

VISUAL AND VERBAL TEXTS:

a semiotic distinction

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In an article about the eclectic nature of visual literacy research, Braden (1996:9) notes that the notion of visual literacy has been steadily revised to accommodate relevant research results from widely diverging topics of interest. One of the areas of study which has important implications for the theoretical basis of visual literacy is the visual-verbal dichotomy (i.e. the contradistinction between visual and verbal messages) in the sense that any attempt to measure visual literacy skills in a meaningful way requires sound definitions of the terms 'visual' and 'verbal'. In this article, three theoretical perspectives of the visual-verbal dichotomy are discussed and illustrated by means of two examples. The theoretical perspectives are one, the view that verbal texts comprise arbitrary signs whereas visual texts consist of iconic signs; two, the redundancy theory-based stance that verbal texts have a clear, predictable meaning in contrast to visual texts to which the viewer attaches a new and unique meaning; and three, the theory that scanning patterns differ significantly between pictorial and written texts.

THEORETICAL BASIS AND DEFINITION OF KEY TERMS

In many instances, the distinction between the terms 'visual' and 'verbal' is straight-forward. An example would be an everyday newspaper photograph, where it is generally accepted that the photograph itself constitutes the visual component and the accompanying caption forms the verbal (or written) component of a mixed visual and verbal message, or a lexi-visual language (Pettersson 1993:170).

In his typology of languages (or linguistic expressions) used in mass communication, Pettersson (1993) proposes three categories. These are:

- audial language (or expressions based on sound),
- verbal language (or expressions based on words), which may be either written (lexigraphic) or spoken (oral), and
- visual language (or expressions based on sight).

These basic categories may give rise to various linguistic combinations, such as audiolexical language (i.e. a message consisting of written words accompanied by sounds) or oral-visual language (i.e. a message consisting of a visual image together with spoken words). Pettersson (1993:122) concedes that there are other types of language, such as tactile language, but as these are usually not used extensively in mass communication they were omitted from his typology.

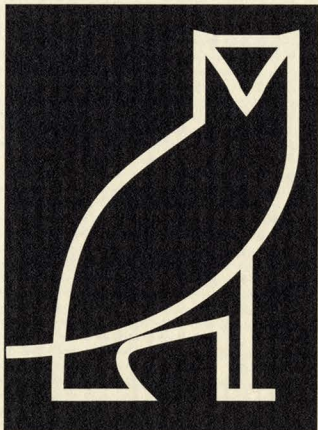
Pettersson seems to refer to language as 'any system used as a means of communication between people' (Lotman 1973 in Pettersson 1993:121). A more recent definition of language by Barry (1997:107) reads as follows:

The word *language*, derived from *tongue*, is commonly used to describe a system of verbal expressions that humans use to communicate with one another in oral or

written form. It generally implies an orderly pattern indicative of a particular culture, steeped in its traditions and bound by generally understood meanings. Sometimes the word is extended beyond the verbal to include systems of signs for communication that can be composed of visual images or even body gestures.

Barry (1997:112) argues that an evolution of abstraction can be demonstrated in language beginning with Egyptian hieroglyphs and ending with the Latin alphabet. According to Barry (1997:108), Egyptian hieroglyphs contain a 'visual' component in the sense that many hieroglyphs provide a pictorial representation of a real-life object, such as an eye, a snake or an owl, whereas the iconic content of the Latin alphabet is minimal, with the result that 'alphabetic languages used today are the most abstract and highly stylised means of communication' (Barry 1997:109). Concerning the visual component of a text written with hieroglyphs, Zauzich (1992:5) writes that:





Although hieroglyphic signs are pictures, hieroglyphic writing was not a 'picture writing' in the true sense, where the picture and its meaning are always the same. The sign [owl], for example, does not usually mean 'owl', but rather the letter 'm'. Between the pictorial sign [owl] and the (apparently!) abstract geometric letter 'm' there is, in principle, no difference: both are arbitrary signs representing the sound 'm' (Note: [owl] is the hieroglyphic sign in the original).

