

CHAPTER 6:

MEANING MAKING IN CITY ORIENTATION: INTERSEMIOSIS AND CONTENDING ISSUES

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INTRODUCTION

The argument for signs in orientation design begins essentially from the clarification of some basic communication issues. Simple but significant functions of signs are used by this study to avoid any form of diversion from the fundamental study of visual communication. The intention is to guide the discussion by situating the study within the broader scope of environmental graphic design. Firstly, signs are elements in a communication process. That process is considered an operation or continuous action that takes place in a manner relevant to wayfinding activity. To comprehend how signs can be utilized in wayfinding, this essay analyzes the study of signs as visual language. A great consideration of the built environment and people's perception and interpretation of symbols in wayfinding design is given in this essay. In a social-semiotic approach to meaning-making, imagery can be seen as both socially external and internal. There is outward social interaction in which meaning is constantly created, in a transformation process of interactions with and responses to the prompts of social order and culturally shaped environments. Fredric Jameson (1972) postulates about the breakdown of language, stating that: "the signifier in isolation becomes ever more material... As meaning is lost... A signifier that has lost its signified has therefore been transformed into an image". This

postulation shadows the independence of symbols and symbolism's meaning-making attributes.

This study is concerned with the usage of icons and symbols for urban wayfinding, and semiotics is seen as helping to understand how meaning is formed, how people interpret a sign, and how they draw on personal or cultural experience to understand a sign. Signs are the objective carriers of potential knowledge (Brier, 2004). Semiotics is about communicating ideas or concepts to users. Charles Sanders Peirce was less concerned with the linguistic aspect of semiotics pioneered by Ferdinand de Saussure in the early 1900's, but rather he was more interested in how people made sense of the world around them. These signs referred to by Peirce often need interpretation, and this interpretation is based on the total semantic network and experience of the interpreter, which according to him, includes the emotional and social aspects (Brier, 2004). This insight leads to the need for a broader semiotic framework of communication and sign interpretation.

Reviewing Iconography and Iconology

“Iconography means the study of images, and at its simplest, the practice of identifying images in works of art” (D'Alleva, 2005:20). D'Alleva also classifies both semiotics and iconography in the context of meaning:

Though semiotics is older as a philosophy of meaning, as its roots go back to ancient times, both iconography and semiotics address the meaning of works of art: what they mean and how they produce those meanings. (p.17)

Though the formalists' theories proposed by Heinrich Wölfflin (1864-1945) were influential during the early parts of the twentieth century, who argued that unchanging principles governed artistic styles, others like Immanuel Kant (1724-1804) for example had

earlier argued for the special character of aesthetic experience. As Erwin Panofsky (1892-1968) (1970) put it:

In a work of art, 'form' cannot be divorced from 'content'- the distribution of colour and lines, light and shade, volumes, and planes, however delightful as a visual spectacle, must also be understood as carrying a more-than-visual meaning. (p.205)

At its most subtle, iconography works to retrieve the allegorical meanings contained in works of art. To define these terms, a symbol is something that is recognized as representing an idea or entity. A set of scales is, for example, a symbol for the idea of justice. Using a set of symbols that are widely recognized to represent an idea or entity, an allegory is a narrative in the form of a personification like an image (D'Alleva, 2005). So, a woman holding a set of scales is an allegorical figure of justice (Figure 1). Symbols and allegories are culturally specific, and their meanings are not always evident to every member of that culture, much less outsiders (Robinson, 2023).



Fig. 1 Justitia, Goddess of Justice

Iconography also falls within the language of vision and meaning. This language was an attempt by the Bauhaus theorists to isolate visual language from verbal language (Lupton & Miller, 2006). This theory inadvertently strengthens iconography's non-verbal paradigm. That graphic elements like icons and symbols fit

into visual culture becomes understandable. The understanding of the epistemology of visual language has been attested, with its dominance in contemporary society, both as a means of communication and as a source of meaning (Jay, 2002; Mirzoeff, 2009). According to Mirzoeff (2009) meanings are created and contested, stating that “because signs are always contingent, they can be understood in their historical context, and this inquiry remains central to an understanding of visual culture.”

