16

Visual Semiotics: Key Features and an Application to Picture Ads

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INTRODUCTION: SEMIOTICS AND VISUAL SEMIOTICS

Semiotics (from Greek, *sēmeion*, 'sign') is the study of signs. Mainly in its French tradition, *semiology* can be found as a synonym. The study of signs has a tradition beginning in Greek antiquity. Today, semiotics is a transdisciplinary field of research of relevance to a wide spectrum of disciplines such as biology (animal and cellular communication), cultural studies (cultures as sign systems), media studies (verbal and visual communication), consumer research (goods as signs), linguistics, logic, aesthetics, musicology (signs of/in music), architectural theory (buildings and urban design as signs), cartography (the signs of/in maps), religion (rites and religious myths as signs), or social psychology (non-verbal communication).

General Semiotics is the study of signs, sign systems, and communicative processes in general, whereas Applied Semiotics studies specific contexts of sign use. Some branches of Applied Semiotics have established themselves as sub-disciplines of semiotics under names of their own: for example, medical, musical, or film semiotics. Visual semiotics is one of the domains of Applied Semiotics. *The International Association for Visual Semiotics* organizes studies in this field.

The term 'visual semiotics' is not synonymous with 'the study of visually communicated signs'. Pictures (Santaella and Nöth, 1998), drawings, paintings, photographs, colors (Thürlemann, 1984; Eco, 1985), print ads (Santaella and Nöth, 2010), posters, design (Ashwin, 1984; Nadin, 1990), films (cf. Nöth, 2000), diagrams (Stjernfeld, 2007), logograms, traffic signs (Krampen, 1983), and maps (Nöth, 2007b) are topics of visual semiotics, but other visually communicated signs are not usually considered sub-domains of visual semiotics: for example, geometry, writing, or non-verbal communication (gestures, eye contact, 'body language').

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Without pretending to define the field of visual semiotics as such, the present chapter is mostly restricted to the semiotics of still images, such as paintings, photographs, and pictures from the print media.

TRENDS, SCHOOLS, AND TOPICS OF VISUAL SEMIOTICS

General surveys can be found in Calabrese (1980), Nadin (1985), Sonesson (1989, 1993), Sebeok and Umiker-Sebeok (1995), and Nöth (2000, 2005b, 2009a). Visual semiotics was founded in the 1960s by structural linguists endeavoring to extend their scope of analysis from the study of language and literature to the visual contexts of language in the media. Roland Barthes (1964) was the first to speak of a 'rhetoric of the image' and to postulate a visual semiotics based on the semiology of Ferdinand de Saussure (1857–1913) and Louis Hjelmslev (1899–1965). Barthes's books on the semiotics of fashion, photography, and pictures from the print media are milestones in the history of visual semiotics (Barthes, 1967, 1977, 1980).

There are several schools and trends of research in visual semiotics, among them the ones of visual rhetoric and of the Paris School. Visual rhetoric, outlined by the Liège Group μ in their *Treatise of the Visual Sign* (Edeline et al., 1992), postulates that paintings and other pictures can be studied in analogy to figurative language as deviations from 'normal' pictures constituting a generic 'degree zero' of visual communication. The visual semiotics of the Paris School is founded on the assumption of essential analogies between pictures and verbal language. Like language, pictures are studied at the levels of expression (color, forms, etc.) and content (things, plants, animals, men and women, etc.). Pictures are segmented into minimal units, which are structured in oppositions such as colored/colorless, black/white, round/angular, living/non-living, culture/nature. More complex thematic and figurative meanings appear at higher levels of analysis. Exemplary studies of paintings and pictures from the print media are Floch (1985, 1990), Thürlemann (1990), and Fontanille (1995).

Other approaches to the semiotics of pictures can be found in the frameworks of M. A. K. Halliday's sociosemiotics (Kress and Van Leeuwen, 1996), and Charles S. Peirce's semiotics (Deledalle, 1979: 115–129; Iversen, 1986; Santaella and Nöth, 1998, 2010; Nöth and Santaella, 2000; Halawa, 2008). Some authors have adopted implicitly semiotic approaches to pictorial analysis. Although based on semiotic premises, they do not use any specifically semiotic terminology. Arnheim's theses that visual patterns are 'forms associated with contents' and 'all shape is the form of some content' (1954: 65) are implicitly semiotic, since they amount to saying that pictures are signs. The most elaborate implicitly semiotic approach to art is Nelson Goodman's *Languages of Art* (1968).

THE SEMIOTIC POTENTIAL OF PICTURES

Pictures and words differ in their semiotic potential and communicative efficiency. The former require a two-dimensional visible space, whereas the latter (like music) are produced and perceived in a linear sequence. Written language is a hybrid medium: although writing requires space, the processing of language in writing and reading is still largely linear.

Nevertheless, verbal communication is rarely restricted to the linearity of time, as are telephone conversations and radio programs. In face-to-face communication, language is transmitted in an acoustic space and embedded in the visual context of non-verbal communication. Pictures are not restricted

to their visual space either: rarely can they be found without any verbal context. Paintings have names (titles), or at least the painter's name is associated with them. A passport photo needs a name, too; it does not only document how the passport owner looks like but also needs to identify his or her name.

The semiotic potential of language is superior when temporal as well as causal relationships have to be represented. Stories develop in time and are best told in language. Pictures, by contrast, are superior to verbal communication when spatial configurations have to be represented. An architectural plan, for example, cannot be very well translated into words, and it is difficult to convey the appearance of an unknown person by means of words only. The difference between the linearity of verbal language and the two-dimensionality of pictures also involves a difference in information processing. In a given span of time, we can process more visual than verbal data. The proverbial saying that 'a picture is worth a thousand words', even though it may not be true in all respects, conveys this insight. Nevertheless, in some respects, language is not merely linear, and pictures are not only spatial media either. Syntactic tree diagrams show that language is also hierarchically structured and words also evoke mental images, which are spatial configurations. Visual perception, in turn, is not only a holistic process; to see and to understand a picture also takes time.

