16	304.38505
identify	16	304.38505
evaluate	14	266.33692
look	12	228.28879
approve	11	209.26472
determine	10	190.24065
study	10	190.24065
see	9	171.21659
understand	9	171.21659
find	8	152.19252
consider	7	133.16846
define	7	133.16846
indicate	7	133.16846
analyse	6	114.14439
observe	6	114.14439
respond	6	114.14439
address	5	95.12033
conclude	5	95.12033
estimate	5	95.12033
discuss	4	76.09626
hope	4	76.09626
predict	4	76.09626
ask	3	57.0722
believe	3	57.0722
call	3	57.0722
document	3	57.0722
TOTAL	551	

Table 3 | Lists of evidential verbs.

In the table above, all the evidential verbs (column 1) are listed according to their frequency; the number of their occurrences is given in column 2, while in column 3 we have their relative frequency for a better comparison. The ten most frequent verbs are mainly *hearsay* evidential verbs (*say; report; confirm; announce; recommend*); we also have *induction-reasoning* (*discover*) and *induction-perception* (*show; identify*) evidentials. While *hearsay* verbs are used more frequently, the verb ‘show’ is the top evidential verb used in press releases with 108 hits (2,054.6 relative frequency). Verbs were then grouped according to whether they appeared in press releases posted before, during or after vaccine withdrawal. A summary is offered in Table 4, where Chafe’s (1986) and Hart’s (2011) frameworks have been applied:

Evidential category	Evidential type	Hits (relative frequency p.m.w.)			Range of subjectivity
		AZPre	AZDuring	AZAfter	
Public knowledge	Belief	4 (460.41)	1 (124.44)	2 (55.8)	INTERSUBJECTIVE
Expert knowledge	Hearsay	53 (6,100.37)	42 (5,102.04)	136 (3,794.53)	INTERSUBJECTIVE
Proof	Deduction (hypothesis)	4 (460.41)	8 (995.52)	15 (418.52)	OBJECTIVE
Obviousness	Induction by Reasoning	6 (690.61)	14 (1,742.16)	117 (3,264.41)	OBJECTIVE
Obviousness/perception	Induction by Perception	12 (1,381.22)	17 (2,115.48)	119 (3,320.21)	OBJECTIVE
Epistemic commitment	Speaker’s competence	0	0	0	SUBJECTIVE

Table 4 | Evidential verbs distribution (across time and type).

As can be seen in Table 4, there is no occurrence of epistemic commitment. This is because, as explained in paragraph 1, AstraZeneca’s press releases use medical discourse that is rarely subjective: epistemic commitment, which expresses the speaker’s competence, is never overly realised with direct reference to the author of the text, but rather with reference to data and results. As Hart (2011: 760) claims, epistemic commitment “is the least objective form of evidence, and therefore the least reliable, since it presents only the speaker’s belief in the truth of the assessment”. It is known that medical discourse is represented in an objective and detached way, or better in terms of “objectification—that is, representing actions and events, and also qualities, as if they were objects” (Hallyday, Martin 1993: 57), which metonymically stand for the researcher’s actions and events (Maci 2022) to whom no epistemic commitment is assigned. Definitely, in medical discourse, it is never the author of the text that ‘indicates’ something, but rather the ‘results’ or

the ‘data’ of the investigation. Table 3 therefore presents the type of the evidential markers found in our corpus, ranging from *public knowledge* to *obviousness* and *perception* (and therefore with varying degrees of reliability along an intersubjective-objective line), where the speaker’s competence is revealed by *public* and *expert knowledge*, and by *proof*, *obviousness* and *perception*, expressed respectively with *belief*, *hearsay*, *deduction* and *induction* evidential markers. Table 3 also shows that the most commonly used evidential markers belong to only three categories: *hearsay* (*expert knowledge* and *intersubjective reliability*), *induction by reasoning* and *induction by perception* (both showing *obviousness* and *objective reliability*).

This means we are concentrating on *expert knowledge* and *obviousness* mainly realised with *hearsay* and *induction* evidentials. Overall, the distribution of the different evidential categories can be seen in Table 5:

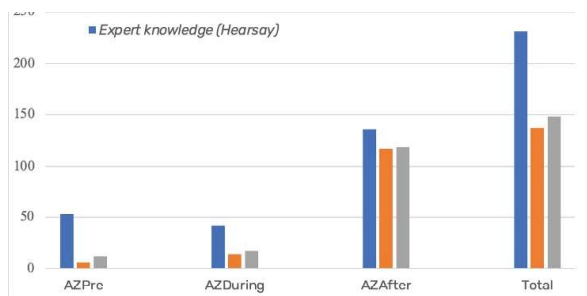


Table 5 | Evidentiality distribution.