Iconology, on the other hand, is the phase of interpretation that follows the identification of iconography. These interpretations investigate the meaning of allegories, symbols, and motifs in their cultural context. In developing his theory of iconology, Panofsky was influenced by Ernst Cassirer's (1874-1945) theory of significant form (Holly, 1984). Cassirer argued that “images represent fundamental principles or ideas (symbolic values) in each culture so that we can see works of art as documents of an artist, religion, philosophy, or even an entire civilization.” The idea of significant form is different from the formalist idea: the formalist idea strips away cultural meaning, but Cassirer (1955) argued that significant forms are loaded with cultural meaning. Cassirer (1955) noted that a researcher's own personal psychology, experience, and philosophy will shape his or her interpretation. Iconography enabled scholars to retrieve content embedded in works of art. Panofsky (1939) and *Meaning in the Visual Arts* (1955), defined three levels of iconographical and iconological analysis, each with its method and objective. However, when iconographic analysis is made, it helps to work through Panofsky's three stages, but rarely will there be a need for any systematic explanation of all three in a final analysis. Social influence and convention do affect iconic meaning. An iconic relation between the physical thing carrying the encoded sign (known as the signal) and the thing being referred to (known as the denotative referent) is a mapping of the signal's feature set (Liu, et al., 1998).

The subtlety and abstraction of iconic imagery on picture planes puts symbolism within the realm of metaphysics and to a great extent a bridge of form and structure with cognition. Metaphysics refers to explanations of phenomena by any nonmaterial force, like the mind or spirit—things that cannot be investigated by the methods of science (Bernard, 2006). This phenomenon does not deny the existence of metaphysical knowledge, but stresses that scientific and metaphysical knowledge are quite different (Bernard, 2006). However, there is an inquiry into how typography functions in a multimodal composition and an even narrower question of the functions of the linguistic message about the iconic message. This point could be important when discussing the juxtaposition of text with images in multimodal compositions. Modality, the way in which information is to be encoded for presentation to humans, is more closely associated with the semiotic models of Charles Sanders Peirce (1839-1914) because meaning is seen as an effect of a set of signs as compared to those proposed by Ferdinand de Saussure (1857-1913).

Historic Context of Semiosis

In Peirce's model, reference is made to an object when the sign is interpreted recursively by another sign; a conception of meaning that implies a classification of different types of signs. For example, a meaning that is contained in a wayfinding form cannot be removed from the iconicity of that form. In Saussure's view, sign is the complete result of the association of the signified with the signifier (Saussure, 1983:67; Saussure, 1959:67). If the usability of handheld devices with its imagery is popular culture, and the increasing embrace of media imagery is visual culture, then it is pragmatic to say iconography in the space realm is both, having exposed its ethnolinguistic traits to the theory of signifier and signified by Saussure. In a conversation with Cornelia Vossler, Isolde Frey highlights the universality of symbols by arguing that, "we cannot guide anybody if they cannot understand the text

(language) or the image (icon) (Frey, 2013). In this context, the idea holds because this creates a balance between function and identity where text becomes the language and image is represented by the icon.

Saussure played a key role in the development of semiotics with his argument that language is a system of signs that needs to be understood to fully understand the process of linguistics (Culler, 1976). Burke's (1966) insight, though rooted in rhetoric, still substantiates the philosophy of language based on the theory of language as a symbolic action. The study of semiotics examines the signs and types of representation that humans use to express feelings, ideas, thoughts, and ideologies (Ryder, 2006), and the effort to its configuration as an interdisciplinary perspective (Sebeok, 1976). The signified, a mental concept and the signifier, a verbal manifestation, are two things that are fundamental to the study of signs with their sequence of images and linguistic realization (Barry, 2002). The signifier is the image; the signified is the representation.

Semiotics or semiosis, the study of signs and significations, which is the process of creating meaning, has gained momentum over the last several years (Herbert, 2006). This is due, in part, to the growth of multimedia, the broadened scope of visual culture and other communication platforms. Some concepts of semiotics are instrumental to this research. These include open text, semiotic triangle, signifier and signified. The idea of sign can be defined by its functionality. Herbert (2006) broadly defines it as "something that is used in place of something else (something else being a signified)." However, something else that is a sign can be an idea or any object that requires interpretation. In the Aristotelian tradition, the sign is broken down into three parts signifier, signified and the deferent which means the thing to which the sign refers are just two parts that were adopted by Saussure as a semiotic theory for signs and meaning, while the third part is Peirce's

theoretical vision of semiotics (Herbert, 2006). Peirce distinguishes the representation, the interpretant, and the object.