According to Leeds-Hurwitz (1993:6), the term 'sign' refers to 'something present that stands for something absent' which plays a central role in human communication, such as the cry of a baby which may signify hunger (Sless 1986:2) or a cloud which may signify rain (Fourie 1980:96). Seen from a semiotic perspective, human communication may be defined as:

... (1) a social process in which (2) a communicator/ communicators (3) select (or even create) and use signs and codes (or a medium) in and in relation to (4) a particular context in order to (5) encode her/his feelings and opinions on a particular subject in a symbolic manner to form (6) a message and to transmit the message via (7) a channel in the expectation that (8) a destination or recipient(s) will (9) understand / interpret the communicator's message and attach (10) the same meaning to it as the communicator intended, and that, as a result of the destination/recipients' interpretation of the message (11) semiosis will take place which will contribute to (12) a mutual understanding of the subject under discussion (Fourie 1996:20).

Even though the terms 'message' and 'text' are often used interchangeably, text usually refers to a message which has a physical existence independent of its sender, such as a written text or a photograph, which facilitates the generation and exchange of meaning (O'Sullivan et al 1994:317). A further difference is that in contrast to a message, a text is usually not created *ex nihilo*, but...

... a text is a construction, a composition (*compositio*) in which one makes use of already present materials as well as pre-given structures; or it is a web, a fabric (*textura*) which is woven from an already existing stuff according to a pre-given pattern. Among other things the words, the

idioms, the turns of phrase and the structure of the language, not invented by the author but encountered and taken over by him, belong to the materials and structures employed in the production of a text (De Beer 1991:120).

MAIN DIFFERENCES BETWEEN VISUAL AND VERBAL TEXTS

Within the above-mentioned broad 'process of making and using signs', or semiosis, (Leeds-Hurwitz 1993:7), various types of signs may be utilised in a text (e.g. qualisign, sinsign, legisign, symbol, index or icon (Parmentier 1994:17). These include iconic and arbitrary signs, which derive from Peirce's typology of signs. In an extensive review of Peircean semiotics, Parmentier (1994:16) notes that the distinction between an arbitrary sign and an iconic sign is based on the type of relation which exists between the sign and its referent.

With an arbitrary sign, such as a written word, there is no formal resemblance between the sign and its referent, whereas an iconic sign directly resembles or 'looks like' its referent. An example of an iconic sign would be an unmanipulated colour photograph of a flower which closely resembles the real-life flower.

Concerning the distinction between visual and verbal texts, many early semioticians seem to have blindly adopted Peirce's differentiation between arbitrary and iconic signs and subsequently have held that the term 'visual' refers to a text comprising iconic signs, whereas the term 'verbal' denotes a text consisting of arbitrary signs. With regard to the role of the iconic sign in a text, Saint-Martin (1990:xiii) notes that Eco's (1979) decisive analysis against the use of the iconic sign as a basic element of visual language was overlooked in the early stages of non-verbal semiotics. Referring to iconic signs, Eco (1990:32) writes that:

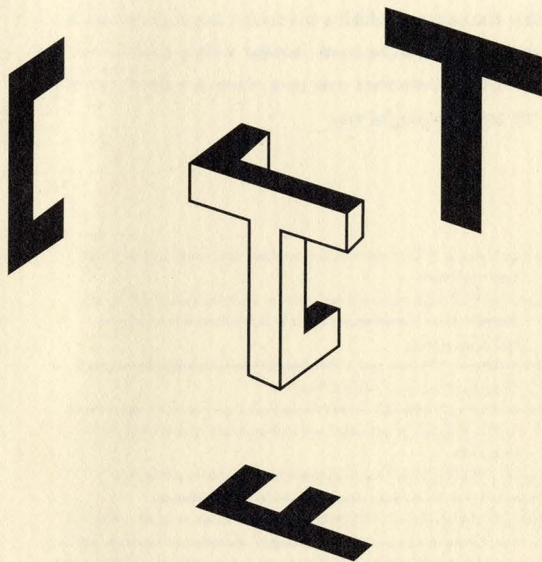
From Peirce, through Morris, to the various positions of semiotics today, the iconic sign has cheerfully been spoken of as a sign possessing some of the properties of the object represented. Now a simple phenomenological inspection of any representation, either a drawing or a photo,