Au: Confirm change?

COMPLEMENTARITY OF PICTORIAL AND VERBAL COMMUNICATION

Language and pictures are complementary in their semiotic potential; both are needed in efficient media communication (cf. Nöth, 2004). The superiority of pictures as a medium for the representation of the visible and imaginable world is counterbalanced by the superiority of language for representing the invisible world of sounds, smells, tastes, temperature, or logical relations. However, as Peirce has shown, even abstract logical and mathematical relations are not intelligible without the aid of verbal, geometrical, or graphic diagrams, which are icons and not symbols.

It has been argued that the meaning of a picture *depends* on its verbal comments, whereas words do not need pictures to be understood. Roland Barthes, for example, argues that our reading of a press photo depends on its legend:

> Images… can signify…, but never autonomously; every semiological system has its verbal admixture. Where there is a visual substance, for example, the meaning is confirmed by being duplicated in a linguistic message… so that at least a span of the iconic message is… either redundant or taken up by the linguistic system (Barthes, 1964: 10).

Although it is true that words contribute to the interpretation of pictures and thereby make their meaning more specific, Barthes's argument is too logocentric. It ignores that words in face-to-face communication also have a visual context which contributes to the meaning of the verbal utterance. Furthermore, pictures such as paintings and photos often have no verbal context whatsoever, and even when they have one, it tends to be trivial in its meaning or redundant. Finally, it must also be recognized that verbal texts in strictly or mainly verbal media, such as conversations, books, letters, telegrams, or e-mails, evoke *mental* images by means of words.

PICTURES AS SIGNS

Pictorial semiotics presupposes that pictures are signs (cf. Nöth, 2005a). Whether they are or not is both a terminological question and one which depends on how signs are defined. Pictures (*imagines*) and paintings (*picturae*) were first defined as signs in Rogers Bacon's treatise *De Signis* of 1267 (cf. Meier-Oeser, 1997: 54). According to Bacon, pictures function as signs 'by their own nature', due

to a 'natural correspondence' with what they depict. Not only natural pictures such as mirror reflections but also handmade pictures are natural signs according to this definition. It is not the painter's intention which makes a painting a sign but its natural similarity with the object it represents: 'Whether the artist wants it or not, the picture always represents what it represents because it is similar to it' (*De Signis* I, 15; cf. Meier-Oeser, 1997: 58–59). Today, although the iconicity of pictures is still a topic, paintings are usually no longer defined as natural signs.

The concept of sign has also been defined in ways which exclude pictures. Some authors distinguish between signs and symbols, restricting the concept of *sign* to *natural signs* (or *signals*), while defining all products of culture, including pictures and words, as *symbols* (cf. Nöth, 2000: 40-41). This is not the terminology of visual semiotics.

Pictures are not only signs when they depict the visible reality of things. To assume the contrary characterizes the naive conception of the picture as a depiction criticized by Boehm as follows: 'It is the idea that pictures *mirror a presupposed* reality (in whatever stylistic distortion). What we know and what we are acquainted with meets us once more under exonerating visual circumstances. At any rate, the nature of depiction consists in a doubling' (1994: 327). However, no sign is a mere double of reality, and no sign system is restricted to representing singular objects only. In language, for example, only proper names represent singular objects. Not even words representing really existing things depict singular objects. Nouns such as 'apple', 'house', or 'fish' represent classes of things in general, and this generality makes them vague.

Although the notion that pictures represent objects in a mirror-like fashion is naive, there are pictures which typically do so, namely mirror images (cf. Eco, 1984) and photographs. Other pictures, for example, international pictograms, are rather similar to the verbal signs into which they can be translated (see later section: Iconic, Indexical, and Symbolic Pictures).

THE TRIADIC MODEL OF THE PICTORIAL SIGN

According to a medieval definition, a sign is something (*aliquid*) that stands for (*stat pro*) something else (*aliquo*): *aliquid stat pro aliquo*. This formula conveys the useful insight that the sign is not the object to which it refers; the picture must not be confounded with what it depicts. However, insofar as it suggests that the sign can be essentially reduced to a dyad of sign vehicle and its object of reference, or a signifier and a signified, the formula is misleading. Three correlates have to be considered: the sign (vehicle), its referential object, and its meaning. In many terminological variants, the three correlates (sign, object, and meaning) constitute the triadic model of the sign, often represented in the form of a triangle (cf. Nöth, 1990, 2000). A classic of semiotics who has given a triadic account of the nature of the sign is Charles Sanders Peirce (1839–1914). (Throughout the rest of this chapter, I refer to his work with 'CP' followed by volume and paragraph numbers.) One of his definitions of the sign is the following:

> A sign, or representamen, is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the interpretant of the first sign. The sign stands for something, its object. It stands for that object, not in all respects, but in reference to a sort of idea (CP 2.228, c. 1897).

In the context of visual semiotic, that which 'stands to somebody for something in some respect' is the picture. It is not necessary that the sign should have a material form. A sign, according to Peirce, can also be an idea, a mere thought. Hence, a mental image can also be a sign. The visual sign refers back to previously seen visual perceptions (its object) and it causes an interpretation, a reaction, a new thought or mental image as its interpretant. Thus defined, signs occur in semiotic processes. The sign (word, picture,

or mental image) is a semiotic 'first'. It is associated with something else (a 'second'), which is the object represented by the sign. The object of the visual sign is something once seen, experienced, or imagined. A sign associated with its object leads to a 'third', its interpretant, which is the mental or behavioral interpretation of the sign.