As there is also a relationship between the visual perception of signs and the cultural background of humans, comprehending signs provides a tool for place location in wayfinding design for orientation. We create symbols and images to understand environmental surroundings, individually in our images and socially in images we share with others (Kepes, 1944). Based on visual representation, a series of iconic designs and symbolism has been developed for analysis and adoption in spatial orientation. These designs and models are based primarily on fundamental concepts of graphic imagery and psychology such as visual perception, human position, size and colour of the signage. As an extension of Panofsky's cultural contextualization, we have gradually moved beyond iconic interpretation into issues of reception, attempting to understand not just hidden meanings embedded in specific themes but also how subjects are received and understood by road users.

Because icons can work on many platforms, from descriptive to cultural and symbolic, they can be applied to the wider relational framework of content. The easiest is the descriptive, "where the multivalent nature of images causes the greatest problems" (Eliade, 1961:15). Immanuel Kant's (1724-1804) belief that the human brain plays a major role in perception was a major influence in Panofsky's (1955) theories, instigating his work as to how the human brain perceived images (Hourihane, 2005). However, the majority of iconographical studies fall short of considering form and function - factors that are key to understanding the meaning of any work. The characteristic of iconography is drawn from the history of representational but has been expanded by the communicative networks of legibility and meaning. There is an interdisciplinary nature of scientific endeavor in the postmodern age, as they have become complex and trans-disciplinary, but turns around to express doubt in this collaboration

(Brier, 2004). This reversal of opinion is surprising because various concepts of communication can help us understand and develop social systems such as self-organizing and self-producing networks, as we need a deeper understanding of the ethics and aesthetics foundation of the existence of these new systems. In a series of collected papers, Peirce (1911) conceived the construction of meaning, and the aptness of these definitions is quite revealing.

Proponents of Peirce's ideas structured graphic design curricula around his typology of signs and his notion of interpretant normally described as the function of sign. Unlike icons that have been extensively used in digital platforms, symbols in urban wayfinding design have been minimally utilized. Golledge (1999) asked, "How do variation in the environment influence the storage of environmental information and the selection?" Inquiring if the symbols are explanatory enough in terms of colour, size and semiotics, as against the background of the urban environments are some key issues to address. Icons and symbols are, to a large extent, still dependent on the need to find textual support for its vast and expanding retinue of subject matter (Hourihane, 2005). This characteristic has indeed impeded wayfinding design research, where the overriding need to find a textual basis has created an artificial association between the visual and verbal, and the textual.

Applicable Meanings in Sign Development

For this study, symbolic icons are emphasized. Both exemplar and symbolic icons are Peirce's indexes as both serve as signifiers. In both cases, the signifier is not arbitrary even where it does not resemble what is being signified. Resemblance icons are most effective when communicating simple actions, objects, and concepts, and they work best when the representation is simple and direct (Bradley, 2016). However, they are less effective as complexities increase. In wayfinding for example, showing a curved line to indicate the road curves ahead works well, but something more needs to be added if the idea is to communicate

that the driver should slow down. Though symbolic icons are like exemplar icons, they are, however, more effective at a much higher level of abstraction. For example, a padlock is used to represent a secure web link. This is because people associate locks with some level of security (Plate 1).



Plate 1: Signs are made up of different components like words, images, and context - all of which combine to create a visual language which helps us understand an idea or concept (Boulton, 2005).

From Saussure’s point of view, a sign can be broken down into the signifier (the perceivable part of the sign and the signified the understandable part of the sign). Because meanings are affected by the perceiver, viewing and understanding are re-creative acts (Howard, 1996:84). Symbols and icons of a culture can also be understood and appreciated by another. This multicultural and social mutation is more evident in symbols and icons developed and used in the Olympic Games – an event that greatly utilizes symbols in directional wayfinding. When we can see the object in the sign, “we are often left with a sense that the icon has brought us closer to the truth than if we had seen an index or a symbol” (Grayson, 1998 p.35).