shows us that an image possesses none of the properties of the image represented; and the motivation of the iconic sign, which appeared to us indisputable, opposed to the arbitrariness of the verbal sign, disappears - leaving us with the suspicion that the iconic sign, too, is completely arbitrary, conventional and unmotivated.

Even though Eco (1990:32) concedes that iconic signs reproduce some of the conditions of perception of the referent, the discrepancies which exist between a sign and its referent underpin the arbitrariness of the iconic sign. This view is supported by Messaris (1994:46), who provides a list of ten possible discrepancies between a concrete-representational image and its referent. These may be summarised as follows:

- The image cannot reproduce the full range of brightness levels and the full range of colours to which the eye is exposed when the referent is viewed
- images such as outline drawings or stick figures entail major omissions of the features of their subjects, including omissions of colour information
- ordinary still images (i.e. not stereoscopic or holographic images) cannot reproduce the stereoscopic effect which occurs when the referent is viewed
- ordinary still images cannot reproduce the effect of motion parallax when the referent is viewed from shifting points of view
- many images, such as ancient Egyptian paintings for example, do not adhere to the real-world constraint that an object can only be viewed from a single point of view at any one point in time.

Over and above the arbitrariness of the iconic sign, a further difficulty with the view that visual texts comprise iconic signs which 'look like' their referent, and that verbal texts comprise arbitrary signs, is that visual data (i.e. dots, lines, patterns) may be 'seen' entoptically in the absence of a referent. Entoptics or entoptic phenomena are luminous geometric shapes such as dots, grids or u-shapes which are 'seen' in the first stage of a trance state (or altered state of consciousness). As pointed out by Lewis-Williams and Dowson (1989:60), entoptics are human universals which derive from the structure of the human nervous system, with the consequence that all people who enter certain states of altered consciousness are liable to



perceive them, regardless of their cultural background or previous visual experience. Even though entoptics are usually thought of as 'visual' in the sense that they consist of basic visual elements such as lines and dots, entoptics are not iconic as they have no referent. By this is meant that entoptics are (unique) visual hallucinations, with the implication that the (original) entoptic phenomena experienced during a trance state are non-iconic, whereas any visual record thereof would be iconic. An example of a visual record would be finger dots in South African rock art which are generally interpreted as depictions of entoptic dots 'seen' by shamans during a trance dance (Lewis-Williams & Blundell 1997; Dowson 1989; Lewis-Williams & Dowson 1989).

Acceptance of the fallacy that visual texts comprise iconic signs which resemble a referent led Ogasawara (1998) to shift the focus of the visual-verbal dichotomy from the nature of the sign-referent relationship to the type of meanings which a viewer may attach to a (visual or verbal) sign. His approach rests on redundancy theory, whereby certain parts of a text are considered conventional or predictable, established through frequent use of a very understandable message, in contrast to other parts which are unique or new to the interpreter of the

text (Watson & Hill 1993:158; O'Sullivan *et al* 1994:299). Ogasawara argues that any message with a high level of redundancy (i.e. the message contains many parts which could be left out without reducing the clarity of the intended message) may be thought of as visual, whereas a clear, predictable message, such as a road sign for example, may be regarded as verbal. He writes:

The term visual is used when the meaning of a sign is redundant for the interpreter. The more redundant the meaning of the sign, the more we perceive the sign as visual. Conversely, the more clear the sign, the more we perceive the sign as verbal (Ogasawara 1998:307).

