

SOME CONSIDERATIONS ON VISUAL COMMUNICATION AND PRODUCTION OF MEANING IN PLANT KINGDOM

Olga PÂNZARU¹

e-mail: opanzaru @yahoo.com

Abstract

Using a semiotic approach, our research has focused on two directions: primarily, on visual communication and how meaning is produced and conveyed in visually complex messages or images coming from plants, and secondly, how do viewers construct their own meanings from this visual communication. We took photos of several vegetal scenes and then investigated the production of meanings and the significance of some visual messages/signs coming from the plants under study. Our analysis aimed to highlight the relationships between the components of the visual image, the relationships between the producers of the visual image, as well as the relationships between the components of the image and those who are viewing it. The researches in the field of Biosemiotics have demonstrated that all living organisms are systems producing “meaning” with the help of signs, signs which acquire the ability to transfer information, in other words they are communicative systems which communicate by signs, and communication can be defined as an interaction based on sign relations. The notion of image within plant kingdom is related to indexicality, as essential means of visual representation, and the global significance of the visual message, that is, the meaningful communication is constituted by interaction of indexical and plastic signs. Thus, Semiotics has facilitated a better understanding not only of the complexity of the living world, but also of the communicative force of the image, based on sign relations, within plant kingdom.

Key words: non-verbal communication, biosemiotics, sign, visual message, meaning

Signs, symbols and patterns of signification are used in human language and discourse, communication, philosophy, science, religion and other human activities, and the comprehension of their nature has a decisive importance for the development of these fields. Studies of meaning have evolved from semiotics, a philosophical approach that seeks to interpret messages in terms of signs and patterns of symbolism. Semiotics is concerned about the nature of signs, what they are and how they signify. It is both a science, with its own corpus and findings and its theories, and a technique for studying anything that produces signs. In the 20th century, Semiotics has been significantly influenced by structuralism in linguistics, and this has been related to a similar “structuralist movement” in theoretical biology. Semiotic biology or Biosemiotics provides the basis for linking general biology with general linguistics, pointing out that living creatures, in order to live and sometimes make a more complex living, are not just passively subjected to universal laws of nature, but also active systems of sign production, sign mediation and sign interpretation.

MATERIAL AND METHOD

Our study aims to investigate the production of meanings and how they are conveyed in messages in some visual images (or visual texts) representing a hallow- bearing walnut tree. The subject of our investigation – the walnut tree, similarly to all living organisms, communicates by signs, signs which transfer information, producing different “meanings”. In this context, we consider that it is worth reminding some important aspects concerning the theories of signs, signs relations and their significance in the semiotic realm, where biology has been also included. Sign theories have a long history. Even from ancient times, many philosophers and scholars were conscious of the importance of signs and their significance. Plato (428-348 BC) and Aristotle (384-322 BC) explored the relationship between signs and the world; Augustine (354-430) and Thomas Aquinas (1225-1274) established the nature of signs and symbols and significations, their definition, elements and types. According to these classic sources, significance is a relationship between two sorts of things: signs and the kinds of things they signify (intend, express or mean), where one term necessarily causes something else to come to the mind. Originating in literary and linguistic contexts, the study of semiotics has been expanding in a number of directions since the early turn of the 20th

¹ University of Agricultural Sciences and Veterinary Medicine of Iași

century with the works of Charles Sanders Peirce (1839-1914) in the U.S. and Claude Lévi-Strauss (1829-1902) and Ferdinand Saussure (1857-1913) in France. Many of modern-day founders of the theory of signs have worked under the frameworks developed by them. In his work, *Cours de linguistique générale*, published in 1916, Saussure divided a sign into two components: the signifier, which is the sound, *image*, or word, and the signified, which is the concept or meaning the signifier represents. The problem of meaning arises from the fact that the relation between the signifier and the signified is arbitrary and conventional. In other words, signs can mean anything we agree that they mean. The semiotic theory developed by C. S. Peirce, defines the sign as a triadic relation as "something that stands for something, to someone in some capacity". According to Peirce signs can be either icons, indices or symbols. *Icons* are those signs that signify by means of similarity between sign vehicle and sign object, *indices* are those that signify by means of a direct relation of contiguity or causality between sign vehicle and sign object (e.g. a symptom), and *symbols* are those that signify through a law or arbitrary social convention. Peirce introduced the term *semiosis* to describe a process that interprets signs as referring to their objects. (*Peirce's Theory of Signs*, 2007). Briefly, semiosis is any form of activity or process that involves signs, including the production of meaning. In 1984, a group of six leading semioticians: Myrdene Anderson, John Deely, Martin Krampen, Joseph Ransdell, Thomas A. Sebeok, Thure von Uexküll examined areas belonging to the life sciences - such as how organisms make predictions about, and adapt to their semiotic niche in the world. They published a collective work - *A semiotic perspective on the sciences: Steps toward a new paradigm*. (1984), in which they argued for the placement of the semiotic threshold at the boundary of life. (Anderson Myrdene et al., 1984, *A semiotic perspective on the sciences: Steps toward a new paradigm*). Accordingly, the whole of biology was included into the semiotic realm; the action of signs extends well beyond the realm of culture to include the whole realm of living things, a view summarized today in the term *Biosemiotics*. The American semiotician and linguist, Thomas A. Sebeok (1920-2001) argued for introducing semiotics into all areas of biology. In his papers he tried to demonstrate the existence of semiotic phenomena in non-human organisms and to analyse the biological basis of various sign processes. As we have already mentioned, one of the purposes of our study was to investigate the production of meanings and the significance of some visual signs or messages coming from a hallow-bearing walnut tree. Visual semiotics, a sub-domain of semiotics analyses the way visual images communicate a message. One of the first people who studied the semiotics of images was Roland Barthes (1915-1980). In his essay, *The Rhetoric of the Image*, Roland Barthes examines the semiotic nature of images, and the ways images function to communicate specific messages. (Barthes Roland, 1977, "*The Rhetoric of the Image*." *Image, Music, Text*.) Barthes worked along the lines of two theoretical distinctions: connotation and denotation, and the internal relations of the sign between the