As indicated in Table 5, *Expert knowledge* through *hearsay* evidentials is the most frequently used evidential category, doubling the *Obviousness* evidential category realised with *induction* (by reasoning and by perception) markers, particularly in the AZPre and AZDuring subcorpora. It is also evident that most evidential verbs seem to be used mainly in the AZAfter subcorpus. Since most of the evidential expressions found are hapax or occur less than 10 times, it seems difficult to find linguistic patterns with lower occurrence in relation to agency and responsibility. Therefore, for the purpose of this investigation, we will analyse only those evidential verbs that occur at least 10 times per subcorpus (as to lexical cut-off points, see, for instance, Biber 2004; Conrad, Biber 2005).

Breakdown of these evidential classes are shown in Tables 6–8. Verbs that occur more than 10 times are emphasised.

Evidentials	AZPre		AZDuring		AZAfter		TOTAL
	Hits	Rel. Freq. pmw	Hits	Rel. Freq. pmw	Hits	Rel. Freq. pmw	
say	19	2,186.92	11	1,368.84	43	1,199.74	73
report	3	345.3	5	622.2	28	781.23	36
confirm	14	1,611	8	995.52	9	251.11	31
announce	2	230.2	4	497.76	22	613.82	28
recommend	10	1,151.01	1	124.44	10	279.01	21
approve	4	460.41	4	497.76	3	83.7	11
define	0	0	1	124.44	6	67.41	7
respond	0	0	3	373.32	3	83.7	6
address	1	115.1	2	248.88	2	55.8	5
discuss	0	0	0	0	4	111.6	4
ask	0	0	1	124.44	2	55.8	3
call	0	0	2	248.88	1	27.9	3
document	0	0	0	0	3	83.7	3
TOTAL	53	6100.36	42	5226.48	136	3794.53	231

Table 6 | HEARSAY evidentials (expert knowledge and intersubjective reliability).

As shown in Table 6, the main verbs for *hearsay* evidentiality (*expert knowledge* and *intersubjective reliability*) are *say*, *report*, *confirm*, *announce*, and *recommend*. As for *say*, the verb is used throughout the period under consideration, with a preference for its use in press releases issued after the vaccine withdrawal; *report*, *announce* and *recommend* are mainly used in press releases issued after the vaccine withdrawal, while *confirm* is preferred in press releases issued before the vaccine withdrawal.

Evidentials	AZPre		AZDuring		AZAfter		TOTAL
	Hits	Rel. Freq. pmw	Hits	Rel. Freq. pmw	Hits	Rel. Freq. pmw	
demonstrate	3	345.3	4	497.76	46	1,283.45	53
know	0	0	0	0	18	502.22	18
discover	1	115.1	1	124.44	14	390.61	16
determine	0	0	3	373.32	7	195.31	10
study	0	0	1	124.44	9	251.11	10
understand	1	115.1	2	248.88	6	167.41	9
find	0	0	2	248.88	6	167.41	8
consider	0	0	0	0	7	195.31	7
analyse	1	115.1	1	124.44	4	111.6	6
TOTAL	6	690.6	14	1742.16	117	3264.41	137

Table 7 | INDUCTION by reasoning evidentials (obviousness and objective reliability).

As to *induction by reasoning* evidential verbs (*obviousness* and *objective reliability*), we can notice that *demonstrate*, *know*, and *discover* are the most frequent verbs, mainly exploited in press releases issued after vaccine withdrawal.

Evidentials	AZPre		AZDuring		AZAfter		TOTAL
	Hits	Rel. Freq. pmw	Hits	Rel. Freq. pmw	Hits	Rel. Freq. pmw	
show	11	1266.11	8	995.52	79	2,204.18	98
identify	0	0	4	497.76	12	334.81	16
look	1	115.1	2	248.88	9	251.11	12
see	0	0	1	124.44	8	223.21	9
indicate	0	0	0	0	7	195.31	7
observe	0	0	2	248.88	4	111.6	6
TOTAL	12	1381.21	17	2115.48	119	3320.21	148

Table 8 | INDUCTION by perception evidentials (obviousness and objective reliability).

