

Using Sign Language to Communicate in Industrial Companies:**Semiotic Study****Assistant Lecturer: Ali Flayyih Hasan****Ministry of Education****General Directorate of Education in Wasit Governorate****Abstract**

This paper shades light on the analysis of signs that used in industrial companies as a communication tool. This study focuses on semiotics that is used by petroleum, construction and chemical companies to communicate with workers for many purposes, like giving instructions, orientations, prohibitory and warning purposes. System of semiotics is everywhere in the foreign/local companies and it is widespread. Anyone can see these indexes, symbols and icons on the doors, windows, walls, gates, oil pipes, machines, near wells and in many areas inside the companies. This study tackles the analysis of these signs in two levels, i.e., connotation and denotation, according to *Roland Barthes's Approach* in order to get the core meaning of signs, by studying their pictograms, colors and shapes.

Key words: semiotics, symbols, signs, connotation, denotation and color

1. Introduction

Father of the semiotics study Ferdinand de Saussure (cited in Hawkes 1977: 123) indicates this development as "Science that studies the lifetime of signs among a society is conceivable; it'd be a region of psychology and consequently of general psychology; I shall name it semiology (from the Greek semeion 'sign'). Semiology would show what constitutes signs and what laws govern them. Since the science doesn't however exist, nobody will say what it'd be. However, it has a right to existence, an area staked out in advance. Linguistics is simply a section of the overall science of semiology; the laws discovered by semiology are applicable to linguistics"

Semiotics is the investigation of sign activity (semiosis). Thusly, it is a simply human strive. All living things participate in semiosis, all utilization signs, simply people grasp they exist. Simply people participate in the investigation into semiosis or sign movement. Deely (1990: 94) states that "at the center of semiotics is that the acknowledgment that the whole of human experience, regardless of what, is an interpretative structure interceded and managed by signs"

Peirce defines signs as "Signs generally are a category which has photos, symptoms, words, sentences, books, libraries, signals, orders of command, microscopes, legislative representatives, musical concertos, performances" (Cited in Gorleé, 1994: 50). Peirce extends the scope of semiotics on the far side the linguistics signs employed in communication between humans. In keeping with Peirce semiotics concerned the systematic study of signs, sign systems or structures and sign functions. Peirce proposes a triadic model that consists of:

- A. The representamen: the form which the sign takes.
- B. An interpretant: the sense made of the sign.
- C. An object: to which the sign refers.

Eco (1976: 24) declares that "semiotics considerations everything which will be perceived as a signal." Signs represent written and spoken vocabularies, images, sounds, gestures, and objects. Folks interpret signs as "signifying one thing."

According to Peirce (1985: 5), “nothing could be a sign unless it's understood as a sign”. This interpretation method happens by associating a signal to similar systems of conventions. Hence, the sign will be a part of an organized collective of interactions and can't notice out of doors such a collective. The function of Signs as a code between individuals trigger or “unlock” previous experiences (Cobley and Jansz, 2000). In short, somebody's being functions as a “homo significance,” that's to mention, as a meaning-maker who uses signs to receive, understand, and convey information. Interpretation and understanding of signs involves physical components of objective existence (e.g. fire extinguisher sign), that result in some forms of common understanding (i.e. use the fire extinguisher). This kind of common understanding is typically derived from socially accepted norms and rules. Hence, this sign below creates a system of connotations that individuals have learned to understand as a part of everyday reality and social norms, like in figure 1.



(Figure: 1)

By reading the paragraphs above, it appears evident that semiotics has certain similarities with hermeneutics, since each aim at which means creation. Ricoeur (1981: 63-64) expresses that “hermeneutics is that the theory of the operations of understanding in their respect to the interpretation of texts.” Moreover, as NÓth (1990: 14) realizes, hermeneutics, by being one among the earliest strategies of text interpretation, could be a precursor of this day semiotic theory. Semiotic theory studies sign systems of any kind, together with written texts, logos, films, or styles of behavior (Floch, 2001: 94). Thus, as web reinforcing makes using text/graphic, it is determined that semiotic theory is the right procedure for the analysis. In respect of environments, the means customers understand on-line components is a problem not totally examined within the info Systems literature and to that semiotic analysis will clearly contribute.

