ABSTRACT: The written page is composed of a multi-modal system of communication which presents language and paralanguage interacting in order to create and communicate meaning. Although studies of reading comprehension have traditionally concentrated on the language of texts, nowadays it is impossible to deny the crucial role that paralinguistic features have in the conveyance of the message, complementing, illustrating, clarifying, and organising its content. As in an orchestra, the reader has to be able to identify several instruments at the same time in order to interpret the semiotic systems formed through their interaction. Notwithstanding, the perception of such elements may not be sufficient for an efficient interpretation; the reader may have to go beyond the explicit message and unveil the hidden intentions of the author or text producer, participating active and critically in the construction of meaning.

KEYWORDS: verbal language; paralanguage; semiotic system; multimodality; genre.

1. Introduction

In the process of analysing linguistic phenomena, many linguists have often isolated language from paralanguage in an attempt to reduce the amount of distracting factors carried by the latter (COOK, 1992). However, the resulting idealised data does not reflect the actual occurrence. Language is always accompanied by paralinguistic features in any communication situation, whether through spoken or written channels.

When paralanguage was considered, linguists usually used to refer to the types that co-occurred with spoken language (SAUSSURE, 1959; ELLIS and BEATTIE, 1986). The paralinguistic elements of written texts have, in the past, been somehow largely overlooked and their role for the reading process not given much consideration. It may be a fact that some discourse types, such as a novel or legal documents, depend much more on linguistic factors than on paralinguistic ones. The typeface used to write these texts is not important for the interpretation of the meaning conveyed on the page. The use of paralinguistic features to highlight sections or draw the reader’s attention, for example, is left to a minimum, with rare exceptions of a few authors who arrange the words in their text to resemble iconically the object they refer to, as in concrete poetry and calligrammes. The reader of a novel or legal documents is usually concerned about their content, while their writer is usually concerned about the linguistic structure, which is aimed at expressing either emotion and a particular linguistic aesthetic value, or precision and completeness of information, respectively. Conversely, other text types rely on paralinguistic features to communicate their message more effectively, such as science textbooks. In this case, paralinguistic features can be powerful devices in the construction of entities and to make explanations of new meanings more easily understood (OGBORN, KRESS, MARTINS and McGILLICUDDY, 1996, p.42-45). According to Ogborn, Kress, Martins and Mcgillicuddy (1996, p.139-140), when teaching science in a classroom, ‘one has to speak of a multi-semiotic environment, in which language is clearly important, but not solely so or even at times predominantly so. (…) the various modes each play their part in the construction of entities. (…) A diagram on a blackboard establishes the entity ‘intestine’ (…) as effectively or more effectively than a written description’.

It is paramount that discussions on reading effectiveness have to observe not only how the paralinguistic elements found in written texts may influence the reader’s perception of the
page and its various signalling systems, but also how they may affect the comprehension of the message when interacting with language (BENEVIDES LOBIANCO, 1999, 2005).

Semiotic concepts are explored here in order to shed some light into the examination of the graphic-pictorial elements that compose the page which, combined with the written message, convey the writer’s or text producer’s meaning.

1.1 Linguistic and non-linguistic mechanisms

Linguistic communication most commonly uses sounds transmitted by air or imprints on a surface. Communication, none the less, never consists of using only linguistic structures to express one’s ideas. If words and sentences were eliminated, communication would still show a level of unsuspected richness (MILLER, 1990, p.113). Meanings are also conveyed through the intonation used when uttering a sentence or through a specific choice of typeface to write the message with, for instance, as suggested in the following quotation:

‘A spoken text is not just verbal but also visual, combining with ‘non-verbal’ modes of communication such as facial expression, gesture, posture and other forms of self-presentation. A written text, similarly, involves more than language: it is written on something, on some material (…) and it is written with something (…); with letters formed in systems influenced by aesthetic, psychological, pragmatic and other considerations; and with a layout imposed on the material substance, whether on the page, the computer screen or a polished brass plaque’ (KRESS and VAN LEEUWEN, 1996, p.39)

Therefore, the language used to convey the message is always accompanied by paralinguistic features that add meaning to it. Argyle and Trower (1979, p.20) mention that ‘humans use two quite separate languages, each with its own function’. Both means of communication are abundant sources of meanings. As suggested by Locke (1993, p.43), ‘actions of the voice and face have the authority to reinforce, intensify, weaken, annul, or contradict the nominal message in a linguistic communication’. Research shows that individuals that cannot see each other when interacting, as in a telephone conversation, change the structure of their discourse in order to compensate for the lack of visual factors (ARGYLE and COOK, 1976; LOCKE, 1993).