Regarding *induction by perception* (*obviousness* and *objective* reliability), the preferred evidential verbs are *show* and *identify*. The former occurs in the press releases before and after the withdrawal of vaccination; the latter is preferred in the press releases after the withdrawal of vaccination.

As can be seen in Tables 6-8, it is evident that there is variation in the use of evidential markers (cf. e.g. *say* and *show* compared to *recommend* and *identify*) and in the preference for the use of evidential markers (cf. e.g. *say*, *confirm*, *demonstrate* and *identify*), which seems to be related to whether the press release was issued before, during or after the vaccine withdrawal. In the following sections, we will describe how the different types of evidential markers are used with agency patterns.

4.2 Agency and Patterns of Agency

A breakdown of the agency in relation to *hearsay* and *induction* (by *reasoning* and by *perception*) evidential verbs is offered in Tables 8-10. In each table, the first column indicates the evidential verb used in the AZPre, AZDuring, and AZAfter subcorpora, which are indicated in the second, third and fourth column, respectively. In each of these columns, a sub-column indicates the total number of hits of the evidential verb per subcorpora. In the following second sub-column, the type of agency is given, with the number of hits in round brackets. No relative frequency is indicated, as it has already been shown in Tables 6-8-7. The pattern of agency will be discussed later in this section.

4.2.1. Agency in HEARSAY Evidential Verbs (Expert Knowledge and Intersubjective Reliability)

Table 9 shows the type of agency found with the **Table 9** | Key subjects of HEARSAY (expert knowledge; intersubjective reliability) evidential verbs.

Evidentials	AZPre		AZDuring		AZAfter		TOTAL
	#	Type of subject	#	Type of subject	#	Type of subject	
say	19	Officer /investigator (16); Group (4)	11	Officer /investigator (11)	43	Officer /Investigator/ president (43)	73
report	3	Passive, no agency (3)	5	Passive, no agency (5)	28	Passive, no agency (25) You (2) Healthcare professionals (1)	36
announce	2	The company [AZ] (1) Passive, no agency (1)	4	MHRA (2) Passive, no agency (2)	22	AZ (16) The Company [AZ] (1) Investigators (1) Passive, no agency (4)	28
recommend	8	Committee (1) Authorisation (1) Passive, no agency (2) CHMP (2) Group (1) They (1)	1	Pharm. agency (1)	10	Passive, no agency (7) Research group (3)	19

hearsay evidential verbs selected for analysis, that is *say*, *report*, *announce*, and *recommend*.

In the AZPre subcorpus, data suggest that agency is preferably (altogether 80.64%) assigned either to institutions (for lack of space labelled as 'company', 'group', 'committee') or to humans ('officer', 'investigator', 'they'), regardless the type of evidential marker employed, as can be seen in some excerpts below (our emphasis here and there):²

1. **Professor Andrew Pollard, Director of the Oxford Vaccine Group and Chief Investigator on the Oxford vaccine trials, said:** "The recommendation by the European Medicines Agency is an important milestone in extending access to the Oxford/ AstraZeneca vaccine in our region [PR4]

2. In June 2020, **the Company announced** a sub-licensing agreement with the SII to manufacture and supply up to one billion doses of the vaccine to low and middle-income countries [PR8]

3. **The authorisation recommends** two doses administered with an interval of between four and 12 weeks [PR2]

In both the AZDuring and AZAfter sub-corpora, there seems to be a preference for assigning agency to humans ('officer', 'investigator') or for the use of the passive forms without agency, as shown by examples (4)-(5) for the AZDuring sub-corpus and (6)-(9) for the AZAfter sub-corpus:

4. **Ann Taylor, Chief Medical Officer, said:** "Around 17 million people in the EU and UK have now received our vaccine, and the number of cases of blood clots reported in this group is lower than the hundreds of cases that would be expected among the general population". [PR26]

5. **This has been reported** in fewer than one in a million people vaccinated so far in the UK, and can also occur naturally- a causal association with the vaccine has not been established. [PR29]

6. **Mene Pangalos, Executive Vice President, BioPharmaceuticals R&D, AstraZeneca said:** "Today's marketing authorisation for AstraZeneca's COVID-19 vaccine as a third dose booster is an important step towards our goal of providing continued protection against COVID-19 for all populations. [PR50]

7. **AstraZeneca announced** positive high-level results from the Evusheld TACKLE Phase III outpatient treatment trial [PR50] efficacy was 83% compared to placebo in a six-month analysis **announced** on 18 November 2021. [PR51]

