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The 'Transparency Effect' in Pharmaceutical ESG Reports

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Abstract

As the pharmaceutical sector has become increasingly competitive, companies have adopted a plethora of strategies and practices not only to publicise their products but also to be perceived by stakeholders as transparent and, by way of implication, honest and ethical. Drawing on a corpus of English-language Environmental, Social and Governance (ESG) reports, this study investigates the complexity and dynamism of the discursive strategies used by leading pharmaceutical companies listed on the stock exchange to build and enhance an image of transparency and credibility. By distinguishing between the level of the utterance – what is being communicated – and the enunciational level (Greimas & Courtés 2007; Greimas 1983), which regards the writer and the context of enunciation, this paper conducts a semio-linguistic analysis in an attempt to explore different construals of transparency and opacity. The discourse of pharmaceutical companies is revealed as a sophisticated communicative construct, where various strategies are employed to create meaning effects that are used to foster an image of transparency and boost stakeholders' trust.

1. Introduction[1]

Transparency dominates contemporary communication in myriad fields due to the growing demand for objectivity, immediacy, and trust. However, it is a concept that is difficult to pinpoint or operationalize, as it can take on different meanings in different contexts and is often shaped by diverse, sometimes conflicting expectations:

> As the mediation of our everyday experiences augments, a generalised feeling of mistrust in institutions reigns; the sense of a need to bypass them increases, and the call for more "transparency" intensifies. (Valdovinos 2018, 654)

As the pharmaceutical sector has grown highly competitive in recent times, companies have begun to adopt a plethora of strategies and practices not only to publicise their products but also

[1] The paper is the result of joint work. Andrea Fenice contributed primarily to Sections 2, 3.2 and 4; Renzo Mocini to Sections 1, 3, 3.1.

to be perceived by their stakeholders as transparent and, by way of implication, honest and ethical.

From a strictly concrete perspective, transparency is a topic belonging to the realm of physics, to that of optics in particular. According to the Merriam-Webster online dictionary,[2] the word "transparent" means "having the property of transmitting light without appreciable scattering so that bodies lying beyond are seen clearly." This definition may align some of the properties of optical transparency with those of the transparency construed in pharmaceutical discourse. The notion of transparency presupposes *seeing*, having a vision that implies "the presence of at least two protagonists involved in a relationship of mutual presupposition – one who *sees*, the other who *is seen* – and between them the object itself of communication circulates" (Floch 2003, 117-118; our translation; Floch's emphasis). Therefore, to enable vision, a light source is required, that is, a device that 'illuminates' what needs to be observed and capable of creating the conditions of greater or lesser visibility, so that an 'optical game' with different effects of transparency and opacity can take place. The present study investigates the complexity and dynamism of this 'illuminating' device exploited by the discourse used by pharmaceutical companies to build up and enhance images of transparency and **credibility**, which are closely intertwined, as credibility often relies on the perception of transparency.

Transparency presumes that an obstacle or **diaphragm** placed between a source and a point of observation does not hinder perception in any substantial way. As shown in Fig. 1 below, the same is true for the literal/optical meaning of the word, but also for the metaphorical/communicative implication.

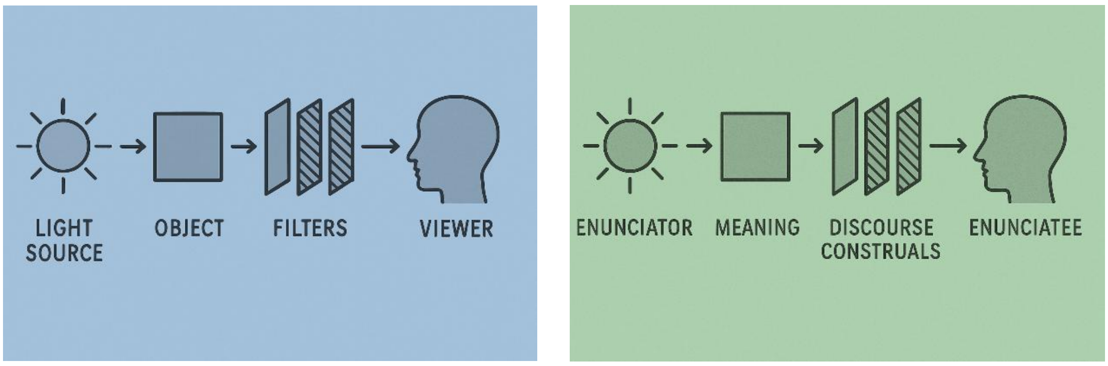

Fig. 1: The transparency effect

Transparency is not static but dynamic; it is not a state but a process by means of which a potential or virtual barrier is neutralized so that what is on the other side of the diaphragm may be seen clearly. However, it may also represent an ambiguous or problematic concept,

[2] www.merriam-webster.com/dictionary/transparent. Last visited 23/03/2024.

> As it transmits light, transparency provides a degree of information, and yet at the same time, it conceals the very thing that stands in the middle between emitter and receptor (the "something" that allowed the passage of light), which means that it can also simultaneously refract, diffract, and scatter some of this light. Transparency is both barrier and passage; it designates a threshold, an "in-between" and is thus an inherently ambiguous notion. (Valdovinos 2018, 657)

Based on the metaphorical analogy with this optical phenomenon, this paper focuses on the 'in-between' space within which discourse unfolds, the *locus* where the interaction between the two actants (transmitter/enunciator and receiver/enunciatee) of the communicative process is enacted, where they negotiate and stipulate a communicative agreement, a pact regarding the values inherent in the discourse. These may concern, for example, ethical issues like truth, trust, and transparency. The aim is to describe how this in-between space functions as a dynamic site of negotiation and meaning-making, and to explore its implications for understanding discursive ethics and communication.