In spoken communication, there are several mechanisms playing a role in the participants’ exchange which may not often be consciously perceived as part of the meaning that they intend to convey in their message. These mechanisms of conveying meaning may encompass, among several others, the stress in a particular word, the distance between the participants, or even a smile or a yawn expressed while uttering a sentence. All these mechanisms are part of a net of meaningful channels that may influence the communication situation. Most of them are culturally determined (SAVILLE-TROIKE, 1989), while a few others may be sometimes considered universally comprehensible. Saville-Troike (1989) explains that even though there may be non-verbal behaviours that appear to be natural to all humans, ‘most features of non-verbal communication are language/culture specific’ (p. 242). Their use is linked to the rules of appropriacy which are specific of a particular linguistic community. As suggested by Hymes (1973, p.73), ‘every language is an instrument shaped by history and patterns of use, such that for a given speaker and setting it can do some things well, some clumsily, and others not intelligibly at all’. Some gestures, for example, are particular to a certain community and may not be understood by an outsider.

In accordance with the view postulated by Kress and Van Leeuwen (1996, p.03), the position adopted here is that the interpretation of visual language is culturally determined. Besides, facts such left-to-right or right-to-left writing orientation, for example, may influence
the reading of visual texts (KRESS and VAN LEEUWEN, 1996), affecting the attribution of meanings and values to objects on the page.

Distinct text types use language and paralanguage according to the purposes and conventions of the genre they subscribe to. The selection of a particular text type allows for a more consistent analysis. In this study, advertisements and emergency procedures were chosen to be the tools for the observation of actual occurrences of paralinguistic features in interaction with linguistic constructs. These text types provide a rich source of linguistic and paralinguistic structures.

1.2 How can semiotics help to explain the written page structure?

In order to provide a better understanding of how ads and emergency texts convey meanings to the reader, this part of the discussion considers the way they construct the reality portrayed on the page through linguistic and non-linguistic devices. The framework for the proposed discussion is provided by the field of study that observes how any system of signs - verbal, visual, or both - organise and produce meaning: semiotics\(^1\).

Saussure (1959) defines the sign as the combination of a concept and a sound-image. He affirms that the linguistic sign unites, not a thing and a name, but a concept and a sound-image (p.66). In his theory, for the concept he uses the term signified (signifié) and for the sound-image, the term signifier (signifiant).

Saussure (1959) recognises the sign as the result of the arbitrary association of the signifier with the signified. What he means by arbitrary is, in fact, an unmotivated (or with ‘no natural connection’, as he puts it) connection between the signified and the signifier. Because he believed this relation to be arbitrary, he affirms that the linguistic sign is also arbitrary, at least in most cases. Saussure (1959) distinguishes between unmotivated and motivated signs. He exemplifies the motivated non-arbitrary signifier through onomatopoeia, even if he admits that what he calls authentic onomatopoeic words are quite limited in numbers. He also mentions the case of interjections, that may seem to be spontaneous naturally motivated expressions, but which reflect, in fact, a way of expressing oneself in a particular language, viz. the English 'oops!' and 'ouch!' and their respective equivalent forms in Portuguese 'opa!' and 'ai!', which shows that 'there is no fixed bond between their signified and their signifier' (p.69).

Another case of motivated signs can be exemplified by the sequence of events that compose a story, i.e., the order that the sentences used to tell the story appear corresponds to the actual chronological sequence of events contained in it (Leech and Short 1981).

The sequence of presentation of procedures in emergency texts, for example, is extremely important, because it can affect how effectively the actions prompted by the text are executed. The order that the commands are presented may be crucial to achieve the hoped success in aiding a casualty. In addition, if pictures are used in parallel to complement the verbal text, they too should follow the sequence of commands prompted in the written copy.