signifier and the signified. The signified, according to Barthes, has two level of meaning: the denotational and the connotational. The denotation is the dictionary meaning of the sign/word and it denotes something in the real world. The connotation is the interpretative association that comes with the sign and is something which is culturally and context dependant. For Barthes connotation is a higher level of interpretation, and he assumes that being a part of the same culture involves having similar connotations to certain signs. Barthes deconstructed an image and extracted the types of messages contained within it in order to illustrate the "rhetoric" of the image. A key step forward in the development of visual semiotics was made by the Belgian Mu Group (Groupe μ) founded in 1967. They developed a structural version of visual semiotics, on a cognitive basis, as well as a visual rhetoric (*Trait of sign visual*, 1992), and sought to elaborate a general grammar of the image, independently of the type of corpus being considered. This semiotic of the visual contributed, in its turn, to semiotics in general.

RESULTS AND DISCUSSIONS

One of the targets of our research was to highlight the existence of semiotic phenomena in the vegetal kingdom, emphasising the interconnectedness between visual signs and plant semiotic activities. By decoding and interpreting the meaning of the visual signs coming from our subject - the hallow-bearing walnut tree, we intended to point out how the "meaningful signaling" or communication is produced in plants. We have taken linguistics as a model and applied linguistic concepts to the images/photos of the vegetal scenes, having in view that they are visually intensive areas of communication. The reading or interpretation of images is subjective and to understand the depth of meaning, or multiple meanings, communicated in an image requires analysis. Paul Martin Lester considers that images can be analyzed through personal, historical, technical, ethical, cultural, and critical perspectives. (Lester Paul Martin, 2006, *Visual Communication: Images with Messages*). In our study, the opinions about the images were based on our personal thoughts and knowledge, while the view of images in the cultural perspective has involved identity of symbols. The photos of the hallow-bearing walnut tree were taken in the Botanical Garden from Iași, at the end of August. These photos have been already presented in one of our previous works. (Pânzaru Olga, 2006, *Abordarea semiotică a unei scene vizuale*). One photo represented the entire walnut tree, while the other pictures were taken on segments: trunk, hallow, branches, in order to ease our endeavour to discover and differentiate iconic signs from plastic signs - represented by colours, shapes, texture.

Applying Roland Barthes's theory/method we deconstructed our images and followed several steps : picking out the visible items, that is the iconic signs –the signifiers, making hypotheses and finally finding the meaning of the message(s). As Barthes says in his book, *The Rhetoric of the Image*, "We need no other knowledge than what is involved in our perception". Once we recognize the iconic sign (the signifier) or object in the picture, we understand its meaning from its similarity to its visual reality – the signified item. The visible items (the signifiers) represent what they are signifying in reality. The signifier and signified are one and the same, thus providing a non-coded message, and the "realism" of the image makes it appear to be a "natural" scene. There is no code to decode at this level. Non-coded iconic is the recognition of identifiable object in the photo; it has no deeper meaning, the image is exactly what it shows. We should mention that before starting our analysis we have differentiated the real (natural) form of the walnut tree from the biological one. For our study it was important the real form, that is the form of the walnut tree as it appeared in our pictures. Natural or real form of a plant means the changes that plant has undergone under the influences of the environment, such as wind, rain, heat, etc. or attack from insects, bacteria or fungi. The walnut tree from our photos has a thick trunk, with a semi-enclosed cavity (a hollow with numerous galleries) situated in the middle of the trunk, and a large green crown. There are deep cracks covering the trunk and the branches of the tree, showing lichen growth. At the base of the walnut tree we can notice the presence of some vigorous grasses. The next step in our analysis was to decode the coded iconic message, in other words the interpretation of the iconic signs recognized in our pictures, to establish what they signify and communicate in order to derive the symbolic or connoted message(s). According to Roland Barthes, the coded iconic message is the story that the image portrays. Non-verbal signs can produce many complex symbols and hold multiple meanings. As it is mentioned in Thomas Sebeok's work, *Signs: An Introduction to Semiotics*, (2001), a natural sign bears a causal relation to its object and may exhibit more than one aspect. The bark of the walnut tree from our photos presents numerous deep cracks. This is a natural phenomenon and a sign/index as well. With the passing of time, the bark, which is the protective layer covering the trunk of trees, becomes rough and corky, with deep cracks. This information may be interpreted as a sign/index signifying that walnut tree is aging, or getting old. The presence of the grasses at the base of the walnut trunk may be also regarded as a sign,