2. Corpus and methodology

2.1 Corpus

The corpus investigated here includes the Environmental, Social and Governance (henceforth ESG) reports for the year 2021 available online on the websites of a selection of pharmaceutical companies present on the stock exchange. To remove sensitive data, we have replaced the names of the pharmaceutical companies with neutral identifiers (Company1, Company2, etc.) and obscured product names and other identifiable details with placeholders (e.g., [ProductName], [Date], and [DiseaseName]).

ESG reports are published yearly and contain data on the actions taken by the companies in question regarding environmental sustainability, their social impact and corporate governance. ESG reports sum up the activities carried out by the companies and showcase how they have benefited society in general, and the company in particular, with a view to convincing stakeholders and the general public alike of the positivity of their actions.

The details of the ESG corpus are displayed in the following table:

Company	Tokens	%	Company	Tokens	%
Company1	21,408	6.8	Company5	17,631	5.6
Company2	78,781	25.1	Company6	56,283	18
Company3	14,103	4.5	Company7	33,089	10.6
Company4	79,959	25.5	Company8	12,164	3.9
Total tokens: 313,418					

Tab. 1: ESG corpus

As Tab. 1 shows, ESG reports vary considerably in length and are present under various labels. The texts are available in downloadable PDF files. Each file was converted into text form and redundant elements such as headers, footers or tables of contents were removed. The files thus 'purged' were then uploaded to the SketchEngine webapp[3] for quantitative analysis. When a comparison was required for numerical relevance, the English Web 2020 (enTenTen20[4]) was used as a reference corpus.

2.2 Theoretical tools

To capture the flow of meanings that appears, now illuminated, now blurred, as the discourse unfolds, we can borrow an analytical tool from semiotics: the semiotic square. The semiotic square is part of Greimas's (1966) generative trajectory of meaning, a semiotic model describing the emergence of meaning from various levels of discourse. It is a visual representation of the logical articulation of any semantic category.

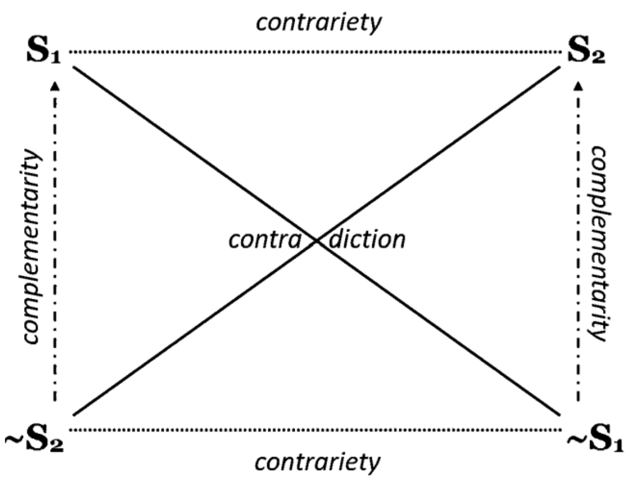

Fig. 2: The semiotic square

As a theoretical tool it can be used to highlight logical oppositions between fundamental concepts, by streamlining abstract reasoning, but – more importantly – by permitting insights that might otherwise escape detection. This schema is useful since it illustrates the full complexity of any given semantic unit (or seme). Greimas (1966) claims that any given semantic unit entails its opposite, or contrary. "Beautiful" (S_1), for example, is understood in relation to its contrary, "Ugly". Besides this simple binary opposition (S), however, he points out that the opposition, "Beautiful" and "Ugly", suggests what he terms a contradictory pair (~S), i.e., "Not-ugly" ($\sim S_2$) and "Not-beautiful" ($\sim S_1$). Therefore, S_1 is the main concept being analysed, S_2 is the

[3] www.sketchengine.eu. Last visited 09/06/2025.
[4] www.sketchengine.eu/ententen-english-corpus. Last visited 09/06/2025.

logical opposition to be highlighted. The not-S_1 and not-S_2 slots are filled with concepts contradictory to their counterparts. This creates two axes of contrariety S_1/S_2 and not-S_1/not-S_2. The semiotic square reminds us that this is not simply a binary form of opposition because something which is not beautiful is not necessarily ugly and something which is not ugly is not necessarily beautiful.

We can employ the semiotic square as a heuristic tool to investigate the concept of Transparency. If we turn the semantic category of "Transparency" into a semiotic square, we obtain the following cluster of logical relations:

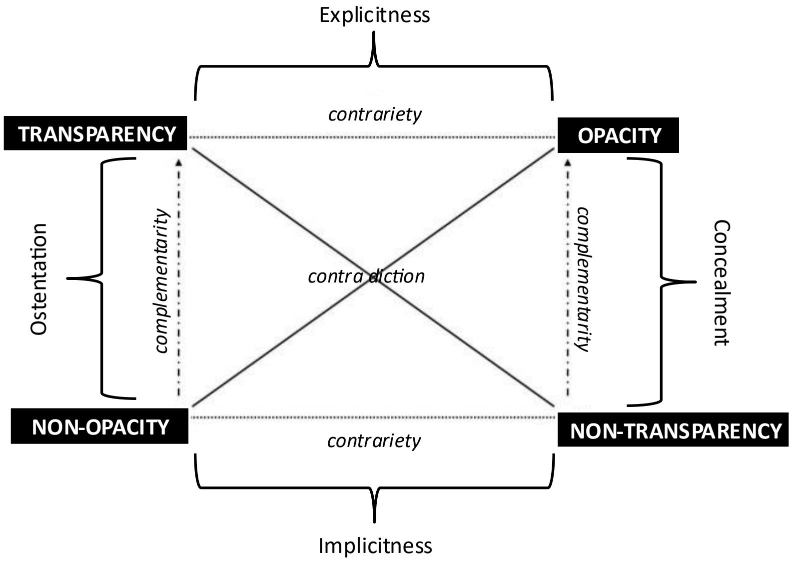

Fig. 3: The semiotic square of Transparency

As shown in Fig 3., once the vertices are labelled, the square becomes a perfect brainstorming tool we can exploit to investigate different modes of communication since it is also possible to lexicalise the four sides to account for different discourse strategies.