There are cases when two arbitrary signs joined together may form a non-arbitrary one, as in 'blackbird', for instance. This case is referred to as secondary motivation.

\(^1\) The term semiotics is associated with the American philosopher Charles Peirce. This same field of study is referred to as semiology (French word sémiologie) by the Swiss linguist Ferdinand de Saussure. Although both terms encompass the study of signs, there are differences in the way these theories approach it. In this work, however, both terms will be referred to as semiotics.
Extending this Saussurean principle, it may be possible to suggest the existence of a third type of motivated sign, which lies between the two types described above. This case might be exemplified through a warning sign containing the signifier 'ATTENTION' (Figure 1).

![ATTENTION](image)

**Figure 1: Another Type of Motivated Sign**

The word 'attention' is usually employed in order to draw the reader's awareness to a particular subject matter. When presented in big bold type capital letters its function is maximised aiming to attract the observer's eyes to its message. A similar effect of directing the reader's observation to a particular signifier can be conveyed by any oversized word that features in a text among several others (written in smaller typeface) that compose the layout of certain advertisements, as well as newspapers headlines, titles on articles, and so forth.

In the example depicted in Figure 1, not only the word 'attention' is to be taken into account, but also the background colour that accompanies it. The colour red used in the background is also a tool to attract the observer's attention. Conventionally, in most modern western societies, 'red' is used to convey an idea of eminent danger, which meets the purpose of using the signifier 'attention' on the sign.

Even though the signifier 'attention' may be arbitrary, the way it features in the warning sign, attracting the observer's attention, corresponds to its communicative purpose, thus implying that the warning sign composes a type of motivated semiotic sign.

Similar motivation occurrences can be found in “iconic” calligrammes, where the signifiers are represented via mechanisms that “reflect” their meaning through the use of colour, shapes, movement, just to mention a few factors, as in the example with the word BLUE.

Motivation encompasses a larger area than Saussure suggested. This view is also endorsed by Kress (1993), who goes even further stating that ‘the relation of signifier to signified, in all human semiotic systems, is always motivated, and is never arbitrary’ (p.173). Kress (1993) believes the sign to be always motivated by the producer’s ‘interest’ (Kress’s term) in the object and by features of the object to be represented. In brief, when a three-year-old child draws some “circles” and refers to them as ‘a car’, the resulting sign is not the product of an arbitrary association of a signifier and a signified, but it represents his particular ‘interest’ in the object, an interest which is itself a reflection of his place in the world, physically, cognitively, socially, culturally, conceptually (KRESS, 1993, p.172).

The context of occurrence of signs will be the crucial determinant of their meaning. According to Saussure (1959), a sign acquires meaning in a language through its relation with other signs. He affirms that 'language is a system of interdependent terms in which the value of each term results solely from the simultaneous presence of the others' (p.114). The meaning of any word is determined by its environment and, without first considering its surroundings, it is not possible to determine its value. This concept brings another important aspect to this discussion: the notion of syntagmatic and paradigmatic relations.

### 1.2.1 Syntagmatic and paradigmatic relations

The selection of a sign fulfills the requirements of two relational axes: the syntagmatic and the paradigmatic. The syntagmatic relation among signs dictates that the meaning will be created from the selection of each sign in relation to the one that comes before and after it. Saussure (1959:123) affirms that 'in the syntagm a term acquires its value only because it
stands in opposition to everything that precedes or follows it, or both'. The syntagm ascertains the occurrence of sentences such as 'I + love + pasta' and rules out cases such as 'love + pasta + I'. It also differentiates the meaning of sentences such as 'Mary hates Robert' and 'Robert hates Mary', or 'I like what I do' and 'I do what I like' (COOK, 1992:61).

The paradigmatic axis, on the other hand, will contain all the possible items that may suit one slot, for example, in the sentence 'Lisa ate fish last week', instead of 'fish', the speaker might have chosen to say 'onions', 'all the food', 'a lot'. Alternatively, instead of 'Lisa' in the subject slot, this sentence might have featured 'My brother and I', 'My neighbours', 'Most people that we know', for instance. According to Saussure (1959), there can be only one sign at a time in each slot. As with the principle that postulates that two bodies cannot occupy the same space at the same time in the universe, when a sign is selected to fill a slot in a sentence, other options have to be excluded. He justifies this process of selection as one based on the linearity of language, i.e., two elements cannot be pronounced simultaneously. While linguistic texts are processed linearly, this principle does not apply to non-linguistic occurrences such as pictures, which can have several aspects being perceived simultaneously.