From a graphic design point of view, a sign can be defined as a lettered or patterned board that conveys meaning, command, or directions (Sobottka, 2010). Various literature have identified icons, symbols, and indexes as the three types of signs. For this study, the focus is on icons as they are directly related to what they

represent, the meaning is immediately evident, and it can be a smaller part that represents a whole with minimal reference to the index where a concept of symbolism requires indexing. References like these are considered because a symbol does not have a direct connection to what it represents, but the meaning usually needs to be learned through association. Indexes, on the other hand, are signs that point to an instruction or message (Sobottka, 2010).

Signs are potential information because they depend on the interpretation of the receiver, and there must be an interpreter for any available information. However, to become information, differences must be seen as signs by the observer. This happens when they become internally developed interpretants. Peirce (1911) writes about this in his definition of the sign process:

A Sign is a first which stands in a genuine triadic relation to a second, called its object, as to be capable of determining a Third, called its Interpretant, to assume the same triadic relation to its Object in which it stands itself to the same Object.... A Sign is a Representamen with a mental Interpretant. (p.99-100)

The object here is that aspect of reality that the representation signifies. In a way, the object in Peirce's description is also a sign. Peirce's semiotic philosophy develops cognitive science beyond the limitations of rationalistic and mechanistic information. While icons can be instrumental in conveying signifier information to a less literate population, symbols provide a quick functional representation of a place or service (Gibson, 2009). For example, the word 'café' may not mean much on a wayfinding signage to an illiterate or a non-English speaking visitor, but the image of a teacup (signifier) with steam can be easily understood by almost everyone as a drinking device (signified). Likewise, the image of a steaming pot and teapot is aimed at non-Chinese-speaking customers (Figure 2 and 3). It is evident that the signified, rather than the signifier, is relevant to

spatial orientation and cognition. This insight into the nature of spatial cognition in real-life environments creates the potential for the development of a symbolic approach to wayfinding design that is more centred on the user, and as such, may inform the creation of user-oriented environments. However, where such structures were similar in their construction, there were no existing principles with which to determine structure or terminology. Panofsky's pioneering study ultimately changed the concept of symbols which provided a framework for interpreting and understanding iconography and iconology. His theories also examined the psychology and mental processes involved in interpretation and understanding creative work.

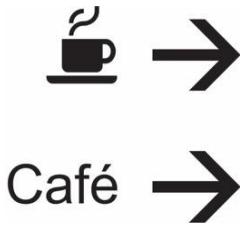


Fig. 2 This icon is communicative as well as informative for non-English speaking customers. Source: Identity Group, 2016



Fig. 3 This icon is also communicative as well as informative for non-Chinese speaking customers. Source: David Gibson, 2009

Icons and symbols are not arbitrary, so this belief blurs the meaning-making components of signs and visual language. The images form the identity of the object that distinguishes places from ideas and must have meaning and sufficient value for orientation (Figure 4). The relationship between symbols and society as well as the association between human mobility and spatial orientation makes a theoretical framework of visual culture

in urban environments. Attempting to inform and persuade, designs are developed as an argument within a two-dimensional space that defines an audience's future experience (Tyler, 1992). Though sign design creates some sort of experience for the user, experience is rarely the primary communication goal of signs. This is because signs in wayfinding are as conversational as they are experiential.

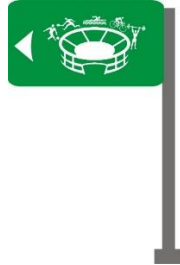


Fig. 4 Place identity: Stadium. Source: Author

Findings Between Signs and Multimodality

There are no connections between a symbol and what it represents. However, standards and conventions aid the connectivity between symbols and what they represent. According to Bradley (2016), in identifying language, numbers, traffic lights and even flags as symbols, what is to be communicated must be learned. This is because the connections must be learned from interpretation, and it gradually becomes associated with the idea or concept it represents over time. A sign provides a means to understanding how people exchange meaning (Mavers, nd). Signs form a whole when a multimodal methodology is utilized and encompasses all modes of representation and communication. A strand of cognitive study in the context of multimodality lies in how different modes of representation might influence human interaction, interpretation and meaning making. Various studies suggest that different modes of visual representation and communication change the way information is perceived and understood. Various strands investigate patterns in reception of

multimodality, particularly factors that influence the perception and interpretation process (Price & Pontual Falcao, 2011). Perception and interpretation of visual messages are perceived as interactive meeting between the users and the multimodal message (Holsanova, 2010), so, the meaning is created by the individual recipients by multiple factors affecting their means of integrating different modes of representation.