In the square, the main opposition is *Transparency/Opacity*, and the resulting sub-contrariety is *Non-opacity/Non-transparency*. Are they the same as might appear at first glance? Although conceptually similar, the upper and lower halves of the square imply an opposite mode of communication: the *Transparency/Opacity* dyad indicates explicit communication. Being transparent and being opaque, as defined here, both are overt communicative acts. Conversely, as the enunciator may also resort to implicit communication to avoid stating or clarifying, this can lead to *Non-opacity/Non-transparency*.

The right and left sides of the square are quite easy to define logically. The *Opacity/Non-transparency* opposition implies discursive concealment, an opaque discourse, while *Transparency/Non-opacity* implies an ostentatious type of communication, such as meanings that stress clearness and rhetorical devices that underline the enunciator's openness. The top and bottom sides of the square are characterised by 'complementarity,' with the arrows indicating logical implications. This means that overt *Transparency* implies *Non-opacity* (just as overt *Opacity* implies *Non-transparency*), though the opposite is not necessarily true. In other words, *Transparency* is a subset of *Non-opacity*, while *Opacity* is a subset of *Non-transparency*. The square is, therefore, a dynamic operational tool which permits an analysis of 'semantic movements' from one side to the other or from one vertex to the other. The oppositions present at the deep level of the text are actualized at discourse level and realized through different linguistic construals.

In addition to the semiotics adapted from Greimas' model, the theoretical framework also incorporates tools from both Cognitive Linguistics (Langacker 2008; 1990) and Systemic Functional Linguistics (Halliday and Matthiessen 2014). Langacker's concepts are particularly valuable for illustrating the process of subjectification, which involves representing meanings from a subjective standpoint. Conversely, Halliday's tools are specifically used to manage modality and discuss strategies of objectification, focusing on how meanings are construed objectively in pharmaceutical discourse.

All enunciative strategies will be thoroughly explained and discussed in the body of the paper, with detailed examples provided to illustrate their application.

3. The management of knowledge and belief

The dimension of knowledge constitutes a pivotal element in ESG reports. Informing stakeholders means, first of all, 'letting them know.' Making something known also implies creating belief, i.e., a persuasive action by the enunciator about the truth of what is conveyed. Given the cognitive nature of this kind of communication, the management of knowledge calls for investigation of the enunciational axis, by reconstructing, semiotically, the figure of the enunciator that a text construes as well as the figure of the enunciatee whose profile emerges 'against the light,' due to the way information is presented. This is what Sulkunen and Törrönen call "the problem of enunciation":

> Any speech or text inevitably constructs an image of somebody who issues it, and by the same token also of those who are supposed to receive it. These images are more or less fictive and often hidden or left in the shadow of what we usually believe to be the 'message.' (1997, 121)

The dimension of enunciation, though inherent in every kind of discourse, can be variously hidden or emphasized through either objectifying or subjectifying strategic operations, which Greimas (1983) calls "masking" (see paragraphs 3.1 and 3.2 for a detailed discussion). The creation of belief relies on the presumed sincerity or *transparency* of a piece of discourse. To this end, enunciators manipulate the dimension of enunciation by creating variegated effects of transparency or opacity to serve their communicative purposes. Therefore, construal operations at the discourse level can be realized linguistically as an expression now of one, now of another of the semantic terms placed at the vertices of the square. Thus, the square of Transparency we devised will be used specifically to analyse *enunciational* transparency and opacity: the degree of presence or concealment of the markers of enunciation, which indicates the type of masking adopted in an utterance or stretch of discourse.

This concept is strictly related to the semiotic notion of "disengagement" (*débrayage*). According to Greimas and Courtés, it is "the operation through which the instance of enunciation disjoins from and projects outside of itself […] some terms connected to its basic structure" (2007, 69).[5] If we consider the 'I,' 'here' and 'now' of the enunciative act, disengagement can be seen as a projection within the utterance of the three elements, which creates the *simulacra* of the actant, space and time of enunciation inside the discourse. These are called actantial, spatial and temporal disengagement, respectively. The first is the most relevant here, since it is strictly connected to masking and the construction of the writer's image. This is due to the fact that actantial disengagement can 'project' the simulacra of the enunciator, creating a subjective type of discourse (enunciational disengagement). Alternatively, the utterance can be projected with the removal of any explicit traces of the enunciator (utterative disengagement), resulting in an objectivized type of discourse. Finally, a return to the subject of enunciation may follow the disengagement; this is called re-engagement and "creates an illusion of immediate presence" (Sulkunen and Törrönen 1997, 132), a sense of proximity with the enunciator. Drawing on the theoretical framework outlined above, the study integrates quantitative and qualitative methods to examine how enunciative strategies are used in pharmaceutical ESG communication.

3.1 Enunciational transparency: subjectifying masking

A quantitative analysis of the data shows that pharmaceutical ESG communication exposes the 'speaking voice' of a text strongly, using forms of uttered enunciation.[6] The intensive use of the first-person plural pronoun *we* and other related forms, such as *us* or *our,* is perceivable in all the texts and easily corroborated by quantitative data:

1st-person markers	Occurrences	Relative %	% in ref. corpus	ESG/ref. freq. ratio
We	3,592	1.1	0.29	3.79
Us	365	0.12	0.079	1.52
Our	5,365	1.7	0.15	11.33

Tab. 2: Frequency of first-person pronouns and adjectives

[5] All quotations from this text are our translations.
[6] Uttered (or reported) enunciation [is the] simulacrum that imitates the enunciational act within the discourse: the "I", "here" and "now" (Greimas and Courtés 2007, 105).