8. Evusheld received Emergency Use Authorization (EUA) in the US in December 2021 for pre-exposure prophylaxis (prevention) of COVID-19 in people with moderate to severe immune compromise due to a medical condition or immunosuppressive medications and who may not mount an adequate immune response to COVID-19 vaccination, as well as those individuals for whom COVID-19 vaccination **is not recommended**. [PR52]

9. The **WHO Strategic Advisory Group of Experts on Immunization (SAGE)** has **recommended** COVID-19 Vaccine AstraZeneca in countries where new variants, like the Delta variant of concern, are prevalent. [PR36]

For all verbs, the presence of agency realised with the indication of the institution or subject's title seems a way to establish authority and credibility, as revealed by examples (1), (2), (4), (6), (7), and (9). When passive forms are preferred, responsibility is left aside: emphasis seems to be focused on the results and the actions rather than on the doer, as shown in excerpts (5) and (8). In (8), in particular, the absence of the agent complement makes the meaning conveyed by PR52 as a matter-of-fact information: it is not important to know who has established that COVID-19 vaccination is not recommended for some people, but rather that some people are not recommended to get a vaccination *by the whole medical community*, because this is commonly-shared knowledge.

4.2.2. Agency in Induction by Reasoning Evidential Verbs (Obviousness and Objective Reliability)

As explained above, inductive (by reasoning) verbs are *demonstrate*, *discover* and *know*. These are normally used in the press releases issued after vaccine withdrawal. The type of agency is summarised in Table 10.

When *demonstrate* is used, data indicate that there is a preference (100%) for assigning responsibility for what is being said to 'data' 'results' 'findings', 'trials', actions, or objects in all subcorpora but

Evidentials	AZPre		AZDuring		AZAfter		TOTAL
	#	Type of subject	#	Type of subject	#	Type of subject	
demonstrate	3	Efficacy endpoint (2) Results (1)	4	Trial (3) Efficacy endpoint (1)	46	Investigator (1) Data (14) Results (2) Dosing interval (1) Study (1) Antibody combination (1) Vaxzevria (1) In vitro findings (6) Findings (2) Author (1) Lab (6) Medicine (4) Analysis (2) AZ (1) AZ vaccine (1) Antibody combination (2)	53
discover	1	Nominalization (1)	1	Passive with agency (1)	14	Passive with agency	16
know	0	//	0	//	18	Passive, no agency (18)	18

Table 10 | Key subjects of INDUCTION by reasoning (obviousness and objective reliability) evidential verbs.

in particular in the AZAfter one, as can be seen from excerpts (10) – (12) below:

10. In particular, **data** from Washington University School of Medicine **demonstrated** Evusheld retained neutralising activity against the highly transmissible BA.2 subvariant [PR61]

11. Additional **in vitro findings demonstrate** AZD7442 neutralises recent emergent SARS-CoV-2 viral variants, [PR47]

12. The AstraZeneca US **Phase III trial** of AZD1222 **demonstrated** statistically significant vaccine efficacy of 79% at preventing symptomatic COVID-19 and 100% efficacy at preventing severe disease and hospitalisation [PR30]

Responsibility for demonstrating scientific truth (i.e., Vaxzevria vaccination is safe) is never given to the researcher who does the experiment and thus demonstrates vaccination safety, but rather to the scientific data and findings themselves: objective reliability is thus totally realised.

In the case of *discover* and *know*, the evidential verbs are mainly used in the AZAfter press releases. These are constructed with passive forms. While *discover* has the agent complement, *know* does not have it, as can be seen in examples (13) and (14), below:

13. **Discovered by Vanderbilt University Medical Center** and licensed to AstraZeneca in June 2020, the human monoclonal antibodies bind to distinct sites on the SARS-CoV-2 spike protein7 and were optimised by AstraZeneca with half-life extension and reduced Fc receptor and complement C1q binding. [PR51]

14. Vaxzevria was effective against milder symptomatic disease although, given that data was only reported after a first dose instead of the indicated two dose schedule where efficacy is known to be enhanced in this disease setting. [PR41]

In excerpt (13), the text of PR51 explains that the monoclonal antibodies for pre-exposure prophylaxis need to be used by those people “with moderate to severe immune compromise due to a medical condition or immunosuppressive medications and who may not mount an adequate immune response to COVID-19 vaccination” (PR51). The fact that monoclonal antibodies have been discovered by “Vanderbilt University Medical Center” is relevant: the institution credentials (“University Medical Center”) reinforce the authority of AstraZeneca, their partners, and simultaneously re-construct a positive image of a sound company (AstraZeneca has the licence of this treatment).