The object for which the pictorial sign stands can be a thing depicted by the picture, but it can also be the memory of something once seen, and even something purely imaginary, a mental image. The triadic model of the sign does not postulate the existence of the object. Peirce even goes so far as to speculate that 'perhaps the Object is altogether fictive' (CP 8.314, 1909). A picture of a unicorn is not a sign without an object because unicorns do not exist in reality. The object of this picture consists of the pictures, sculptures, and stories which have once formed our mental image of what a unicorn is.

The interpretant of a pictorial sign is the mental image, the idea, the thought, the action, or reaction evoked by it. Since ideas are (mental) signs, the interpretant of a sign which is a mental image is itself a sign. In Peirce's semiotics, the distinction between the object and the interpretant is not one between something material and something mental. All three correlates of the pictorial sign can be mental as well as material. An example of a material interpretant of a famous painting is the copy painted of it by an amateur or artist. The difference between a mental picture as a sign, an object, and an interpretant is a matter of the sequence in the semiotic process. When the mental image is the object of a sign, it precedes the sign as something that is evoked by the sign. When it is the interpretant, it is the effect that the sign has created in a mind. When the sign itself is a mental image we are considering the point of departure of a semiotic process; for example, a process in which a present mental image (sign) evokes memories of the past (its object), which are then interpreted in a new light (as its interpretant). While the object of the sign relates to the past, and the sign is a matter of what comes first in perception, the interpretant as its interpretation follows the sign.

ICONIC, INDEXICAL, AND SYMBOLIC PICTURES

Pictures are typically iconic signs. According to Peirce, an icon is a sign which is similar to its object; it shares qualities with its object and is neither a sign because of a convention nor because it is the natural effect of an object which is its cause. A picture of a yellow banana is yellow like the object which it represents; the picture of a triangle is itself triangular. The words for these objects evince no such similarities with what they represent. Based on conventions, which differ from language to language, words are symbols. The association between a symbol and its object is arbitrary, conventional, and it must be learned.

The term 'iconic' is not a synonym of the term 'visual'. Although most pictures are iconic signs, there are also acoustic icons: for example, the sounds in a radio play or a film. Words can be icons, too. Sound symbolic words are verbal icons.

The degree to which an icon is similar to its object is called *iconicity*. The concepts of similarity and iconicity have been criticized for their vagueness, in particular by Eco (1968, 1976). Eco and other critics have argued that everything is somehow similar to everything, but although a banana and the moon, for example, are similar in color, this does not make the banana a sign of the moon. Similarity is indeed not an objectively measurable quality, but it could not even be so since the object of a sign can also be a mental picture, and mental pictures cannot easily be compared with visual pictures. Nevertheless, similarity is a cognitive reality. We make judgments of similarity in everyday life, and these judgments can be described and evaluated, and tests can reveal to which degree people find things similar.

A picture is an index in addition to being an icon when it refers to, and can serve to identify, a singular object. Passport photos are indexical signs; they serve to identify their owners. In fact, all photos are indices, because one of the characteristics of some indices is that they are connected with their objects by a natural cause or a spatial or temporal contiguity. Photographs, despite their similarity with their objects, are indexical signs for two reasons: first, they are produced by the physical cause of a light ray projection on a film; secondly, they serve to identify the object which they depict. The indexicality of the photo does not exclude or contradict its iconicity; the latter is included in the former. Paintings, too, evince elements of indexicality. The style of a painting is an index of its painter and the time in which it was painted. The perspective in which a picture is drawn is an index which allows us to infer from which point in space the draftsman produced the drawing, and a portrait in oil that allows us to identify the portrayed person as an individual is as much an index of the person as his or her passport photo.

According to Peirce, the object of a sign cannot be identified as such from its iconic representation despite the similarity between them. An icon is a sign 'by virtue of a character which it possesses in itself, and would possess just the same though its object did not exist', explains Peirce, giving the example of the iconic statue of a centaur, which represents a centaur 'by virtue of its shape', which 'it will have, just as much, whether there be a centaur or not' (CP 5.73, 1903). Icons do not necessarily refer to real objects. When, and insofar as they do, they are indices. The object of an icon can be a mere possibility; this is why pictures can depict objects which do not exist.

One of the characteristics of indexical signs is 'that they direct the attention to their objects by blind compulsion' (CP 2.306, 1902). A child who cries to attract his or her mother's attention communicates by means of a genuine index. To some degree, the blindly compulsive attraction which Peirce mentions as a characteristic of some indices is also a characteristic of pictures, especially in the media. It is well known that pictures attract more attention than mere words. The tabloid press makes use of this effect by ceding space to photos on their front pages. To the degree that pictures have such an appellative (or 'conative', as Roman Jakobson calls it) power, they are indexical signs. Some pictures are more indexical than others in this respect. Pictures with 'loud' colors or the photos of pin-up girls attract more attention. Posters and outdoor ads make use of this indexicality to attract the attention of the masses.

Pictures can also be symbols. Words are typical symbols. The logographic traffic sign for cyclists, an abstract picture of a bicycle, is a symbol but because of its similarity to real bicycles it is at the same time an icon. Logograms are symbols insofar as they have a general meaning, just like the words into which they can be translated. When it is used to orient cyclists in traffic, the traffic sign serves as an index, informing the road users that '*this* path *(here*)' is for cyclists only.

Thus, Peirce's trichotomy of the icon, the index, and the symbol is a system of inclusion. Symbols include indexical signs since no general idea can be formed without 'existent instances of what the Symbol denotes': i.e. without indices of the symbol (CP 2.249, 1903). Indices include icons, for, 'in so far as the Index is affected by the Object, it necessarily has some Quality in common with the Object' (CP 2.248, 1903). The word *bicycle* evokes the mental image (and thus an icon) of the vehicle it designates, but it also directs our mind to specific vehicles which we have known in reality (index). Indices include icons, as the example of the photo has shown. Only the icon does not include any other types of sign. Since icons evince qualities of their objects, Peirce concludes that 'a great distinguishing property of the icon is that by the direct observation of it other truths concerning its object can be discovered than those which suffice to determine its construction' (CP 2.279). Icons are hence the only

kind of sign from which we can derive new insights concerning the nature of their objects. This is particularly true of the diagram, which Peirce defines as an icon which, without any 'sensuous resemblance' with its object, shows an 'analogy between the relations of its parts' with the structure of its object (CP 2.279, c. 1895). A city map, which is a diagrammatic icon, not only represents the streets of the city but also allows the map user to discover how to get from one address to another.