These first-person markers act as the most evident and direct textual simulacra of the enunciating voice. This strategy, based on evident and direct textual simulacra of the enunciator of pharmaceutical discourse, is referred to by Greimas (1983) as "subjectifying masking": the enunciators are onstage, that is, "illuminated by 'spotlights' of focal prominence" (Langacker 2008, 365), exhibiting themselves and leveraging their authority to ensure that their arguments be accepted. This way, the enunciator is 'saliently' construed:

> In their tacit role as subjects of conception, the speaker and hearer are always part of the conceptual substrate supporting an expression's meaning. If that is their only role, they are always implicit and construed with maximal subjectivity. To varying degrees, however, they can themselves function as objects of conception, in which case they are more salient by virtue of being construed more objectively. The extreme is to put them onstage as the focus of attention: with the first- and second-person pronouns (*I*, *you*, *we*, and their variants), the speaker and hearer are profiled, explicitly mentioned. (Langacker 2008, 78)

It is as if "the discourse, reflection of a subjectivity that expresses itself without mediation, gives access directly and in a fully transparent mode to the 'truth of the subject' that it enunciates" (Landowski 2003, 202, our translation). This is the maximum degree of enunciational transparency associated with the upper left vertex of the square (see Fig. 3): the enunciatee has direct access to the universe of the enunciator. To return to the optical metaphor, we can say that the 'diaphragm' between enunciator-observed and enunciatee-observer does not hinder perception in any way. The latter observes the former and ascertains the correspondence between their immediate appearance and their effective mode of being. Therefore, the enunciator acts as guarantor of the truth or sincerity of the statements contained in the text, which arises from the fact that the enunciator guarantees it with their presence in the utterance. It is a matter of creating a relationship of trust based on the ethos of the speaking voice, consisting of a dual 'modal competence,' as it is called in semiotics. Landowski (2003) imagines this competence as being divided into two aspects: one relating to the 'capacity' of a subject, the other to their 'desire' to carry out a narrative programme.[7] The first semantic field, that relating to ability, might be defined as credibility: it refers to a technical competence or to those modalities that in semiotics are called 'actualizing,' of 'being able to do' and of 'knowing-how.' The enunciator-companies need to highlight their ability to carry out the narrative programmes they are responsible for and to render them transparent:

[7] The Narrative Program (NP) is the core of the Greimasian actantial model. It represents the junction of the subject with its object of value. Notably, the value the subject assigns to the object can be modalised based on the subject's relation to the action: "wanting to/having to" (desire to act) or "being able/knowing how to" (capacity to act).

(1) By June 2021, we made and delivered our 200 millionth dose of the [Company5] [ProductName] to the [Country] government. This was a heartening milestone, knowing that many tens of millions of people had been fully vaccinated or received their first dose in the [Country] (Company5)

In (1) above, the enunciator, with temporal and quantitative data at hand, aims to demonstrate the company's ability to achieve specific goals. By sequentially inserting an enunciational (first sentence) and an utterative (second sentence) disengagement, the discourse first generates a movement of subjectification, showing the enunciator's perspective and agency ("we made and delivered…"), and then introduces a factual statement with concrete data ("many tens of millions of people…") that support the initial claim.

The second aspect referred to by Landowski might be called 'reliability,' a term which summarizes the modalities of 'having to do' and 'wanting to do' and refers to an ethical type of competence. The enunciators make the narrative programmes explicit; they can be configured as a promise, a commitment, a 'will to do' and a duty to perform, which, in semiotics, are defined as 'virtualizing' modalities (Greimas 1983; Greimas & Courtés 2007). The enunciator undertakes to do something that responds to the needs and expectations of the interlocutors, giving them voice and shaping their desires.

(2) As a leader in the healthcare industry, we know that human health is inextricably linked to the health of the planet – we can't have healthy people and communities without a healthy environment. With this knowledge in hand, [Company4] is marshalling resources, expertise and convening power to positively impact planetary health while also ensuring the resilience of our business for generations to come. (Company4)

Another discursive strategy employed for manipulative purposes appears clearly here, too, namely the use of *we* which assumes a semantic value that hovers on the brink between 'exclusive' and 'inclusive.' It refers, on the one hand, to the company which, as a leader in its sector, acts as a link between healthcare and the environment; on the other, it refers to values shared practically by everyone which the company promotes and defends ("marshalling"). The use of the plural first person, as conveyed by the object personal pronoun *us*, bears witness to a technique of actantial closeness using the inclusive *we* by means of which the enunciator seeks to merge with the recipient by abolishing distances (Desideri 1987, 103). The enunciator simply flaunts their attitude of defence of the values associated with the left-hand side of the semiotic square, which is reflected in the use of metaphenomenal mental clauses representing "the content of thinking, believing, presuming and so on" (Halliday and Matthiessen 2014, 254). Using Halliday's categories, these clauses feature a Phenomenon – the object of mental experience – realized by a clause that denotes a semiotic fact impinging on the Senser's consciousness (the consciousness of *we*):

(3) We believe that inclusion is a right and diversity is a strength. (Company1)

(4) We recognize that correctly diagnosing serious diseases and understanding potential treatments is critical to patient care. (Company8)

By adapting Cap's (2005) work on proximisation, we can here render pertinent the notion of "common ground" as "a construction of a mental frame shared by the speaker and the addressee" which is related to the "enactment of [the speaker's] credibility, imposition of common discourse goals or attracting the addressee to a particular course of action" (2005, 22-23).