2. **Aim of study**

The study tries to shade light on the semiotic analysis of signs in industrial companies and the role of signs (nonverbal environment) to send messages. Also, the study shows the reasons behind using signs with different pictograms, shapes and colors. Besides, it presents some semiotics approaches that make the interpretation or understanding of signs easy for receptors.

3. **Types of signs and meaning**

Based on Charles Sanders Peirce’s idea, semiotics distinguished between three types of signs: icon, index and symbol.



Icon

Index

symbol

(Figure: 2)

Peirce (1985: 5) says that signs may be outlined as these three categories. Signs are defined as one thing visual that represents a meaning to the general public or explicit individuals. These three words that are icon, index and symbol are a tool for analyzing the core of semiotics that is the language of signs.

Fiske (1982: 51) mentions the types of signs in detail.

3.1 Icon

This type of signs look like its object in some technique, it will look or sound like it. Visual sign is good example of icon, such as a photograph and diagram; in the matter of language onomatopoeia (verbal) is iconic. Essentially, icon means a pictorial representation of something else. An icon also can be either illustrative or diagrammatic.

3.2 Symbol

Symbol is a type of signs that are important in language of signs, for this sign doesn't have connection between itself and the object. A symbol's connection with its object is a matter of convention, agreement between the users. Examples include a red traffic light or the word stop.

3.3 Index

Index sign is another form of signs. Basically, an index signs may be a sign wherever there's a direct link between the sign and also the object. Most of these traffic signs are index signs, because they provide data that relates to a selected location this sign is directly connected in a way (existentially or causally) to its object. For example, a sneeze signifies a chilly or smoke is an index of a fireplace. These signs aren't reciprocally exclusive: one thing is often an icon and a logo, or any combination. (Chandler, 1997:75)

4. Visual Semiotics and the Production of Meaning

Sings and symbols are important for semioticians and particularly for scholars working with virtually intensive forms such as petroleum and industrial companies because semiotics is a central part of our mass communication sign system (Moriarty, 1995a). Since industry companies include both verbal and nonverbal signs and prepare the conditions for the viewers to infer meaning from it, signs language has gained consideration as an important area of linguistics. In language based communication, the one transmitting the message either in spoken or written language guides the recipient to make inferences. However, in making meaning process of nonverbal communication, viewers are responsible for interpreting the signs. Recipients equip with critical thinking skills may have more efficient critical comprehension in the interpretation process.

Pierce (1985:6) categorizes the patterns of meaning in signs as iconic, symbolic and indexical. An iconic signs look like what it stands for, a picture of a dog, for example. The meaning of a symbol, like the flag and the Statue of Liberty, is determined by convention in other words, Its meaning is arbitrary; it is based upon agreement and learned through

experience. An indexical sign is a clue that connects things in nature. The word (Smoke), for example, is a sign of fire; icicles mean cold. Visual communication including video forms uses all three types of signs. Most signs are worked on many standards iconic as well as symbolic and/or indexical, which suggests visual semiotic analysis may be addressing a hierarchy of meaning in as well as to categories and components of meaning. As Eco (1979:47) explains, "what is commonly called a 'message' is in fact a text whose content is a multileveled discourse".

Deely (1990: 94-95) mentions that "at the heart of semiotics is the realization that the all of human experience, without exception, is an interpretive structure mediated and sustained by signs." Semiotics considers a variety of texts, using Eco's terms, to investigate such various field as art, advertisements, and fashion, as well as visuals. Visual texts are a very important elements of study for semioticians and especially for scholars operating with visually intensive forms like advertising as a result of pictures are such a central a part of mass communication sign system. Signs in the companies also rely on the viewers to understand the messages they are producing and try to guess the knowledge of the viewers that they want to reach. Producers of these signs or symbols try to find way to communicate with workers. From a semiotic perspective, petroleum and industrial companies consist of language and image information (both verbal and nonverbal signs). Langrehr (2003: 48) says "In order to make sense of the world we live in, we try to interpret what we observe. Our senses, cultural environments, rules and values and our personality as well as our aims, needs, moods influence our interpretation."