The iconicity of pictures explains their global utility and efficiency in the media. What they refer to can be recognized from its forms and colors; the information conveyed by a press photo needs no translator. This does not preclude that pictures may not also be determined by cultures and styles and need to be contextualized. Furthermore, what pictures depict is very often already a symbolic sign whose interpretation requires cultural knowledge. The picture of a totem pole can only be properly understood by one who has some collateral knowledge of the cultures which produce totem poles as symbols of clans. The degree to which icons mix with indices and symbols allows the distinction between pictorial styles. Realist paintings, for example, are more indexical than iconic ones. Paintings whose interpretation requires the knowledge of an iconographic code, by contrast, are symbols to the degree that cultural knowledge of conventions is required to interpret them.

WHY NON-FIGURATIVE (ABSTRACT) PICTURES ARE SIGNS

The sign nature of figurative pictures is mostly not in question, since it is acknowledged that they are signs of whatever they represent. By contrast, with the argument that nothing can be a sign that does not represent or refer to objects of 'real' or at least to possible worlds, non-representational pictures have been described as works of art which are not signs (cf. Nöth, 2005a); however, visual semiotics sees this differently, and therefore abstract paintings are not excluded from its field of research.

The Paris and Liège Schools of visual semiotics distinguish between figurative (or iconic) and abstract (or plastic) signs in pictures. Figurative signs are those which can be recognized as representing the things of our visual world, such as the sun, a tree, a table, a cat, a boy, or a girl. These are evidently the signs we find in representational paintings. Abstract signs consisting of patterns of color and form such as colors, triangles, circles, etc., can be found both in figurative and in non-figurative pictures. Structured in minimal units called abstract elements, these signs are described in pairs of binary oppositions. At the abstract level, *chromatic* patterns (of color) are distinguished from *eidetic* patterns (of form). Chromatic patterns are structured in contrasts of colors, such as 'red' vs 'green', or 'saturated' vs 'unsaturated'. Eidetic patterns are structured in so-called *categories*, consisting of binary opposites of form, such as 'angular vs round' or 'convex vs concave'. In a next step of the analysis of abstract paintings, the configurations found in the analysis of the chromatic and eidetic patterns are interpreted in terms of semantic categories, such as 'nature vs culture', 'life vs death' (cf. Thürlemann, 1990: 25–31; Edeline et al., 1992). This final step of analysis of this semiotic approach to abstract paintings thus consists in rendering the non-figurative structures of the abstract picture as figuratively meaningful.

A different way of accounting for the sign nature of abstract pictures is to postulate the category of the self-referential aesthetic sign, a sign that refers to nothing but itself (Nöth and Santaella, 2000; Nöth, 2003, 2007a, 2007c). A key term of this approach is Peirce's concept of the pure icon. Pure icons 'can represent nothing but Forms and Feelings' (CP 4.544, 1905). Without being just similar to (and hence, in a way, also different from) its object, the pure icon is a sign only by virtue of qualities of its own. Without drawing

'any distinction between itself and its object, it represents whatever it may represent, and whatever it is like… . It is an affair of suchness only' (CP 5.74, 1903). In the context in which Peirce develops the theory of pure iconicity, he draws a distinction between (pure) icons and *hypoicons*. A pure icon, as described above, functions as a sign by its own quality, irrespective of any other object of reference, whereas the hypoicon functions as a sign because of its similarity to its object (CP 2.276, 1903). Elsewhere (and also in the previous paragraph of this chapter), the term icon is simply a synonym of hypoicon.

Pure icons 'are so completely substituted for their objects as hardly to be distinguished from them… . The distinction of the real and the copy disappears, and it is for the moment a pure dream – not any particular existence, and yet not general' (CP 3.362, 1885). Once a picture is contemplated in such a total disregard of any referent, it is no longer a sign by similarity to its object. Being indistinguishable from its object, the pure icon is a self-referential sign of its own pure forms. This way of looking at a picture as a pure form is the one which classical aesthetics has described as the defining characteristic of aesthetic perception. The work of art is perceived 'for its own sake', according to the doctrine of classical aesthetics (cf. Nöth, 2000: 426–427). When the icon does no longer refer to an object differing from itself, representing nothing but pure forms and feelings, it is a mere constellation of colors and forms.

The classical distinctive feature of aesthetic perception, namely self-referentiality, the fact that aesthetic pictures begin to be perceived in their suchness, only with respect of their iconic qualities, was only radicalized by the aesthetic revolution that took place in abstract art. Once the art work was liberated from its bonds with its objects of reference, its viewers no longer needed to abstract from its figurative signs to perceive it as an autonomous aesthetic sign representing colors and pure forms.

The avant-gardes of the twentieth century adopted various semiotic strategies to liberate their works of art from their bonds of reference. All of them can be described as different strategies of approaching the ideal of aesthetic self-reference. Pure iconicity is in fact only an ideal, a borderline case of iconicity, reachable only by asymptotic approximation. No real picture can be an absolutely pure icon, since each picture is a singular object and in this sense not an 'ideal' form. The work of art is always also the product of an individual artist and in this respect an index of the artist's style. Furthermore, insofar as it participates in and exemplifies a specific aesthetic trend (such as 'abstract art'), it is the result of aesthetic conventions, and in this respect a symbol. No work of art can fully embody the ideal of pure form, but there are degrees of approximation to pure iconicity.