(5) From [DiseaseName1] to antibiotic resistance, [DiseaseName2] and [DiseaseName3], [Company4] is taking on fundamental global health challenges facing humanity – pandemics and epidemics, and global health equity. While the world has made significant progress in providing improved healthcare, major gaps remain in achieving better health for all. Through global access plans, we will help ensure equitable access to solutions that save lives, cure patients and prevent disease for those most in need. (Company4)

The enunciator and enunciatee share the same spatial ("global", "humanity", "pandemics"), temporal ("remain") and axiological ("equitable access…for those in need") deictic centre and are thus bound together in the pursuit of the same goal ("save lives", "cure patients", "prevent disease"). This "proximisation" strategy (Cap 2008), consisting in a macro-act of promising, creates "an aura of common ground" (Cap 2008, 28) which facilitates justification of the enunciator's actions and positions ("we will help ensure").

The enunciator's ethos also leverages the value of continuity, of constant commitment to the pursuit of goals. This constant, protracted attitude of 'willingness' is aimed at building a reliable image. This value is realized at the discursive level through the use of durably aspectualised processes. Verbs such as *remain* and *continue* are employed in recurrent patterns:

(6) We recognize that vaccine availability continues to be a challenge in many parts of the world, and we remain focused on ensuring that low-income countries have access to our vaccine. (Company5)

(7) We have a lot of work to do and are deeply committed to understanding our impact on the environment and taking action to protect the health of the planet. […] We will continue to work on our roadmap to net-zero carbon emissions, establishing next our baseline for Scope 3 GHG emissions. (Company5)

The use of *continue*, in particular, has been found to be extremely common when compared to the reference corpus, accounting for a relative frequency of 0.11% vs 0.033%.

According to Yule, in agreement with Searle (1969) and Austin (1975), a commissive speech act means that "the speakers commit themselves to some future action" (Yule 1996, 54). The identity of the enunciator, then, is negotiated in part on the basis of an undertaking to perform future actions. The extremely high recurrence of words like *commit* and *commitment* (0.14% vs 0.012%) containing the semes of /durability/, /sincerity/, /energy/ may be considered pertinent, because they help create an image of a reliable and credible enunciator. The use of the auxiliary *will* expresses the inevitability and certainty that future happenings and forthcoming events will occur. Finally, the continuous form magnifies these semantic features:

(8) We will continue to work on our roadmap to net-zero carbon emissions, establishing next our baseline for Scope 3 GHG emissions. In this journey, we are committed to remain transparent with our stakeholders and are also working to increase our ability to share data according to recognized reporting standards. We are creating the best version of [Company5] by investing in a sustainable future. (Company5)

The use of the continuous aspect (e.g., *are working*, *are committed*, *are creating*) contributes to the impression of ongoing, active engagement. It reinforces the semes of /durability/ and /energy/ by suggesting sustained effort and a process in motion, rather than isolated or static actions. This grammatical choice helps convey an image of consistency and trustworthiness.

3.2 Enunciational opacity: objectifying masking

Although the transparency connected to uttered enunciation is dominant in pharmaceutical ESG reports, there are textual segments where – on the contrary – the enunciator is "offstage", to reiterate Langacker's (2008) metaphor. Greimas calls this device "objectifying masking" because it allows the enunciator to 'stay in the shadow' and construes an objective type of discourse. This strategic option is associated with the right-hand side of the semiotic square of transparency and corresponds to enunciational concealment. As shown in Fig. 3, this side comprises enunciational opacity and enunciational non-transparency, both based on the removal of the simulacra of enunciation with the consequent focus on the utterance itself. This strategy is called "utterative disengagement", which consists in forms of the overtly declared (or objectified) utterance, "as found in narrations which have generic subjects, in the so-called objective discourse" (Greimas and Courtés 2007, 70). Contrary to enunciational disengagement discussed in 3.1, here the enunciators aim at *concealing* their presence to highlight the objectivity of their discourse. Utterative disengagement expresses an oscillation between one vertex and another, namely from non-transparency to actual enunciational opacity, with a plethora of intermediate cases that are discussed below. As explained in section 2, the two vertices are in a relationship of complementarity; that is, opacity can be seen as a subset of non-transparency. The movement along this axis is characterised by a variation of degrees ranging from an implicit and concealed presence of the enunciator (non-transparency) to an explicitly opaque communication which deletes the markers of the enunciator's presence. It might help to remind that enunciational opacity refers to the markers of enunciation and does not concern the transparency of information disclosure. In fact, enunciational opacity corresponds to utterative transparency.

3.2.1 Modality

One of the ways by which enunciators can conceal their presence and construe objectifying masking is through modality, which according to Halliday and Matthiessen allows the writer to express "intermediate degrees between the positive and negative poles, […] to construe the region of uncertainty that lies between 'yes' and 'no'" (2014, 176). Modality, therefore, indirectly reveals the presence of the speaker in the nuances existing "between the certainties of 'it is' and 'it isn't' […] between the definitive 'do!' and 'don't!'" (Halliday and Matthiessen 2014, 176). Rather than expressing their presence explicitly through *we* or *us*, the enunciator may choose to appear non-transparently by mediating their statements through modality. Along these lines, Quirk et al. (1985) emphasize that modal operators help frame information in ways that align with the speaker's intentions and the listener's expectations. The choice of modals affects the perceived reliability of the information, influencing both assertiveness and politeness in communication. Despite this crucial role in shaping the reliability of statements, quantitative analysis reveals that this strategy is significantly underutilised in pharmaceutical ESG discourse. Consistently low frequencies of both modal verbal operators and modal adjuncts have been identified. A query for modal verbs on SketchEngine shows an average relative frequency of 0.39%, compared to 1.3% in the reference corpus. A detailed manual analysis of each modal operator confirmed this trend. The search was based on the following list (Tab. 3) of modal operators present in Halliday and Matthiessen (2014, 145).