Atkinson (2002: 5) indicates that a semiotic analysis needs "to identify the visual and linguistic signs in the ad, to see how the signs are organized by paradigmatic and syntagmatic selection, and note how the signs relate to each other through various coding systems. The semiotic analysis of commercials is to make meanings from linguistic and visual signs."

According to Lester (1995), "We strongly believe that semiotics will help us explain the complexity of visual communication while processing visual information and producing meaning from visually intensive areas."

5. Approaches of Semiotics

In semiotics, denotation and connotation are terms describing the connection between the form and its sense. Panofsky (1970: 51-3) points out that "the denotation of depictive visual image is what all viewers from any culture and at any time would recognize the images depicting."

Hall (1980: 132) mentions photographic word form looks to be nearly identical with its meaning, and therefore the photograph seems to be a 'natural sign' created while not the intervention of a code. Barthes (1974: 9) argues that only at a level more than the 'literal' level of denotation, might a code was known that of connotation.

In 1973 Barthes had shifted his ground on this issue. In analyzing the realist literary text Barthes came to the conclusion that 'denotation is not the 1st which implies. Barthes (1974: 9) says that Connotation is a produces the illusion of denotation, the illusion of language as clear and of the signifier and additionally that means as being identical. Denotation is just another connotation. From such a perspective denotation is going to be seen as no plenty of a natural that means as is connotation rather as a technique of naturalization. Such technique lands up within the powerful illusion that denotation may well be a strictly literal and universal which implies that may not in any respect ideological, and indeed that those connotations that seem the foremost evident to individual interpreters are even as natural.

Thus, whilst theorists may find it analytically useful to compare connotation and denotation, in practice such meanings cannot be neatly separated. Most semioticians argue that sign isn't purely denotative or lacking connotation.

Voloshinov (1973: 105) insists that no strict division can be made between denotation and connotation because 'referential meaning is molded by evaluation meaning is always permeated through value judgement'. There cannot be neutral, objective description that is free of an evaluative components. David and Politi (1989, 85) note that "choosing not to differentiate denotation and connotation is allied to regarding comprehension and interpretation as similarly inseparable.

D Saussure (1983: 15- 16) divides a sign into two components (signifier & signified), both the signifier (the 'sound pattern') and the signified (the concept) were purely 'psychological', both were non-material form rather than substance.

Berger (1989: 65) indicates the problem of meaning starts from the relation between signifier and signified is arbitrary and conventional. In other meaning, signs can represent anything we agree that they mean, they can mean different things and concepts to different people.

Connotation and denotation are always described in terms of levels of representation or levels of meaning. Roland Barthes adopted from Hjelmslev the notion that there are different orders for signification (Barthes 1957 and Hjelmslev, 1961: 114). The first order for signification is that of denotation. At this level there is a sign containing of a signifier and a signified. Connotation could be a second-order of signification that uses the denotative sign *signifier and signified* as its signifier and attaches to that an additional signified. During this framework connotation could be a sign that derives from the signifier of a denotative sign (so denotation results in a series of connotations). This leads to recommend that denotation is an underlying and first that means a notion that several other commentators have challenged. Barthes (1977: 166) offers priority to connotation, and in 1971 noted that it had been now not simple to separate the signifier from the signified. Barthes' approach deals with image and text relations that focus on the ideas of anchorage and relay. Anchorage, According to Barthes, there are two types of relationships between text and image: anchorage and relay. All images are polysomic, they open to essentially endless numbers of various readings, implying an uncertainty of meanings. As a result of that a linguistic message is typically related to each image, to guide their interpretation in anchorage, the text "anchors" the meaning of the image by naming the intended denoted meanings (helping identification). On the level of connotation, the linguistics message guides interpretation. The principal perform of anchorage is ideological: the text directs the reader through the signified of the image (towards a means chosen in advance). In relay the text and also the image are during a complementary relationship. Both the words and pictures are fragments of a lot of general system additionally as the unity of the message is realised on a higher level.