The expected connection between a signifier and a signified in symbols is completely arbitrary and must be culturally learned even though symbols are perceived to be at the opposite end from icons (Bradley, 2016). A wayfinding icon can become a symbol over time through constant usage. An example is the floppy disk icon that is still used to represent saving a digital file, even though floppy disks are no longer in use. Icons normally bear a physical resemblance to what is being represented, and there are four types of iconic representation: resemblance icons which are direct likenesses of the objects they represent; exemplar icons which depict a common example of the class of objects they represent; symbolic icons which convey a concept at a higher level of abstraction than the object depicted; and the arbitrary icon that has no relationship to a concept and their association must be learned (Bradley, 2016). Symbols and icons are best used when the actions, objects, or concepts being represented are well-established.

Summary

The rationality of icons and symbols for orientation lies in their ability to visually communicate and direct. Symbolism will continue to aspire in bridging linguistic gaps in diverse socio-cultural environments. As urban landscapes increasingly become more culturally diverse, symbols will continue to shape and influence environmental communication. It has been tempting to assume all signs communicate in the same way, but different types of signs communicate quite differently in a variety of ways. This

phenomenon is the creation of images that resemble what they represent or through what they represent and the meaning they create. Iconography and symbolism have harmonized well with some key visual communication theories but in some cases, have conflicted with cognitive psychology. The strength of iconographic tools derives from their ability to visually articulate meaning and fluidity in orientation within the dimensions of a particular place.

By identifying the essential elements of place, signs in wayfinding facilitate a broad understanding of how the concept of direction is constructed and opens avenues of visual inquiry and analyses into the details of this process. Information is a universal need, but vital information is not readily available to everyone, hence a philosophy was adopted by this paper that heightens the importance of wayfinding and places priorities on sign design. Because of signs' visual impact, trans-disciplinary collaboration, it is hoped, will expand the conversation about spatial intentions and orientation. In this essay, signs in urban wayfinding have not been seen as a triumph of imagery over cognition, but as a bridge of representation and specificity. Their simplicity makes icons and symbols unique, freeing them of any form of bias or idiosyncrasy. This calls for people to find meaning in iconographic simplicity even with abstraction.

REFERENCES

- Barry, P. (2002) *Beginning Theory: An Introduction to Literary and Cultural Theory*, Manchester University Press, Great Britain
- Bernard, H. R. (2006) *Research Methods in Anthropology: Qualitative and Quantitative Approaches*. 4th ed. Oxford, UK: AltaMira Press
- Boulton, M. (2005) *Icons, Symbols, and a Semiotic Web*. In: *The Personal Disquiet of Mark Boulton*. Retrieved from:

<https://www.markboulton.co.uk/journal/icons-symbols-and-a-semiotic-web>

- Bradley, S. (2016) Icon, Index, and Symbol: Three Categories of Signs. Retrieved from: <http://vanseodesign.com/web-design/icon-index-symbol/> Accessed: May 24, 2016.
- Brier, S. (2004) Cybersemiotics and the Problems of the Information-Processing Paradigm as a Candidate for a Unified Science of Information behind Library Information Science. Gale Group
- Burke, K. (1966) Language as Symbolic Action: Essays on Life, Literature, and Method. Berkeley: University of California Press. Vol. 44, No.3 pp. 664-669, DOI: 10.2307/411740
Retrieved from: <http://www.jstor.org/stable/411740>.
- Cassirer, E. (1955) Philosophy of Symbolic Forms. Transl. Ralph Manheim New Haven: Yale University Press. First Published (1925) P83-84
- Culler, J. (1976) Saussure. Fontana Modern Masters, Britain
- D'Allea, A. (2005) Methods and Theory of Art History. London: Laurence King Publishing
- Eliade, M. (1961) Images and Symbols: Studies in Religious Symbolism. Transl. Mairet, P., London: Harvill Press
- Frey, I. (2013) Signage, Orientation, Identity. A Conversation with Cornelia Vossen. Berlin: Moniteurs GmbH
Communication Design p48–50
- Gibson, D. (2009), the Wayfinding Handbook: Information Design for Public Places. New York: Princeton Architectural Press
- Golledge, R. G. (Ed.). (1999) Wayfinding Behaviour: Cognitive Mapping and Other Spatial Processes. Baltimore, Maryland: The John Hopkins University Press.
- Grayson, K. (1998) The Icons of Consumer Research. In Stern, B. (ed), Representing Consumers. New York: Routledge, 27-43 p.36