In example (14), the press release is explaining the 82% efficacy of Vaxzevria vaccine against hospitalisation or death caused by the beta variant of COVID-19. The fact that “efficacy is known to be enhanced” with two doses of vaccination makes this knowledge as commonly-shared: AstraZeneca is not saying that *they know* about the efficacy, but is rather posing this knowledge as being common-sense (and indeed no reference is offered about it), not even worth being discussed.

4.2.3. Agency in INDUCTION by Perception Evidential Verbs (Obviousness and Objective Reliability)

As indicated above, *induction by perception* evidential verbs are *show* and *identify*, which are particularly used in the AZAfter subcorpus. A summary of the results can be seen in Table 11.

Evidentials	AZPre		AZDuring		AZAfter		TOTAL
	#	Type of subject	#	Type of subject	#	Type of subject	
show	10	Regimen (1) Passive, no agency (5) Efficacy endpoint (2) Analysis (1) Data (1)	8	Review (1) Data (1) Analysis (2) Evidence (1) Re-test (1) Passive, no agency (1)	79	Analysis (6) Data (19) Vaccine (3)/Vaxzevria (3) Evidence (5) Study/ies (9) Trial (2) Results (7) Passive, no agency (2) Therapy (2) Evusheld (1) Recommendations (1)	97
identify	0	//	4	Passive, no agency (2) Board (1) Science (1)	12	Passive, no agency (12)	16

Table 11 | Key subjects of INDUCTION by perception (obviousness and objective reliability) evidential verbs.

As for *show*, the verb is actually to be understood as a synonym of ‘demonstrate’. When this verb is used, agency is mainly realised with ‘analysis’, ‘data’, ‘evidence’, ‘test’, ‘study’, ‘trial’ (roughly 93% of all the occurrences of *show*) throughout the period of time under consideration. Example (15) show its use in the AZPre subcorpus; (16) in the AZDuring subcorpus; and (17)–(18) in the AZAfter subcorpus:

15. **The analysis** also **showed** the potential for the vaccine to reduce asymptomatic transmission of the virus. [PR6]

16. **Previous trials have shown** that an extended interval of up to 12 weeks demonstrated greater efficacy, which was also supported by immunogenicity data [PR30]

17. The **data show** that the vaccine will continue to have a significant impact around the world given that it continues to account for the overwhelming majority of supplies to India and the COVAX facility [PR37]

18. In addition, the COV-BOOST **trial showed** that a third dose booster of Vaxzevria induced significantly higher immune responses compared with controls against the Delta variant and original strain following a primary vaccine series of Vaxzevria or Pfizer BioNtech (BNT162b2) [PR55]

As already seen for *demonstrate*, when *show* is used, responsibility of what is scientifically shown (i.e., Vaxzevria vaccination is safe) is never assigned to the scientist but rather to the scientific data and results, accomplishing objective reliability.

If agency is not assigned, the passive form is used to convey a matter-of-fact knowledge, whether *show* is found in the AZPre or in the AZAfter subcorpora:

19. **It [the AZ vaccine] has been shown** to be effective, well-tolerated, simple to administer and is supplied by AstraZeneca at no profit. [PR2]

The agentless passive form is the preferred pattern found with *identify*, particularly in the AZAfter subcorpus:

20. These very rare events can be avoided when **symptoms are identified** and treated appropriately [PR39]

In example (20) what is important is the identifica-

tion of the symptoms rather than who identifies such symptoms: this seems to convey the idea that all the medical community adopt the same protocols because they have knowledge and expertise and need to be trusted – hence the irrelevance of who does the diagnosis.

4.2.4 Patterns of Agency

From this brief analysis, we can identify some linguistic patterns codified by the press release author in a way that recall Terkourafi’s (2015) notion of conventionalised expressions depending on the pragmatic function of the text. In fact, we can observe that different types of evidential verbs are used in conjunction with different forms of agency and responsibility that are not interchangeable and that convey the text different pragmatic functions.

When agency is present, it refers to institutions/ people or entities (such as ‘data’, ‘findings’, ‘study’, ‘laboratory’, ‘trial’, etc.). In the former case, patterns of authority, credibility, and reliability can be constructed only if the evidential verbs (i.e. *say* or *announce*) belong to the *hearsay* category; in the latter case, patterns of objectivity are strategically codified with evidential verbs belonging to the induction by reasoning (*demonstrate*) and by perception (*show*) category.