Three such degrees of approximation to pure iconicity can be derived from Peirce's classification of signs into qualisigns, sinsigns, and legisigns outlined in his theory of the 10 classes of signs (CP 2.254-264, 1903): first, as an icon because of its own qualities, the iconic qualisign is the one that comes closest to the ideal of the pure icon; secondly, comes the iconic sinsign, which is characterized by its singularity; and thirdly, comes the iconic legisign, which is an icon embodying 'a general law of type' (CP 2.258).

Iconic qualisigns

The prototype of abstract painting coming closest to an iconic qualisign is the monochrome painting. Yves Klein's *Proposition monochromes* of 1956 consist of a series of pictures in pure orange, yellow, red, pink, and blue. These minimalist pictures probably negate the referential object of the pictorial sign most radically. Any reference to the world of objects is eliminated in a picture reduced to pure color and referring to nothing but itself. And yet, despite their approximation to the category of qualisign, these monochromes cannot be pure qualisigns, 'since quality is a mere logical possibility'

(CP 2.255), whereas a painting is a real object of experience. As such, Klein's paintings are also sinsigns, signs whose singularity is important, although this is not what distinguishes them from other works of art. Furthermore, as works of art, they also belong to the category of the iconic legisign, since they are instances of the class of artworks, which are cultural signs determined by aesthetic conventions. Despite their radical attempt of breaking with the traditions of art history, even the most revolutionary work of art still wants to belong to the class of artworks: i.e. to a category of signs determined by cultural conventions. The legisign character of Klein's *Proposition monochromes* is also evident in its title. If these monochromes are *propositions*, they are pictures which propose a general idea about the nature of painting: i.e. they are metapaintings.

Iconic sinsigns

Among the works of twentieth century avantgarde in which the aspect of singularity is predominant and which therefore function primarily as iconic sinsigns are those which have demonstrated the unrepeatability, absolute uniqueness, and in this sense utter singularity of experiencing them. The absolute unrepeatability of the aesthetic experience of a work of art was the ideal of the performances, happenings, events, and installations in the art of the late 1960s and early 1970s (Nöth, 1972). No work of art can be more singular than an unrepeatable happening, the performance of which is programmatically unique.

A different kind of radicalization of the ideal of aesthetic singularity is exemplified by works in the tradition of the Dadaist *found objects*. The singularity of an *objet trouvé* is not the one of its aesthetic experience, which is in fact repeatable; it is the uniqueness of the selection of the objects as an object of art. Of course, works of art, as creations of individual artists, have always been products of unique selections. However, in contrast to the traditional kind of creative uniqueness, *found objects* are not materially created at all; they are only selected by the artist from an easily available general repertoire of mass products and made singular by the mere act of their presentation in an art exhibition. Among the things selected by Marcel Duchamp as objects of art were: a comb, a bottle rack, and a urinal. It was the artist's unique gesture of selection that transformed these ordinary objects of everyday life into singular works of art, aesthetic sinsigns. The objects which Duchamp had 'found' in, and selected from, the repertoire of everyday life objects had been signs before they were selected, but signs of a different kind. As members of a class of objects serving a practical purpose, they were replicas of legisigns, the mass products serving those everyday life purposes which made them culturally meaningful (cf. Nöth, 1998). Duchamp's selection of these mass products deprived them of their reference to their practical utility and modes of use and transformed them into singular works of art, self-referential iconic sinsigns.

Iconic legisigns

Iconic legisigns are the third class of iconic sign of relevance to the semiotics of nonrepresentational art. Legisigns are signs due to a general law that makes them a sign. In painting, such laws can be styles or conventions, but also symmetry, balance, polarity, tension, contrast, opposition, invariance, geometrical form, or chromatic complementarity. Prototypically, laws of the latter kind determine the compositional principles of Constructivism and Suprematism. Piet Mondrian's *Composition in Red, Black, Yellow and Gray* (1920), for example, is composed according to the geometrical laws by which rectangular forms are constructed; it is radically reduced to colored squares and rectangles separated by black lines. A square forms the visual center around which rectangles are displayed in quasi-symmetrical arrangements, and the colors are chosen to

create a harmonious balance. The forms and colors are neither presented as pure forms nor as the artist's spontaneous and singular intuition, but by a chromatic and geometrical morphology and syntax that make the picture an iconic legisign.

VISUAL SYNTAX AND THE QUESTION OF DOUBLE ARTICULATION

A major topic of the early semiotics of the image of the 1960s and 1970s was whether the metaphor of the 'language of pictures' can be taken literally: i.e. whether pictures are structured in analogy to the levels of the phoneme, the word, and the sentence of the verbal language. Among the semioticians who participated in the search for analogies between the grammar of language and the structure of pictures are Zemsz (1967), Metz (1968), Eco (1968, 1976), Schefer (1969), Marin (1971), Paris (1975), Lindekens (1976), Carter (1972, 1976), and Saint-Martin (1990). A much discussed topic of this period of visual semiotics was whether pictures are signs with a so-called double articulation: i.e. with a level consisting of elements with meaning (analogous to the words of language) and a level consisting of elements without meaning (like the phonemes or letters of language). Undoubtedly, visual images have meanings, but in contrast to words, pictures are not composed of a finite set of recurrent minimal elements, which are themselves without meaning (cf. Benveniste, 1969: 237, 242).

Although there is now a general agreement that pictures are sign systems without a second articulation similar to the one of language, the French and Belgian traditions of visual semiotics postulate a double articulation of pictures of a different kind. The two levels of structure of a visual image are the ones of the figurative and the abstract signs of pictures. (See above section on non-figurative (abstract) pictures and the last section on pictures as semi-symbolic systems.)