Another linguistic case in which these two relational axes have been widely accounted for is the structure of narratives. Syntagmatic and paradigmatic relations can be found not only at the sentence level but also in the structures of whole stories. The narrative of stories combine their events syntagmatically and substitute their component features paradigmatically, building up their plot around a set of basic elements that allow them to subscribe to a particular genre. Stories contain slots to be filled by characters, events, and other narrative components. The analysis of narratives have shown that their components are selected from a set of set categories and arranged differently (PROPP, 1928; TODOROV, 1986).

Thus, when a story is written, it usually follows a certain pattern in respect to the way their main component features are selected and arranged (this view, however, does not imply rigid formulae which may impair creativity). A crime story, for example, normally has a certain amount of slots to be filled by certain default elements that characterise such story as an instance of the genre it belongs to.

Syntagmatic and paradigmatic relations can also be found influencing the organisation and conveyance of meaning of several other communicative mechanisms. Different genres and means of communication are constantly selecting and carefully arranging the component features that form their messages in an attempt to maximise their intended effect on the receiver. The pictures that readers are constantly exposed to in emergency procedures and advertisements, for instance, have their component features selected so that they communicate the message of their sender(s) appropriately.

The selection of elements in a picture that are supposed to convey the photographer’s desired message is actually an ideal description of a paralinguistic phenomena that is beyond the text producer’s control. Pictorial representations, such as photographs, contain more than the occurrence of discrete signs. That means to say that, when particular elements are chosen to compose a picture, this selective process does not imply that these will communicate only the meanings desired by the photographer in a one-to-one relation. Pictorial representations may depict objects or subjects that have particular values incorporated to their basic form, colour, shape, expression, which are not possible to isolate or determine exactly how they shall be interpreted by the reader.

In emergency procedures, the selection from the paradigmatic axis is motivated by clarity and effectiveness in portraying the summary of a whole situation in one scene. A picture usually depicts a part of the body to be treated by 'you', the reader, or it may represent the reader in action, e.g. a character on her knees wearing a shirt with rolled-up sleeves leaning over a person on the floor with his eyes closed. The syntagmatic arrangement of signs
is usually based on seriousness and a certain pleasantness, so that a reader under stress is not led to despair by realistic portrayals of actual emergency situations. This means that their communicative choices are determined not only by accessibility but also by acceptability (WIDDOWSON, 1978, 1990).

In the case of advertisements, the syntagmatic relation can be found in a chain of consecutive ads in a magazine or a sequence of them in a television commercial break. However, there is also a syntagmatic arrangement within the ad itself, generally established by the producer’s explicit and/or hidden intentions and by the type of product to be advertised, i.e., according to the selected product, a certain pattern will be chosen and some elements will appear in relation to others in a specific position in order to be meaningful and achieve the desired goal.

1.2.2 The simultaneous occurrence of linguistic and non-linguistic features

Saussure's semiology postulates that there can be only one element in each slot of the paradigmatic and syntagmatic axes of a linguistic communication system at a time. In the case of paralanguage, however, this principle does not always apply, because the non-linguistic features of communication can occur simultaneously with linguistic and other non-linguistic features. There are cases when language and paralanguage or two paralinguistic signs are used simultaneously. In fact, different paralinguistic elements can not only occupy a same slot but also convey more than one meaning at once.

The simultaneous occurrence of paralinguistic elements and (spoken) language can be noticed, for instance, when someone talks and makes gestures at the same time, or when a particular funny intonation is added to an utterance, communicating more than the discrete meanings (ELLIS and BEATTIE, 1986) of the signifiers used to form the text. Very often, on television advertisements, for example, spoken language is used together with music and/or pictures. This strategy is not only supposed to contextualise the signifiers that are being used to describe them, but may also enrich the meaning of the descriptive words used.