An implication for visual communicators designing visual material (i.e. material meant to be perceived with the eyes) for a specific target group is that 'visual' and 'verbal' are flexible terms which are based on the extent to which the target group interprets the intended message of the material as clear and predictable (verbal) or as new and unique (visual). For example, a lexi-visual text described by Mishra and Nguyen-Jahiel (1998:10) illustrates a three-dimensional object (figure 1) that projects the capital letters C, F and T as shadows on three perpendicular walls surrounding the object depending on the position of the light source. To most viewers familiar with the Latin alphabet, the shadows would probably represent the letters (or clear signs) C, F and T rather than abstract shapes, whereas most viewers who are not familiar with the Latin alphabet would tend to interpret each shadow as a distinct visual shape which does not carry a convention-based meaning with which the viewer is familiar.

A second example is a health education poster with a tuberculosis theme (figure 2) which contains visual symbols (thumb up for correct and thumb down for incorrect) depicted next to their verbal equivalents *yes* and *no* (Gaede 1998). The poster formed part of a series of three posters which were produced in close co-operation with the Health Service of the Bloemfontein Transitional Local Council and extensively pre-tested in a sample of 300 primary health care clinic patients. The pre-

dominantly female and mainly Sesotho speaking sample population consisted of 150 literate adults (twelve years of formal schooling or higher and the demonstrated ability to read the full text of an acronym out loud) and 150 illiterate adults (six years of formal education or lower and the demonstrated inability to read the full text of an acronym out loud).

In response to the question 'What do the hands in the top right hand corner of the photographs mean?' asked during a structured interview conducted either in Sesotho, English or Afrikaans depending on the ability and preference of the patient, 74.66% of the literate patients gave the correct or expected answer (i.e. thumb up for correct and thumb down for incorrect), whereas in the illiterate group the percentage of correct answers was 33.33%. The reply of most literate patients who did not provide the correct answer was along the lines of 'thumb down means the man is sick and thumb up means he is well again', which points towards the formation of a context-orientated meaning based on a broad interpretation of the verbal anchors *yes* and *no*.

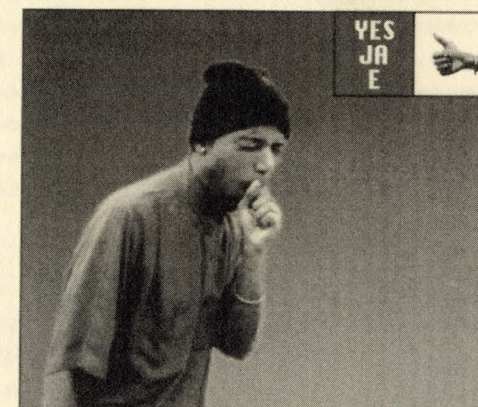
If you have TB...
Indien jy 'n TB-lyer is...
Ebang o tshwerwe ke lefuba...



The results suggest that the pictorial symbols were interpreted as 'verbal' in the literate group because the intended meaning of the symbols was clear and predictable to most literate patients, presumably due to their ability to read and understand the accompanying written text. On the other hand, the inability of most members of the illiterate group to decipher the adjacent verbal text meant that the intended meaning of the symbols was unclear or redundant to them, and that the symbols were interpreted as 'visual' in the sense that the viewers attached a new or unique meaning to them.

The results obtained during the pre-testing of figure 2 are in agreement with health education design guidelines for developing communities suggested by Boeren (1994). He writes that:

Because of their arbitrary meaning, visual symbols like letters, traffic signs, flags etc should be avoided as much as possible. Visual-illiterates will take these signs at face value, i.e. give meaning to their visual qualities. An anti-smoking poster may depict a person smoking a cigarette which is partly cov-



...don't cough near others, especially children.
...moenie naby ander hoes nie, veral nie kinders nie.
...o seke wa hohlella pela batho ba bang, haholo-holo bana.

ered by a fat red cross. To a pre-literate this may just be a messy drawing in which streaks of red paint partly obscure the scene (Boeren 1994:113).