Although there is no grammar to compose syntactically well-formed pictures by means of a finite number of elements and rules, it is nevertheless possible to recognize a pictorial syntax in a different sense. Pictures are certainly composed of figures whose spatial arrangement obeys certain principles of order. Unlike the syntax of language, which consists of largely arbitrary rules varying from language to language, figurative pictures have an *iconic syntax* whose rules are determined by the order in which the things in the world represented by them are structured. For example, the sun is up, the ground is down, and a butterfly has wings to the right and the left of its body, etc. It is by means of such iconic orders of representation corresponding to the order of the things of the visual world as we know it that pictures can be read as representing the things they depict. The grammar of figurative pictures is iconic of the order of things.

Abstract pictures have no such grammar, since they negate any reference to them. Insofar as each abstract painting has its own chromatic and formal order of colors and forms, one can either conclude that each abstract painting has its own syntax or that non-figurative paintings are pictures without a syntactic structure. Traditional principles of aesthetic order (harmony, balance, symmetry, colors that combine or not) are examples of the non-figurative pictorial syntax by which a large class of pictures has been and continues to be generated.

In contrast to the syntax of verbal language of linear surface structures with hierarchical deep structures, the grammar of pictures generates more complex two-dimensional surface structures. Nevertheless, there are also structures below the surface of a picture which testify to a kind of visual deep structure: for example, foreground–background or center–periphery configurations marking the greater or lesser importance of pictorial elements. Visual salience of a figure, its foregrounding, or its position in the center, correspond to the importance in pictorial meaning.

The iconic syntax of pictures is thus an iconic syntax of recognition, reflecting the patterns of visual cognition. One of the syntactic orders underlying our cognition both of pictures and of the visual world which has no counterpart in verbal syntax is meronymic order. A meronymy describes the part–whole order of things. An example is the human body: its parts are the trunk, the arms, legs, and the head. Each of these parts is structured in further parts: for example, the arm into upper arm, forearm, and hand, etc., each of these parts having an order of its two-dimensional representation, right, left, up, or down in the visual configuration. The knowledge of such part–whole relations is one of the elements of pictorial syntax. A syntactically well-formed picture of a human head must show hair, eyes, nose, mouth, chin, etc., each in its syntactically (or meronymically) correct place. The rules of the projection of the three-dimensional space onto the two-dimensional plane of the surface of a picture are a sub-domain of pictorial syntax.

VISUAL SEMANTICS

The semantics of figurative pictures is equally derived from our knowledge of the objects of the visual world. Whatever meaning we associate with an object (a rock, a dog, the sky, etc.), a figure, or a color, the same meaning will be recognized as a meaning of its pictorial representation. To the degree that pictures represent the visual world more accurately than verbal language, the semantics of pictures is more differentiated than the semantics of language. The small number of color words in contrast to the large number of colors available to a graphic artist may suffice as an example of the superiority of visual to verbal semantics. In other respects, pictorial semantics can also be inferior in its semiotic potential in comparison with verbal semantics. Some of the respects in which pictures cannot express meanings which words can express are negation and exclusive disjunctions, causality, modalization, meta-reference, self-reference, and deixis.

Negation and exclusive disjunction

Pictures cannot say *no*, nor can they express *either-or-but-not-both* relationships. 'Bicycle' is certainly a meaning which can be represented in a picture, but the meaning 'no bicycle' cannot. Negative meanings can inferentially be derived from pictures, or are expressed by symbolic means. The concept 'no bicycle' can be inferred from a picture without bicycles, but since the number of judgments about the invisible derivable from visible is always unlimited (the number of things not in picture being uncountable), it is uncertain whether the picture will lead to this judgment or not. A crossed-out picture of a bicycle uses a symbolic device to negate the concept of 'bicycle'. A picture cannot express the concept of the exclusive *or*. For example, it cannot represent the meaning 'either a cyclist or a pedestrian'.

Causality

Can pictures visualize the causes of the effects they represent? A photo of a fire and the smoke caused by it represents a cause–effect relationship, but the causality must be inferred by the viewer of the photo; there is no pictorial device which expresses it. An X-ray picture seems to visualize the cause of a disease, but it is only the iconic (and indexical) representation of a malformation which is itself the symptom of the disease that is its cause. A photo shows a man shooting a woman, but did she really die, or were the two only the actors of a film? To the degree that pictures cannot affirm what they show, they cannot represent causality. Sequences of pictures and films are more likely to represent cause–effect relations. A film of a man lighting a match and setting fire to a barn shows a cause–effect sequence.

Modality

Pictures cannot modalize what they show. They cannot express the ideas of possibility, necessity, obligation, or volition. The picture of a running girl does not tell us whether she wants to, must, or can run or is only pretending to run.

Metareference and self-reference

Pictures and language also differ with respect to their metareferential and self-referential potential (Nöth, 2007c, 2009b). They have no metasigns corresponding to words referring to words, their elements, and functions, such as *vowel, consonant, word*, or *sentence*. Only language can self-referentially be used to describe words. For example, it is possible to say: 'I mean *eye* – *e, y, e* and not *I*, the personal pronoun'. Furthermore, language can also be used to speak about pictures, but pictures hardly describe language, although they may be used to illustrate texts. No pictorial form can express the idea of a 'form', no triangle the idea of a 'triangle', and no color the idea of a 'color' without being itself the color in question. Pictures can only show their own qualities: they cannot explicitly 'speak' about them, nor can they generalize. A picture can only show a triangle or a color but cannot show without being itself triangular or having the color it represents. Although pictures have no signs to refer to pictures and their elements, metapictures become possible by way of inference. A picture about another picture is interpreted as a metapicture by the inference of an interpreter in whose mind the present picture evokes the other picture (which it quotes or comments on) as a mental picture.