The co-occurrence of paralinguistic features and written language may be exemplified through the use of bold type letters or italics, for instance. These may be added to a word or string of words in order to communicate to the reader that there is something else that is to be understood from the use of a term in a particular context, besides its usual meaning. The precise meaning of a signifier that features in bold type letters or italics shall be elicited from its context of occurrence, because these graphic features may be used for distinct purposes. They add an extra meaning to the usual signified associated with a particular signifier. Usually, this added meaning can be translated into 'this is an important term', or 'this term is being used with a figurative meaning', 'this term is a neologism', 'this is jargon', 'this whole sentence is a quotation from another author', among a number of other possible alternatives.

Non-linguistic signs may also occur simultaneously with other non-linguistic features. Pictures, for example, may depict a number of elements in the representation of a scene which are processed all together. These elements are usually to be perceived in no linear order (BARTHES, 1977, p.34) or with no fixed combination.

Extending Saussure’s (linguistic) principle to the reading of pictorial representations, it could be suggested that, contrarily to language, pictures may convey two or more signs in a same slot at once. This simultaneity aspect found in non-linguistic devices, such as photographs in advertisements and in emergency procedures, may be regarded as an economical way of expressing complex ideas. This notion, however, can be rather misleading if the function of pictorial representations is interpreted as a mere summary of the written copy. Another point to be highlighted here is that, although the use of visual devices may
communicate messages quite economically in some cases, it should not be regarded as a substitute for the written text (BOOHER, 1975).

1.2.3 When a single sign triggers multiple interpretations

Although there are those who believe in a direct, one-to-one relationship between picture and meaning (WILLIAMSON, 1978), the position adopted here is that pictorial messages may contain more than a combination of discrete signs (ELLIS and BEATTIE, 1986; COOK, 1992). When looking at a picture of a boy, an observer may see more than the signified boy which the arbitrary signifier 'boy' refers to. That is to say that a picture of a boy does not translate exclusively into a "boy sign". The clothes that he wears may convey different meaning(s) to the observer. In addition, several other elements will contribute to form the image of "the boy in the picture". His haircut, for example, may reflect a style that was used in the 60's, his skin colour may be depicted white or sunburnt, his body positioning may be relaxed.

A single sign will involve a semantic, a syntactic and a pragmatic interplay of meanings (HOLBROOK, 1987). A photograph depicting a person wearing a blue and white shirt, for instance, may communicate, from the semantic perspective, a set of cultural values, which are related to particular attributes that may be linked, for instance, to the type of fabric that the shirt is made of.

From the syntactic perspective, the same blue and white shirt may convey the message of a socially suitable, decent, well-matching piece of clothing to complement the other articles that are being worn by the person. This view point differs from the pragmatic one in so far as, in this case, the selection of a particular item (the blue and white shirt) may convey a particular meaning to a certain reference group, such as a signifier expressing membership to a football team. This perception of a sign as having a three dimensional aspect justifies the fact that pictorial representations may convey two or more messages at once via the use of a single sign occupying one slot only.

In addition, a sign may not only express multiple meanings, but also present various degrees of realisation, as discussed in the next section.

1.2.4 Discrete and graded signs

According to the Saussurean view, a spoken signifier such as ‘tree’ is formed by a fixed string of phonemes that cannot vary without altering or changing its meaning. The same is true of the graphemes which form a written signifier; either one mode or the other will feature the same invariable property. If instead of using the phoneme /t/, one uses /θ/, for instance, the string of sounds would form a distinct signifier which would represent a different signified. From this perspective, extrinsic variations, such as who the speaker is, age, accent, or place of occurrence does not affect the meaning of the signifier. If the word ‘tree’ is pronounced by an English native speaker or by a foreigner, it still refers to the same signified. The same applies to the written language, no matter if the signifier ‘tree’ is represented as “tree” or “tree”, it still refers to the same signified. The linguistic sign possesses the discrete property of referring to one thing only, excluding gradual variations or intermediate stages.