Modal value	Modal operators
Low	can, may, could, might, (dare); needn't, doesn't/didn't + need to, have to.
Median	will, would, should, is/was to; won't, wouldn't, shouldn't, (isn't/wasn't to)
High	must, ought to, need, has/had to; mustn't, oughtn't to, can't, couldn't, (mayn't, mightn't, hasn't/hadn't to)

Tab. 3: Modal operators taken from Halliday and Matthiessen (2014, 145)

As shown in Tab. 4, on average, ESG discourse utilises only one third of the quantity of modal verbs used in the reference corpus, with a less prominent difference for low-value verbs, which, however, are still utilised less than half the times in the ESG corpus.

Modal value	Frequency	Ref. corpus	ESG/Ref. ratio
High	0.0081	0.0235	0.3443
Median	0.0232	0.0862	0.2698
Low	0.0424	0.0983	0.4316

Tab. 4: Modal value of verbal operators

The same tendency is shown in the scarcity of modal adjuncts, as reported in the following table.

Modal adjunct	Occurrences	Frequency	Reference	ESG/Ref. freq. ratio
Please	178	0.0570	0.0220	2.5909
Regularly	51	0.0160	0.0036	4.4444
Never/ever	29	0.0093	0.0570	0.1632
Always	27	0.0086	0.0320	0.2688
Often	23	0.0073	0.0280	0.2607
Generally	17	0.0054	0.0095	0.5684
Usually	9	0.0029	0.0140	0.2071
Clearly	7	0.0022	0.0079	0.2785
In general	6	0.0019	0.0035	0.5429
Sometimes	3	0.0010	0.0140	0.0686

Tab. 5: Modal adjuncts with more than 2 occurrences

Only 25/59 of the adjuncts Halliday enumerates[8] appear in the corpus and, among those, Tab. 5 shows those with more than 2 occurrences, which are only 10. *Please* seems to be used very frequently, but all the occurrences are actually para-discursive elements such as "please see page". All the other modal adjuncts appear with frequencies well below average, with the only

[8] Data gathered using the list of modal adjuncts in Halliday and Matthiessen (2014, 109).

remarkable exception of *regularly* (4.4 times more frequent than in the reference corpus), which reinforces the strategy mentioned in 3.1, concerning the creation of the image of a reliable and committed enunciator:

(9) We regularly evaluate our compensation programs. (Company3)

(10) We regularly test whether the pharmacovigilance system can cope with emergency situations. (Company2)

(11) We will continue to regularly engage with a wide variety of stakeholders to understand their changing needs, interests and expectations. (Company7)

By and large, the vast majority of the adjuncts indicate "typicality" (*regularly*, *generally*) or "usuality" (*never*, *always*, *often*, etc.), while modal adjuncts that indicate subjective evaluation are avoided almost completely. Overall, then, quantitative data seem to indicate a strong aversion by the enunciator for enunciational non-transparency in the use of modality.

This analysis, however, provides only a partial picture, since non-congruent means of expressing modality should be taken into account. This is the linguistic phenomenon that Halliday and Matthiessen call "metaphorical expansion of modality" (2014, 686), in which "the modality and the modalized proposition are separated, each being realized by a clause in its own right: the modality is realized by the projecting mental clause and the proposition by the projected idea clause" (2014, 687); as neatly summarised in the following passage, this results in four possibilities:

> The congruent realization of speech function takes place within clause through modal verbs such as *can, may, could* and *might* (implicit modal) or through modal adjuncts, e.g. *possibly* or *probably* (implicit mood adjunct). Alternatively, speech function can be realized within the *modality system* through projecting clause complexes consisting of mental and idea clauses, e.g. "I think…", "I believe" (explicit subjective) or objectively such as "It is possible to argue that…" (explicit objective). (Devrim 2015, 2-3, emphasis in the original)

Thus, the use of these interpersonal metaphors alters the modal construction, introducing the option of encoding subjectivity or objectivity explicitly in the modal construction ("I believe"/"I think" vs "it is likely"/"it is possible"). The four combinations of congruent, metaphorical, explicit and implicit result in what Halliday and Matthiessen call "a system of orientation" (2014, 692) and that Thompson defines as "the scale of 'modal responsibility'" (2004, 75), an expression that seems particularly appropriate here, to discuss the variation from non-transparency to opacity of the enunciator in ESG discourse. Given the reluctance detected in the use of implicit modality, explicit modal responsibility, i.e. the metaphorical construction of modality, seems to be the avenue preferred by the enunciators to control and mask their presence. As Thompson points out, "writers and speakers may resort to various methods either of *masking* their responsibility and presenting their viewpoint in an apparently objective way, or of highlighting their personal stance" (2004, 76, our emphasis).

Discussing the assumption of modal responsibility by the enunciator with the square of transparency in mind, we can notice a forked movement from non-transparency and from 'implicitness,' towards the two vertices of the 'explicitness' side of the square.