6. Analysis of semiotics signs in industry

Semiotics has very important role in the industries field like oil and Chemical. Semiotics is nonverbal language which depends on sign, gesture, symbols, signage and colors to send message to the receptor. Use of semiotics in the industry has many purposes like instructions, warning, safety and giving information. International industrial companies depend on nonverbal language to communicate with workers special that who doesn't speak English language or their native language.

Our new infographic explains all this. Safety signs are designed using something called 'semiotics': the science of how symbols, colors, shapes and text affect us in different ways.

This is used to make signs immediately recognizable. Keeping the information on them is easy to digest. This paper will display the analysis of connotative and denotative meaning of sign.

6.1 Prohibitory signs



A



B



C

(Figure: 3)

6.1.1 Analysis of denotative level

Essential features: Circle shape, Black pictogram on white background, red edging and diagonal line. Circle Signs sometimes are spherical in shape of red border and have black image/text on a white background. The red color has a minimum of thirty fifths of the world of the sign.

6.1.2 Analysis of connotative level

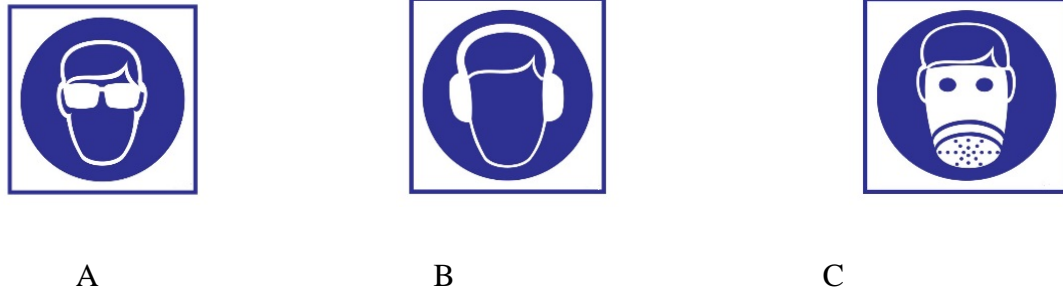
Chevalier (1996: 35) points out that red may be a terribly showing emotion intense color, it enhances human metabolism, will increase respiration rate, and raises vital sign. The red color uses to stimulate people to take fast decisions this color is additionally normally related to energy.

These signs are colored red and forbid behavior likely to increase or cause danger. They indicate dangerous behavior, these signs send connotative meaning to the brain of receptor that refers to danger, forbidden, not allow, don't do or stop. Each pictogram in these signs has meaning. We can note the body language in (A & C). Red color sometimes indicates to danger or gives directions towards minimizing venturesome behaviour. Starting from stop signs, emergency cut-out buttons, red is supposed to stop an exact action or highlight danger emergency. The color is red which has associated meaning like blood, fire, heat, immorality and passion.

Meaning of Prohibitory signs.

- A. Do not touch.
- B. No smoking or naked flames.
- C. a sign prohibiting behaviour likely to increase or cause danger (e.g. 'no access for unauthorized persons')

6.2 Mandatory signs



(Figure: 4)

6.2.1 Analysis of denotative level

Blue signs are always circular with white images/text on blue background. The blue color takes a minimum of 50% of the sign. In signs above the denotative level is human face with eye protection, hearing protection and respiratory protection.