Paralinguistic signs, on the other hand, allow for many of their components to occur along a continuum of possible realisations. A smile during a conversation, for instance, can convey variable degrees of meanings, which are not possible to express exactly into words, due to the limited descriptive nature of the latter.
Unlike discrete signs, this graded phenomenon allows not only for an infinite number of possible related neighbouring occurrences, but also for a relatively flexible interpretation of their meaning. As suggested by Cook (1992, p.67),

‘one cannot equate graded paralinguistic phenomena with language by translating or paraphrasing it into words. Paralanguage is literally beyond complete description in language, because it belongs to a different kind of communication from language’.

Graded signs are not exclusive to the paralinguistic resources that accompany spoken language. The use of written paralinguistic components may also display degrees of variability. Bold type letters, for example, may expand the meaning and function of a word. The attribution of importance and specificity to a heading, for instance, is related to the variation in type-size and bold weight used to present it. The bigger the size, the more their black colour will vary in intensity (or weight), adding different degrees of prominence to a word or strings of words portrayed on the page.

Graded signs can also be found in the depiction of scenes in pictures of all kinds, including those used in emergency texts and advertisements.

1.2.5 Denotative and connotative meanings

The Saussurean view alleges that the phonemes or graphemes that form a signifier have to be clear enough so that they can be produced and recognised appropriately by their users (both senders and receivers). Under this perspective, if the intention of a sender is to write the word ‘g-l-a-s-s’, the essential factor is that the graphemes that compose it be not misrepresented and confused with any other along its string (as in /c/ instead of /g/). That means that, if distinct letter shapes, bold, italics, among several other non-linguistic variations, were added to the signifier, they should not affect its meaning, because the function of the string of graphemes used to represent it is to realise the intended signifier appropriately, no matter the variations in their format, size or materials used to write it with.

Although it is a fact that the linguistic sign has this discrete property of representing either one thing or another, the attribution of meaning to a signifier does not depend exclusively upon such property. Non-linguistic features can change the appearance or form of a word and, consequently, attribute different aspects to the “basic” intrinsic meaning of a signifier. That means to say that paralinguistic devices may add a new connotation to the denotative meaning of a word (ROWE, 1982). The word table may denote an object with four legs used to eat or write upon, but if its shape changes, as in Figure 2, it may affect the reader’s perception of it in different ways.

![Table](image)

Figure 2: Different Shapes of a Same Word

In the examples in Figure 2, the different formats may add to the signifier table varied connotations, whose interpretation may depend on their context of occurrence and on the target audience. Sometimes, certain formats are widely used by specific texts types and they end up being identified with the values associated with those particular genres. There are cases when different typeface effects are conventionally adopted by certain discourse communities and their recognition as belonging to a particular genre may come to facilitate
the reader’s predictions about the type of systemic and schematic knowledge that are needed to interpret it appropriately. Magazine advertisements, for example, are usually differentiated from the articles they feature with through a distinctive typeface, especially in their heading or catch phrases. The typeface may be colourful, with different sizes and unusual shapes. Emergency texts, on the other hand, usually feature a neutral typeface, although colour may be often an important resource to be added to headings in this text type.

Not only the typeface used to write the text may carry an extra meaning or connotation, but the linguistic and other paralinguistic resources (e.g. pictures) may also convey implicit meanings to the reader. Some genres, none the less, are more prone to stir the reader’s interpretative process than others (BENEVIDES LOBIANCO, 2005), e.g. advertisements.

Barthes (1972) suggests that a signifier on its own is empty; it is only when it is associated with a particular signified that it becomes a sign. He uses a black pebble to exemplify it: ‘I can make it signify in several ways, it is a mere signifier; but if I weight it with a definite signified (a death sentence, for instance, in an anonymous vote), it will become a sign’ (p.113). The reader, however, has to be able to attribute the appropriate meaning and value to the sign in order to interpret it successfully.

2 Conclusion

The discussion carried out in this paper explored some aspects of semiotics in order to show the complexity behind the structure of a written page. It explored the multimodal environment of two different genres, i.e. advertisements and emergency procedures. The analysis contrasted their distinct approaches when dealing with verbal and non-verbal elements that contribute to the organization of the text and the conveyance of its meaning.

Overall, this work has preached the idea that text accessibility can only be achieved if elements from both verbal and non-verbal forms of communication are seen interacting and conveying meanings that are beyond the sign.

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