In this regard, van Aswegen and Steyn (1987:81) point out, however, that a community may learn to interpret visual symbols inductively through repeated exposure, especially when the visual symbols are explained and discussed verbally in the initial receiving situation.

Ogasawara's (1998) approach described above, which concentrates on the type of meaning which the interpreter attaches to the perceived sign, appears to corroborate Saint-Martin's (1990:xiv) view that visual language is essentially a language of space, in contrast to written language, which is essentially a language of abstraction. Saint-Martin (1990:xiv) refers to visual language as a language of space in the sense that in order to see a large visual field adequately, the viewer must 'scan' the visual field, or effect several successive ocular fixations, which implies spatial relationships between those areas of the visual field which are perceived during a single centration of the eyes.

Seen from this perspective, an Egyptian hieroglyph, for example, would be interpreted as a visual text when the viewer performs many non-linear and unsystematic eye movements during the perception stage. However, when the same hieroglyph forms part of a text written in a hieroglyphic alphabet, someone able to read hieroglyphics would then scan the text as a whole in a linear, predictable way (i.e. following a predictable direction), and the hieroglyph in question would be classed as part of a verbal (or written) text.

The correlation with Ogasawara's (1998) approach is that to someone who is able to decipher a text written in hieroglyphs, the meaning of the text will be clear and the signs which comprise the text will form a predictable pattern, which is reflected in a predictable (or linear) scanning pattern. Conversely, to someone who is unable to decipher a text written in hieroglyphs, the text con-

tains many ambiguous or unclear signs, which in turn relates to a non-linear, unpredictable scanning pattern during the perception stage.

Finally, it must be pointed out that even though the eye movement patterns of a pictorial text may be regarded as unsystematic and unpredictable in relation to those of a written text, recent research by Brandt and Stark (1997), among others, suggests that eye movements recorded during the perception of imagery are usually not entirely random, but tend to relate to the content of the visualised scene. For example, in a text consisting of a discontinuous line of dots arranged in a s-shape the eye movements usually also follow an s-shape. In addition to the type of image content, eye movement scanning patterns may be influenced by a large variety of external factors, as illustrated by Abed (1990), who found that mood music affects scanning patterns. For example, calm music correlated with a depressed level of eye movement activity and exciting music was associated with an elevated level of scanning activity.

CONCLUSION

This article reviewed some of the difficulties arising from the early linguistically orientated theory that visual texts comprise iconic signs whereas verbal texts consist of arbitrary signs - a theory which has been described as untenable by Eco (1990), Saint-Martin (1990) and Ogasawara (1998). In contrast, there do not seem to be any areas of conflict between the redundancy theory-based stance that the term 'visual' refers to an unclear and unpredictable text whereas the term 'verbal' refers to a predictable text with a clear meaning on the one hand, and the view that scanning patterns differ between visual and verbal texts on the other hand.

'Visual' and 'verbal' may be regarded as flexible terms which rely on the nature and extent of the previous visual experience in a particular target group, such as, for example, repeated exposure to a specific visual sym-

bol, rather than on the type of (fixed) relation which exists between a sign and its referent. In this regard, visual literacy research is needed one, to identify learnable visual literacy skills and two, to identify teachable visual literacy skills (Baca 1990:70; Braden 1996:56) so

NOTES

- 1 Often referred to as the trichotomies, see Johansen 1993; Parmentier 1994; Jensen 1995; Fourie 1996 among others.
- 2 See also Fourie (1996:41).
- 3 See, for example, Barthes (1981:529).
- 4 See UNESCO (1995:5) for a working definition of illiteracy.
- 5 See Goldsmith (1984:271) who reviews the early eye movement studies of Buswell (1935); Wolf & Tira (1970), and Antes & Stone (1975); as well as discussions of attention and scanning issues by Levie (1987:4) and Molnar (1997).

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