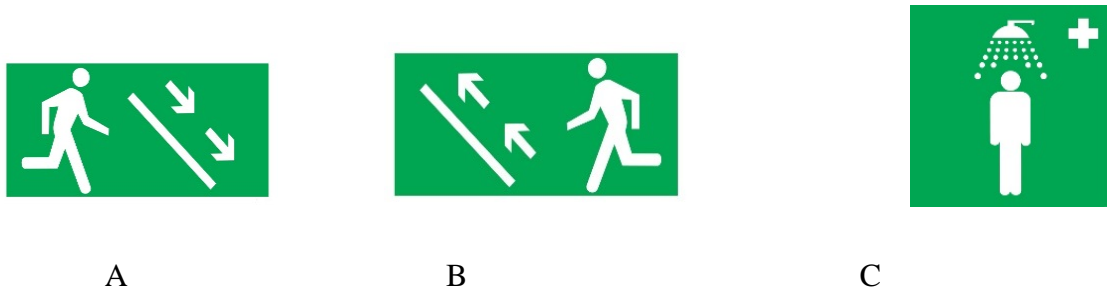
6.2.2 Analysis of connotative level

These signs instruct you to take action (e.g. 'Eye protection must be worn'). Mandatory signs are blue and require specific behaviour, e.g. wear personal protective equipment. Signs containing the blue color usually that shows obligatory directions or data. These signs don't warn of something dangerous or life threatening, however they are showing directions that should be adhered to start from parking directions to non-public protecting instrumentality signs. Chevalier (1996: 22) indicates that blue could be a softer color than red. Blue color is often associated with depth and stability. It symbolizes trust, loyalty, wisdom, confidence, intelligence, faith, cool, clam, peaceful, truth and heaven.

Meaning of Mandatory signs.

- A. Wear eye protection.
- B. Wear hearing protection.
- C. Wear respiratory protection.

6.3 Information exit or escape route signs



(Figure: 5)

6.3.1 Analysis of denotative level

Intrinsic features: square shape, white pictogram on green background. These signs have denotative meaning. Signs like (A & B) contain arrows, lines and pictogram. In sign (C) there are pictograms like human body, water, shower and crucifix.

6.3.2 Analysis of connotative level.

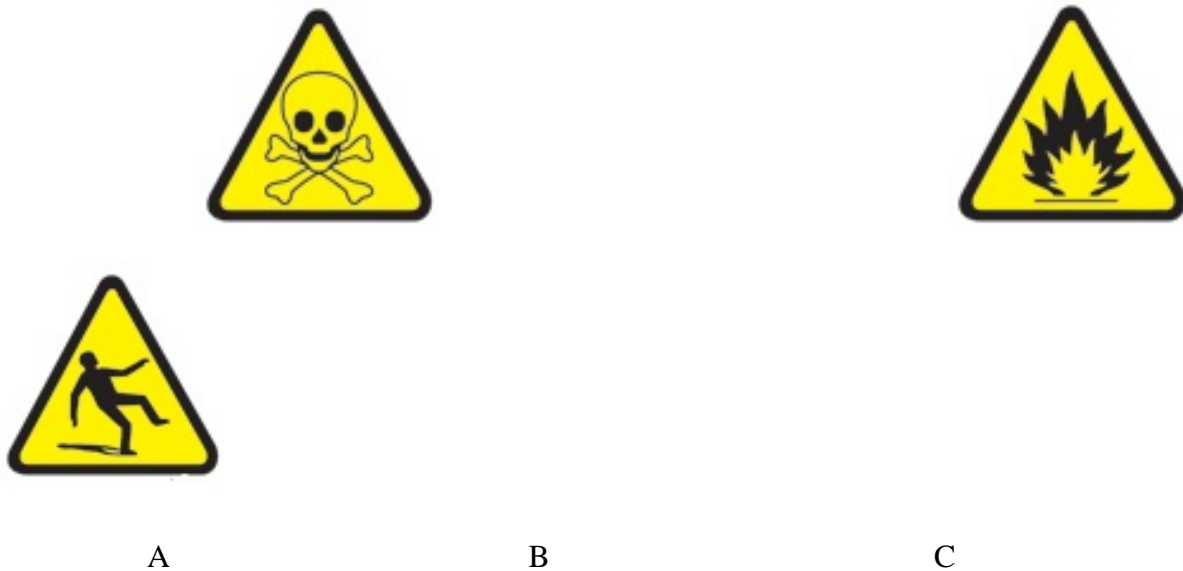
Hancock (1972:7-11) says that green is the color of nature, it symbolizes growth, harmony, freshness, and fertility. The Green color has powerful emotional agreement with safety, green has great healing power. It is the most restful color for the human eye; it can reinforce vision. Green color suggests stability and endurance, green indicates growth/hope; green color as opposed to red, means safety. It is color of free passage. Use green to indicate safety in advertising drugs and medical products. Green color has nice healing power. It's the foremost quiet color for the human eye; it will improve vision, so you can feel comfortable if you see it, therefore you'll be able to use it to pass or run away from danger.