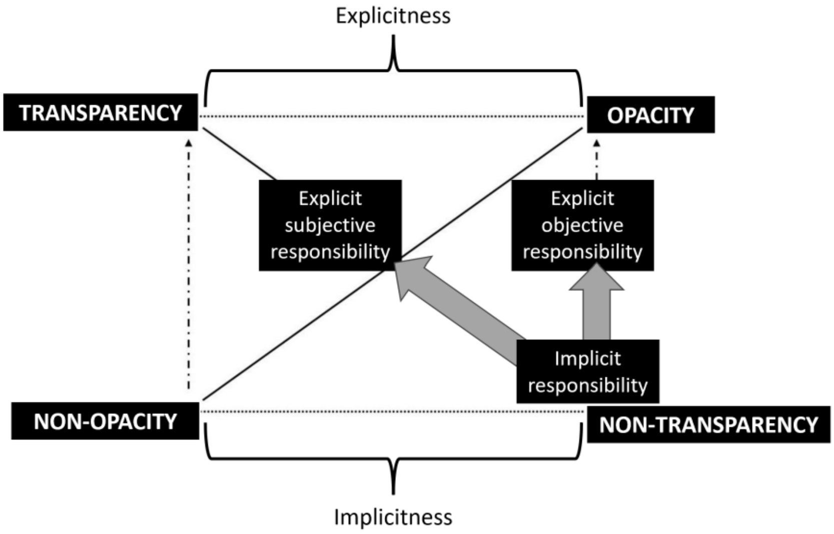

Fig. 4: The shift towards explicitness in modal responsibility

More specifically, as shown in Fig. 4, the use of explicit subjective responsibility implies a "projecting mental clause as mood adjunct" (Halliday and Matthiessen 2014, 693) that brings the enunciator to the foreground, resulting in enunciational transparency. As discussed above in 3.1, structures such as *we believe*, *we advise*, *we are committed*, *we recognize* are extremely common and frame information through a subjectifying kind of masking.

On the contrary, resorting to explicit objective modal responsibility implies the use of a "relational clause with modal Complement/Attribute" (Halliday and Matthiessen 2014, 693). The use of thematized comments (*it is* + attribute), for instance, is twice as common in ESG texts compared to the reference corpus (0.0099% vs 0.0049%) and allows the enunciator to conceal an appraisal as a given fact or shared knowledge. In most cases, it is used for the modulation of an obligation:

(12) It is essential to recognise that the effects of the climate crisis could be even greater. (Company1)

(13) It is critical that all employees at [Company4] maintain an always-on awareness of their role. (Company4)

(14) It is important to not only strengthen young people's knowledge, but also to increase awareness. (Company2)

These constructions perform an objectifying type of masking that results in a semiotic movement towards enunciational opacity. The examples quoted above, for instance, present a deontic modality objectively: instead of using "we want", "we must" or "we are required to" the enunciator opts for "it is critical that", "it is essential that", a construal which hides the source of the obligation, since a similar formulation conceals whether the enunciator *wants* or *has* to perform the actions described. Although numerically less significant than its subjectifying counterpart, objective masking achieved through explicit objective modal responsibility plays an essential role as part of the strategies that conceal the simulacra of the enunciator and foreground an image of 'reality' made of objective statements and facts. Sulkunen and Törrönen call this strategy "veridictory modality", claiming that it "place[s] the enunciator and the enunciatee upon the same footing, looking at reality from the same point of view, and therefore [its] use creates an alliance of solidarity between the two" (1997, 137). Therefore, by using the explicit objective modality, the enunciators opacify their personal stance so that the enunciatee can be placed in their same position and assume their perspective, by being induced to see the enunciator's opinion as fact. 'Forcing' a viewpoint upon the reader – or, better still, 'sneaking it in' – is a strategy of enunciational opacity, complementary to the more transparent exploitation of an explicit subjective modality aimed at foregrounding the enunciators as trustworthy entities who accept responsibility for their claims (see paragraph 3.1).

3.2.2 Other opacity devices

Alongside transparent enunciational disengagement, which brings the subjective perspective of the *we* forward, the enunciators also use utterative disengagement, i.e. third-person, to talk about themselves:

(15) [Company2] is committed to being a reliable partner. (Company2)

(16) [Company5] was the first company to launch a [ProductName] trial in humans. (Company5)

This is, on the one hand, an objectivizing strategy. By opacifying the markers of the enunciation, the enunciatee is presented with a constative utterance, a statement that expresses a verifiable situation. Utterative disengagement is used as a spotlight to direct the enunciatee's gaze towards the propositional content of the utterance, leaving the enunciational elements in the shade. On the other hand, the use of the company name creates a 'self-reflecting' actantial disengagement, because the "disjunction of the subject of enunciation and [the] projection within the utterance of a “not-I” (Greimas and Courtés 2007, 69) are actually a visual trick with ‘smoke and mirrors’ where the enunciators can assign values and attributes to another actant that is essentially themselves.

> [utterative disengagement] allows the writer to objectivise their own experience and, at the same time, keep it tied to themselves, like a painter who, to paint a self-portrait, must be able to imagine or see themselves from the outside, as a third person. (Padoan unpublished, 188, our translation)

Although no specific constructions exclusively associated with, *we* or the company name have been identified, a tendency has been noticed towards the use of *we* in combination with material processes in the continuous form, and a preference for the company’s name in attributive clauses of the X is a Y type:

(17) Through our goals we are taking urgent action to combat climate change and its impacts. (Company7)

(18) We are also working to strengthen healthcare systems by addressing two of the toughest challenges facing global health systems. (Company4)

(19) [Company6] is a high-performing organization. (Company6)

(20) [Company8] is proactive in increasing relationships with small and diverse suppliers. (Company8)

This might indicate the attempt to associate positive attributes with the company name, rather than a generic *we*, an attempt which is facilitated by the objectivizing effect of the utterative disengagement. While *we*-attributive construal (e.g. *we are* + adjective) would be an ostentatious approach, referring to the left-hand side of the square, the use of utterative disengagement allows the enunciator to – literally – disengage, to displace responsibility for the utterance and pass off as objective what are in reality self-attributed qualities, remaining on the *concealment* side.