Deixis and indexicality

Pictures cannot point from *here* to *there*. There are no internal means of referring from one locus within the picture to another; there is nothing that can express the meaning of *here*, *there*, *this*, or *that* (but for the way in which pictures can be indices of what they represent, see above.)

VISUAL PRAGMATICS

Like all signs, pictures also have a pragmatic dimension, in which they are studied in relation to their modes and effects of use. Visual pragmatics deals with the way pictures are used and the effects which they have on their viewers. That pictures attract more immediate attention than words, as discussed above, pertains to their pragmatic dimension. Other topics of visual pragmatics include: In which way do pictures exert their effect on their viewers and which purposes do they serve? A semiotic way of examining this question is to compare the pragmatics of language with the use and the effects of communication by means of pictures.

An important method of linguistic pragmatics is speech act theory (cf. Nöth, 2010), which studies the diverse modes language uses as acts of 'doing things' by means of language (cf. Austin, 1962). Examples of speech acts are promising, threatening, asking, ordering, congratulating, taking an oath, etc. An important distinction is the one between direct and indirect speech acts. Direct speech acts are marked as such by speech act verbs (so-called performative verbs) or syntactic forms that characterize the utterance as the speech act for which it is used. For example, the speech act or ordering is direct if the speaker says *I order you to be quiet* or uses the imperative form (*Be quiet*!). Indirect speech acts omit performative verbs or syntactic forms that signalize the speech act which it is. A speaker may give an order in the form of a (more polite) question or as a mere statement.

Pictures are also used for diverse purposes: for example, in advertising, to make customers buy products or in public places to orient the masses. Is a theory of pictorial acts in

analogy to speech acts possible? Performative verbs are verbal metasigns. If I say *I ask you the following question…* or *I tell you…*, these utterances are metalinguistic comments on the ensuing questions or orders. Since pictures have no explicit metasigns, as shown above, it must be concluded that there can be no direct pictorial acts analogous to direct speech acts. A picture cannot express explicitly whether it is used to ask a question, to give an order, to threaten, to make a promise, or to congratulate. Hence, a theory of pictorial acts can only be a theory of indirect pictorial acts. If a picture addresses its readers with the purpose of asking a question or warning against a danger, the pictorial question or warning can only be an indirect one. Of course, the purpose for which the picture serves can be expressed directly by means of verbal speech acts.

Pictures cannot affirm what they show because to affirm requires a metasign of the truth of what is affirmed (cf. Nöth 2009b). A spokesman who affirms that his company has dismissed its chairman claims implicitly that the proposition *We have dismissed our chairman* is true; to say that something is true is to make a metastatement. Pictures, by contrast, have no such metasigns. They can only show what they represent, but since they have no iconic metasigns, they can neither affirm what they represent nor lie about it. Nevertheless, pictures can give indexical evidence of facts, especially as photographs. As indexical signs, photos come close to pictures that express the truth and in the sense in which photos are acceptable as documents of facts, they can be said to affirm what they represent. However, the photo cannot be made to affirm what it shows nor can it tell whether it was manipulated or not. We need additional evidence about the circumstances under which it was taken, revealed, or digitally processed. This is why even photos can neither affirm nor lie explicitly but can only be used to lie. The circumstances under which pictures are used for certain purposes are either expressed verbally or by means of indirect pictorial acts. The photographer who sells a manipulated photo as a representation of a real scene either does so by means of the speech act of a lie or by concealing the truth in a non-verbal way: for example, by profiting from his professional credibility. The non-verbal way of deceiving the clients is an indirect pictorial act.

In their pragmatic dimension, pictures are essentially open messages, more so than in their semantic dimension. A picture of a violin can hardly be interpreted to mean anything other than a violin, but it can be used for many purposes: for example, to inform about the kind of instrument a violin is, to teach how it is built, to illustrate an invitation to a concert, to advertise, to exemplify the idea of symmetry, etc. This is another parallelism between pictures and language: just like a picture can be used for many purposes, one and the same verbal utterances can be used in many indirect ways to perform the most diverse speech acts.

THE SEMIOTICS OF VISUAL IMAGES IN PRINT ADS: TWO CASE STUDIES

Two semiotic approaches to the study of visual images will be presented here with due shortenings, some additions, and necessary modifications. Both are studies of print ads from news magazines. The first exemplifies the Paris School approach; the second, the approach based on Peirce's semiotics. The Paris School method of visual semiotics is exemplified by means of a summary of the main ideas of a study by J.-M. Floch (1985: 139–169, 1989, 1990: 85–89) of some print ads from an advertising campaign of 1980 launched to introduce the cigarette brand 'News' in France (Figure 16.1).

In the tradition of semiotic structuralism, Floch characterizes the verbo-visual text of Figure 16.1 as a system of opposites at several levels of which the dichotomy of expression vs content is the most fundamental.

Figure 16.1 A French ad of 1980 (Floch, 1989: 56) for the cigarette brand 'News'

Figure 16.2 A gin ad of 1974 (Santaella and Nöth, 2010: 148) for the brand 'Beefeater', produced by the company James Burrough Limited

At the *expression plane*, which is the level of the graphic and typographic forms as well as chromatic and achromatic nuances and contrasts, the opposition 'straight' vs 'oblique' is most striking. The upper and lower text typographic zones are arranged in straight and horizontally parallel fields (or bands), whereas the typographic middle field contains obliquely arranged rectang ular forms within a rectangular frame whose margins go parallel to the ones of the whole page. The arrangement implies oppositions such as symmetry (in the upper and lower bands) vs asymmetry (in the middle field) or regularity vs irregularity. This set of fundamental opposites goes parallel (is 'coupled') with other oppositions at the expression plane: language (in the upper and lower bands) vs photography (in the middle field); colored (above and below) vs black and white (the photos in the middle); 'broad' with several lines vs 'narrow' with one line only (upper and lower bands). Opposites structuring the middle field are: foreground preted as meaningful. They are considered as signifiers (expressions) associated with signifieds (contents). The resulting semantization of the expression plane of an image according to this method can be illustrated by the 'foreground' vs 'background' opposition: in general, the meaning of what is in the foreground is more important than what is in the background, and indeed, it is the cigarette pack, for which the campaign is launched, that is in the foreground of this ad. A further semantization of this kind: descending lines have negative, and ascending ones have positive connotations. Indeed, it is only the image of the cigarette pack whose edges have ascending lines in their oblique representation, whereas the photos of the 'restless' life of photojournalists have an oblique orientation descending from left to right.