In the signs (A & B) arrows denote movement and speed. In Emergency exit or escape route signs the arrow usually denotes positive, upward or outward movement. The slash in these signs indicates to the route of movement. The last element is pictogram is referred to the human. In sign (C) there is associated meaning with its elements, first element the crucifix in the up-right of sign indicates to medicine, cure, health in the mind of receptor. The second element is shower with water which indicated to clean or washing the body from chemical material if it touched the body in the emergency case.

Meaning of Emergency exit or escape route signs.

- A. Fire escape route direction (down).
- B. Fire escape route direction (up).
- C. Emergency drench shower.

6.4 Warning signs.



(Figure: 6)

6.4.1 Analysis of denotative level.

Essential features: Triangular shape, black pictogram on yellow background with black edging and yellow part to be at least 50% of the shape of the sign. In these warning signs there are denotative meanings such as skull, bones, fire and person.

6.4.2 Analysis of connotative level.

The warning signs have associated meaning with color, pictogram and shape. Today, humans typically note the skull and crossbones in the sign (A) above as the almost universal symbol for [toxicity](#) and death as well as the sign (B) the fire connotations are usually to do with fear, rage, danger, destruction and energy. The sign (C) contains man who lost his control body, this sign sent message that the ground is wet, you have to look at your step. Hancock (1972:11-13) indicates that yellow produces a warming impact, arouses cheerfulness, and stimulates mental activity. Yellow color is very effective for attracting attention, thus use it to focus on the foremost vital components of your style.

Meaning of warning signs

- A. Toxic
- B. Flammable
- C. Slip hazard or wet floor

Safety signs are designed using one thing known as (semiotics), the science of how symbols, colors, shapes and text effect on us in several ways. This can be used to build signs straightaway recognizable. Whereas, keeping the information on them simple to digest.

There is a semiotic reason for each side of safety collection, from why warning signs are red to what form a fireplace escape marker ought to be. The infographic explains all of these and supplying you with a plan on why safety signs are set out. The infographic can take you through the colors of safety signs. Some safety symbols are universal, having been in observing for thousands of years. Whereas, others are fairly new. The running man on the 'fire escape' sign, as an example, has solely been used since the eighties.

Conclusion

In a nutshell, semiotics is subfield of linguistics that studies signs. This study concerns with using signs by petroleum, industrial and chemical companies to communicate with workers. These signs have two levels, i.e., connotation and denotation meaning, according to *Roland Barthes's Approach* in order to get the core meaning of signs. These signs are used for many purposes, like instructions, orientations, prohibitory, emergency exit and warning purpose. Also this study shades light on the meaning of colors. The following points are the main conclusions to this study:

1. Information can be easily presented in non-verbal communication through using visual signs.
2. Signs (non- verbal message) may substitute for the verbal message especially if the environment of work is blocked by noise, interruption, long distance.
3. The signs and symbols are used to repeat and reinforce what is said verbally.
4. It is very much helpful for illiterate people because this type of communication uses images.
5. The message of non-verbal (sign language) communication reached the receiver very quickly. So it reduces the wastage of valuable time of the communicator.
6. To manage and regulate the interaction among participants in the communication exchange.