an index or symptom, signalling the biological aging process of the tree. Walnut trees belong to those plant species which are producing juglone – a chemical which can cause toxic reactions with a number of other plant species that grow in their vicinity, whose growth can be affected. In our case study, the walnut tree could not produce sufficient juglone to inhibit the development of the grasses from its base, signalling that the tree is getting old. The absence of nuts at the end of August (when our photos were taken) may be considered another sign/index because usually in autumn, walnut trees are laden with fruit. It is the so called *zero sign* which signifies something by its absence, in our case - the aging of the walnut tree. The presence of the hollow may be also regarded as an index or symptom of tree aging, because hollows are generally found in old trees with reduced vigour. The presence of cavities and galleries from the hollow is also a sign/index or "trail", signalling the pest existence. Making a synthesis of all visual, non-linguistic signs presented above (absence of nuts, presence of the grasses at the base of the tree, deep and numerous cracks on trunk and branches, the hollow with cavities and galleries), we can conclude that they are indices, acknowledging Martin Krampen's theory that the notion of image in plant kingdom is related to indexicality, as essential means of visual representation. (Krampen Martin, 1981, *Phytosemiotics*). All the indexical signs from our study are homogenous as far as signification or meaning is concerned and communicate or signify that the walnut tree is getting old. As we have already mentioned, a given sign may exhibit more than one aspect. One and the same sign may function as iconic or as an index or symbol. So, an indexical sign at origin may get a symbolic value. In our case study, the hollow from the walnut tree presents an iconic polisemy: it may have several connotations or secondary meanings. It may function as a symbol of death: this "wound" or "empty space" on the trunk of the walnut tree will never heal, accelerating the death of the tree. At the same time, the hollow may be considered a symbol of "opening to unknown, something mysterious, obscure". In mythology and universal symbology, the *hollow* usually represented the shelter where the evil spirits lived. In some Romanian legends and folk tales, the devil is " the One" who lives in hollows. On the other hand, the hollow may also symbolise the happiness and innocence of childhood, a "secret" place or shelter where children could hide when playing hide and seek. The analysis of plastic signs from our pictures has focused on symbolic language of the colours. Diversity in colour meanings and symbolism occurs on an individual, cultural and

universal basis. (O'Connor, Z., 2015, *Colour Symbolism: Individual, cultural and universal*). In our case study the predominant colours are green (the tree crown and the branches of the tree, showing lichen growth) and grey (the hallow). Green is the colour most commonly associated with springtime, freshness and hope. It is often used to symbolize rebirth, renewal and immortality. Green represents the faith that things will improve after a period of difficulty, like the renewal of flowers and plants after the winter season. Like other common colours, green has several completely opposite associations. While it is the colour most associated with good health, it is also the colour associated with toxicity and poison. The green colour from the branches of the walnut tree is given by lichen growth. Lichen are usually met on the bark of old trees, with reduced vigor, signalling the diminishing of physiological processes, and together with the indexical signs mentioned above, they anticipate the oncoming death of the walnut tree. Grey - the colour of the hallow, is an intermediate colour between black and white. Grey is usually associated with uncertainty, old age, solitude and emptiness, secrecy and shadows, and in our case study this colour increases the mystery of the hallow. The global significance of the visual message(s), constructed by the interaction of indexical and plastic signs, points out that the notion of image within plant kingdom is related to indexicality, as essential means of visual representation.

CONCLUSIONS

Visual messages or “visual texts” are an important area of analysis for semioticians, because images are a central part of our communication sign system. While natural signs serve as the source of signification, the human mind is the agency through which signs signify naturally occurring things, such as states, qualities, quantities, events, processes, or relationships. To read images in “depth” we need to know iconic code. A sign isn't a “sign” unless it expresses ideas and if it brings about interpretative reasoning in the mind of a person or of those who perceive it.

Meaning depends on the viewer's knowledge and culture, just as the context in which the sign appears. Making a synthesis of all visual, non-linguistic signs presented above - absence of nuts, presence of the grasses at the base of the tree, deep and numerous cracks on trunk and branches, the hallow with cavities and galleries, we can notice that they are indexical signs, homogenous as far as signification or meaning is concerned, and communicate or signify that the walnut tree is getting old and the death is approaching. Semiotics has facilitated a better understanding not only of the complexity of the living world, but also of the communicative force of the image, based on sign relations within plant kingdom, where the notion of image is related to indexicality, as essential means of visual representation.

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