- Herbert, L. (2006) The Semiotic Square. In Hébert, L. (Dir.), *Signo* [online] Rimouski, Quebec. Retrieved from: <http://www.signosemio.com/greimas/semiotic-square.asp>.
- Holly, M. A. (1984) *Panofsky and the Foundations of Art History*. Ithaca, NY: Cornell University Press, 130-57
- Holsanova, J. (2008) *Discourse, vision, and cognition*. Amsterdam/Philadelphia: Benjamins
- Hourihane, C. (2005) *Iconography: New Dictionary of the History of Ideas*. The Gale Group. Retrieved from: <http://www.encyclopedia.com/topic/iconography.aspx>
- Howard, S. (1996) On Iconology, Intention, Imagos, and Myths of Meaning *Artibus et Historiae* Vol. 17, No. 34 pp. 83-90
Published by: IRSA s.c. Retrieved from: <http://www.jstor.org/stable/1483525>. Accessed: 28/10/2015
- Jameson, F. (1972) *The Prison-House of Language*. Princeton, NJ: Princeton University Press (see Rick Poynor, 2003)
- Jay, M. (2002) That Visual Turn: The Advent of Visual Culture. *Journal of Visual Culture* 1 (1) 90 – 91
- Kepes, G. (1995) *Language of Vision*. New York: Dover Publications, USA. Original Publication: Chicago: Paul Theobald, 1944
- Liu, K., Crum, G. and Dines, K. (1998) Semiotics, Users and Design. In: *International Journal of Behaviour & Information Technology*, Vol 17, No.3, pp175-184
- Lupton, E. and Miller, J. A. (2006) (Eds.) *The ABCs of the Bauhaus and Design Theory*. London: Thames & Hudson. p3
- Mavers, D. (Ed.) (nd) *Signs: Glossary of Multimodal Terms*. National Centre for Research Methods. <https://multimodalityglossary.wordpress.com/sign>
- Mirzoeff, N. (2009) *An Introduction to Visual Culture*. 2nd Edition, New York: Routledge.

- Panofsky, E. (1970) *Meaning in the Visual Arts*. Harmondsworth: Penguin, 205
- Peirce, C. S. (1955) *Philosophical Writings of Peirce*. J. Buchler (Ed.), New York: Dover Publications
- Peirce, C. S. (1911) *A Logical Criticism of the Articles of Religious Belief*. Retrieved from:
<http://www.commens.org/bibliography/manuscript/peirce-charles-s-1911-logical-criticism-articles-religious-belief-ms-r-856>, October 28, 2016
- Price, S. and Pontual Falcao, T. (2011) Where the attention is: Discovery learning in novel tangible environments. *Interacting with Computers*, 23, (5) p. 499-512
- Robinson, L. (2023) *Iconography of Navigational Signs: A Wayfinding Intervention for the Diobu Area of Port Harcourt*. PhD. Thesis, University of Port Harcourt, Nigeria
- Ryder, M. (2006) *Semiotics: Language and Culture*. Retrieved from:
http://carbon.cudenver.edu/~mryder/semiotics_este.html.
April 27, 2016
- Saussure, Ferdinand de (1915/1983) *Courses in General Linguistics*. Charles Bally & Albert Sechahaye (Ed), Trans. Roy Harris, London: Duckworth
- Saussure, Ferdinand de (1916/1956) *Course in General Linguistics*. Wade Baskin (Trans.) New York: McGraw Hill. p122-127
- Sebeok, T. (1976) *Contributions to the Doctrine of Signs*. Bloomington: Indiana University Press
- Sobottka, J. (2010) *Signs: Symbol, Index, and Icon*. In *Design Theory*. Retrieved from:
<https://yusylvia.wordpress.com/2010/03/08/signs-symbol-index-and-icon/>. Accessed September 20, 2016
- Tyler, A. C. (1992) *Shaping Belief: The Role of Audience in Visual Communication*. In *Design Issues*, 9 (1)