7. Non-verbal of communication is considered main helper for handicapped people especially to deaf people.
8. Non-verbal communication depends on visual, picture, sign etc. that can be seen too much attractive.
9. Colors have connotative meaning in the mind of receptor that will effect on his/her behaviour.

References

- Atkinson, J. (2002). "A semiotic analysis of the representation of 'the family' in children's commercials". Retrieved on April 12, 2017 from <http://www.aber.ac.uk/media/students/jra0001.html>.
- Barthes, R. (1974). *S/Z*. New York: Hill & Wang
- (1977). *Image-Music-Text*. London: Fontana
- (1987). *Mythologies*. New York: Hill & Wang
- Berger, A. A. (1989). *Seeing is Believing: An Introduction to Visual Communication*.
- Chevalier, J. & Gheerbrant, A. (1996). *The Penguin Dictionary of Symbols*. New York: Penguin.
- Chandler, D. (1997). *Semiotics for Beginners*. Retrieved on July 15, 2017 from <http://www.aber.ac.uk/~gdc/semiotic.html>
- Cobley, P. (2001). *The Routledge companion to semiotics & linguists*. London: Routledge.
- Deely, J. (1990). *Basics of semiotics*. Bloomington, IN: Indiana University Press.
- Eco, U. (1979). *A Theory of Semiotics*. Bloomington, Indiana: Indiana University Press.
- Fiske, J. (1982). *Introduction to communication studies*. London: Methuen & Co.
- Floch, J. (2001). *Visual identities*, London, UK: Continuum.
- Gorlée, D. (1994). *Semiotics & the Problem of Translation*. Amsterdam-Atlanta: Rodopi.
- Hancock, E. (1972). *Techniques for Understanding Literature*. CA
- Hawkes, T. (1977). *Structuralism and semiotics*. London: Routledge.
- Hjelhmslev, L. (1961). *Prolegomena to a Theory of Language* (trans. Francis J Whitfield).Madison: University of Wisconsin Press Introductory Anthology. Bloomington: Indiana University Press, pp.4-23
- Langrehr, D. (2003). *From a semiotic perspective: Inference formation and critical comprehension of television advertising*. Retrieved on July 15, 2017 from <http://www.readingonline.org/articles/langrehr/>
- Lester, P. M. (1995). "Syntactic theory of visual communication". Retrieved on July 9, 2017 from <http://commfaculty.fullerton.edu/Lester/writings/viscomtheory.html>
- Mick, D. G. & Laura, G. P. (1989). "Consumers' Interpretations of Advertising Imagery: A Visit to the Hell of Connotation". In Elizabeth C Hirschman (Ed.): *Interpretive Consumer Research*. Provo, UT: Association for Consumer Research, pp. 85-96
- Moriarty, S. E. (1995a). "Visual semiotics & the production of meaning in advertising". Retrieved on June 14, 2017 from <http://spot.colorado.edu/~moriarts/vissemiotics.html>
- Moriarty, S. E. (1995b). "Visual communication theory: A search for roots". Retrieved on June 10, 2017 from <http://spot.colorado.edu/~moriarts/vctheorysurvey.html>

Panofsky, E. (1970a). Meaning in the Visual Arts. Harmondsworth: Penguin.

Peirce, C. S. (1985). Logic as Semiotic: The Theory of Signs, In: R. E. Innis (ed.) Semiotics.

Ricoeur, P. (1981). Hermeneutics and the human sciences, J. B. Thompson (transl.), New York, NY: Cambridge University Press.

Saussure, F. De (1983). Course in General Linguistics, London: Fontana/Collins

Voloshinov, V. N. (1973). Marxism and the Philosophy of Language (trans. Ladislav Matejka & I R Titunik). New York: Seminar Press