In our corpus, when agency is not present, sentences are created with agentless passive forms (and with such verbs as *recommend* and *know*) that put an emphasis on the information conveyed rather than on the person who conveys such information. In this way, the absence of the agent seems to reveal a form of commonly-shared knowledge, obvious to the medical community.

These findings suggest that specific evidentials are used with specific agency patterns to construct AstraZeneca’s identity as a reliable and authoritative

corporation acting with scientific responsibility and offering the public sound data and commonly-shared knowledge. A summary of agency and textual pragmatic function is offered in Table 12.

5. Conclusions

In this chapter we have discussed how AstraZeneca constructed and re-constructed its own image before and after the deaths supposedly linked to the Covid-19 vaccine while spreading scientific information. Such semantic regeneration, achieved in terms of practices (evidentiality) and genres (press releases) is clearly reflected in forms of linguistic and textual regenerations.

To this purpose, we analysed AstraZeneca’s press releases delivered during the pandemic to detect:

- how the company image is linguistically regenerated in terms of information dissemination through evidentiality, and
- with what patterns of agency and responsibility such information is conveyed, deploying semantic regeneration.

The corpus-based approach (McEnery, Hardie 2011) helped us to detect evidential markers (Chafe, Nichols 1986; Bednarek 2006; Hart 2011) necessary to carry out our investigation. Despite the national policies adopted in relation to AZ vaccine, which resulted in a stop of AstraZeneca vaccination, AZ seems to have conveyed a narrative different from the one reported by official media: it is one where AstraZeneca’s identity is created in a sound way. In this semantic regeneration, we can see that the discourse of AstraZeneca’s press releases varies according to context and pragmatic function, thus allowing permeable boundaries in the press release genre: such semantic regeneration of expressive surfaces and productive models points to key strategies of discursive creation.

The linguistic investigation of AstraZeneca’s press releases has revealed the following points:

- Press releases are characterised by a dramatic rise of *hearsay* and *induction* evidentials after the AZ vaccine was withdrawn;
- Belief and deduction evidentials are seldom present. This may depend on the fact that *be-*

Agency	Evidential category	Evidential verb	Pragmatic function
Officer /investigator/ president Passive, no agency The Company [AZ]	Hearsay (expert knowledge and intersubjective reliability)	SAY/ANNOUNCE	Authority, reliability and credibility
		RECOMMEND	Agentless Passive form to convey commonly-shared knowledge
Data Findings laboratory Passive, no agency	Induction by Reasoning (obviousness and objective reliability)	DEMONSTRATE	Objectivity
		KNOW	Agentless Passive form to convey commonly-shared knowledge
Data Study/ies Trial Results	Induction by Perception (obviousness and objective reliability)	SHOW	Objectivity

Table 12 | Agency and textual pragmatic function.

belief and *deduction evidential* convey subjectivity – and therefore non-objective representation of the scientific truth expressed in the press release.

Undeniably, mental verbs normally found in *deduction* evidentiality express stance and attitude; cognitive verbs normally found in *belief* evidentiality express personal thoughts (Maci 2022). Speech act verbs typical of *hearsay* evidentiality are predominantly used in academic prose (Biber et al. 1999: 760) “to report a stance that is not overtly associated with the thoughts or feelings of human observers.

In our corpus, *hearsay* and *induction* evidentials resort to different ways of representing agency. When *hearsay* evidentials are employed, agency is assigned to humans; when the verbs used belong to the *induction* evidential category, agency is attributed to data, finding, trials. When passive forms are used, there seems to be a preference for constructions that omit the agent complement. This is particularly the case when discourse is centred around medical or scientific notions. In this case, the emphasis is on the results of the action rather than on the doer of the action itself. In addition, this contributes to supporting the idea that the conveyed information belongs to commonly-shared knowledge. Overall, therefore, AstraZeneca sets discursivity ‘in motion’ and, by semantically regenerating its identity as one of an authoritative, objective, reliable and credible corporation, its discursive framework shows movement as textually configured in complex and multiplied argumentative models mirroring the pragmatic functions determined by the context.

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Notes

¹ See, for instance, Adnkronos (2021a, 2021b); ANSA (2021c, 2021b, 2021a, 2021d, 2021e, 2021f, 2021g).

² All the examples quoted here are followed by an acronym in square brackets: PR stands for 'press release'; the number after PR indicates the number assigned to the PR following the chronological order PRs have been collected.

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