‘Self-reflecting’ actantial disengagement is also evident in the peculiar constructions often associated with the company names, which loosely resemble the discontinuity of an anacoluthon. In the following examples, our emphasis highlights the grammatical incongruences:

(21) [Company7] is proud of *our* transparency efforts. (Company7)

(22) [Company2] is […] aware of its societal responsibility toward the communities adjacent to *our* sites. (Company2)

(23) [Company6] joined the 100-plus company EV100 initiative, demonstrating *our* commitment. (Company6)

This discontinuity is also frequently associated with sudden re-engagements:

(24) [Company3] utilizes third-party CMOs to manufacture our commercial and investigational products, and *we* continually evaluate… (Company3)

(25) [Company6] participated in regional forums where *we* presented our pharmacovigilance approach. (Company6)

As shown in these examples, utterative disengagement and re-engagement are used even in the same utterance, a combination of strategies that clearly displays the dynamism of the square and illustrates our claim that the semiotic analysis thrives on intermediate positions rather than on the discussion of static vertices.

Another interesting example of in-between strategies is the fairly common use of "at [company name]". Quantitative analysis shows that this is the second most common prepositional phrase (after *of*) that includes the company name, accounting for 20% of the total.

(26) At [Company4], we have the privilege […]. (Company4)

(27) Our position on child labor is quite clear - it is not tolerated at [Company2]. (Company2)

(28) As we build out our portfolio at [Company5], we will focus on reducing the barriers to diversity. (Company5)

In this kind of construction, a spatial rather than an actantial disengagement is performed: the company name, which usually indicates an actant, here becomes a topic space, "a purely utterative space (187) in which the narrative programme manifests itself (362)" (Greimas and Courtés 2007). The specification of a topic space where some actions take place, or where specific values are enforced, creates an implicit contrast with 'the others,' allowing the enunciators to reinforce their own axiology (compared to others') without renouncing the enunciational transparency of the *we*, but foregrounding the company name at the same time. This is an instance of "axiological proximization" (Cap 2008) in which the space of the enunciator's values is established, with an explicit invitation to the enunciatee to almost physically share the same vantage point. This is in accordance with the findings of the analysis of explicit objective modal responsibility, showing that the same communicative goal is pursued through different complementary strategies.

Another opacifying device is the use of *us* to leave the enunciator 'in the shade.' This can happen through rhematisation, a process that:

> entails placing in a rheme a structure that also could be used as the subject of the sentence and, in appropriate circumstances, the theme of the sentence. Such structures are rather complex and consequently do not occur often. […] One effect of rhematization is that it places most of the referential elements in focal position. (Lovejoy and Lance 1988, 31)

Below are some examples, accompanied by proposals we suggest (in square brackets) for a more congruent alternative construal:

(29) Advancing inclusion and diversity has been a key focus for us. [We have focused on advancing…] (Company1)

(30) Ongoing dialogue with our stakeholders is therefore particularly important to us. [We believe it is important…] (Company2)

Moreover, one can see that *us* is often found in clauses where the more congruent wording would be a material process with *we* as the actor, or a mental process with *we* as senser:

(31) This allows us to reinvest in life-changing medicines. [We can reinvest…] (Company1)

(32) This will enable us to expand our offering. [We will be able to expand…] (Company2)

(33) [Year] was an important year for [Company8] and one that has positioned us well. [In [Year], we were well positioned…] (Company8)

These constructions clearly place the enunciators in the background, confining their opinions, judgements, etc., to an adjunct in the case of rhematisation and, in general, distancing from an active role (usually actor or senser). All in all, this seems to be another device used to avoid proper subjective modal constructions that would foreground the enunciator's role in the communicative act. Once again, a strategy that moves between proper opacity and the more implicit communication of non-transparency.

4. Conclusion

The discourse of pharmaceutical companies turns out to be a richly interwoven communicative fabric, full of actions and strategies, or rather, of more or less conscious choices, which produce certain meaning effects. Starting from the distinction between the level of the utterance, that is, the level relating to what is being told, and the enunciational level, which regards the writer and the context of the enunciation, we have focused on the enunciational dimension of transparency to verify how the core values of the pharmaceutical discourse were expressed according to the scheme of the semiotic square as assumed by the enunciator to present to the enunciatee. The analysis detected subjective statements in which the presence of the enunciator is explicit and emphasized, alongside others where the traces of subjectivity are concealed to some extent, resulting in an implicit, covered presence of the enunciator. The two discursive macro-strategies of objectifying and subjectifying masking can be seen as two polar opposites of a variously articulated continuum which, at the level of the discursive surface, manifests in a range of devices that span from one vertex to the other of the semiotic square. This scheme permits us to consider these semantic configurations in a fairly dynamic way, as points of intersection between different tendencies, which can change according to the meaning effects that the discourse tends to produce. A strategic dimension of enunciation emerges, therefore, since the square takes into account how, through language, the enunciator produces discourses and then projects and moves within them, trying to involve other interlocutors as well, by inviting them to adhere to the forms of identity proposed. On the other hand, as Greimas maintains, "saying something does not mean deliberating on the state of affairs but, first of all, seeking to convince one's interlocutor one way or another" (1980/1995, 218, our translation). What may appear as random text movements are actually strategies derived from deep semiotic structures. The basic axiologies become discourse, the value of transparency becomes discursive transparency, but also opacity because a semantic value always implies its opposite, its contradictory and its complementary one.

This study also wishes to underline the importance of an interdisciplinary approach. A discipline such as optics, apparently distant from linguistics, may provide, with its set of definitions and images, interesting suggestions for the study of transparency in pharmaceutical communication. Text semiotics, on its part, possesses heuristics that are fundamental for the analysis of the pathway of meaning from deep to discourse-level structures, where, in a complementary way, it yields to linguistics, charged with the task of highlighting the devices employed by pharmaceutical companies to build an image of their transparency to ensure their positive reputation and boost the trust their stakeholders have in them.

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Bionote

Andrea Fenice has investigated narrative rhythm from a semiotic and narratological perspective, as well as theories of narration in an intersemiotic context. On the subject, he has published several articles. He is currently working on the language of transparency in corporate disclosure within the pharmaceutical industry adopting a mixed approach that combines semiotic analysis with systemic-functional grammar and cognitive linguistics.

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