After reducing the various pairs of opposites at the expression plane to the one fundamental common denominator of

'discontinuity' vs 'continuity', Floch arrives at the conclusion that this opposition characteristic of the ad's layout is coupled with the fundamental semantic opposition of 'identity' vs 'alterity'. Identity is the common denominator of the continuity and regularity with which daily newspapers are published, the cigarettes' 'full flavor' remaining available for ever, and also of the consumers' freedom to take a break while the others continue in their restless professional lifestyle. The latter symbolizes the 'alterity' of all those who do not participate in taking a break (and do not consume this brand product). The fundamental distinction between 'identity' and 'alterity' is coupled with other opposites: 'permanence' (and continuity in the publication of a daily newspaper) vs 'change' (of the issues reported from day to day), photos (the daily raw material of any press photographer) vs the (ever-changing) 'events' they depict. In sum: 'What the "News" advertisement proposes… is a lifestyle… that it displays two contrary states: participation in the hectic life of society…[vs] attainment of a personal style imprinted upon the former' (Floch 1989: 57).

The system of correlations between elements of expression and content, thus established, exemplifies that pictures are semi-symbolic languages and how they are structured in semi-symbolic systems. Unlike symbolic languages, which evince a one-to-one correspondence between their units of expression and content (example: the system of traffic lights), pictures are semi-symbolic languages because the elements of their expression plane evince only loose correspondences to certain categories of content, as illustrated above.

Whereas the Paris School approach aims at revealing fundamental, but hidden, meanings inherent in the deep structure of an image, the approach based on principles of Peirce's semiotics adopted by Santaella and Nöth (2010) starts from different premises. Reading pictures is a semiotic process (a process of semiosis). Images are signs that do not only *have* meanings but also *create* meanings. The meanings they have are related to the *objects* of the visual signs; the meaning they create to their *interpretants*.

Consider the example of Figure 16.2. The ad itself (image and text) is a complex *sign* consisting of two pictures in juxtaposition with a few verbal text elements associated with them. The object of this sign does not only consist of the two things we see and the meanings of the words we read. That which we must know in order to interpret the sign (i.e. the object) comprises all cultural knowledge necessary to interpret the sign. This knowledge is not restricted to visible knowledge. For example, we know that the crown is itself a sign, a symbol of the British monarchy. The bottle, too, is a sign, since it represents a brand and not only one particular bottle. The knowledge we have of the objects represented in this ad may be vague, but the verbal text, consisting of signs with objects of their own, informs about further details. The *interpretant* created by this complex sign (the ad) not only consists of meanings in the sense of information, ideas, concepts, or mental images but also of the beliefs, desires, and habits which the complex sign creates in its readers. The ultimate interpretant, which is the real aim of all advertisements, is the consumers' habits of consuming the product presented in this ad.

The two juxtaposed objects shown in the gin ad of Figure 16.2 are *iconic* signs since they are similar to the objects they represent. At first sight, the two objects seem completely unrelated: we know that the crown is unique and of incalculable value, whereas a single bottle of gin is an ordinary mass product. However, for a mass product, the verbal claim printed in the top line 'There is only one' – vague as it may be – cannot be true. To make more sense of this juxtaposition of crown and bottle, the reader is obliged to look for a better interpretation. The two objects are evidently signs of different types. The object of the first icon 'crown', in its singularity, is a *sinsign*; the picture of the bottle does not represent a sinsign (evidently, the company does not only want to sell a

single bottle), but a *legisign*, i.e. a sign type, based on a law. All brands are *legisigns*; they are literally protected by laws. As a legisign, the bottle not only stands for itself but also for a brand. With this in mind, the juxtaposition makes more sense: a brand image is certainly something that has a high value. There are brand images which sell for more than the financial value of the Imperial Crown.

However, if a single bottle serves as a sign of a whole brand, it can only be an indexical legisign. The sign is an index (in addition to being a legisign), since it represents its object in a *pars pro toto* relationship: one bottle serves to represent all bottles of the brand. This more detailed analysis reveals one more inequality in the semiotics of the juxtaposition: although the two objects 'crown' and 'bottle' are both legisigns, only the latter is an *indexical legisign*, whereas the former is a *symbolic legisign*. In addition to being a legisign (protected by the laws of England), the Imperial Crown is a symbol, a sign related to its object by cultural habits and conventions.

The semiotic purpose of the juxtaposition of the two unequal objects is evidently to achieve the effect of a transfer of those meanings associated with the object of culturally higher value (the crown) to the sign representing the object of a culturally lower value (the brand of gin). Culturally highly esteemed qualities, such as 'precious', 'royal', 'traditional', 'ancient', or 'worth to be guarded', all inherent in the cultural image of the Imperial Crown, but in addition once more explicitly addressed in the verbal comments below, are meant to be transferred to the brand image of the beverage.

The device of meaning transfer apparent in these ads is one of semiotic parasitism. The ad's purpose is to enhance the image of the brand at the cost of the higher symbolic values associated with the crown in a process of *parasitical semiosis*. The strategy operates mainly by means of indices, which naturally attract the reader's attention and only then point to the less interesting product represented in juxtaposition with them. Such indices can be found in several places of this ad. In the juxtaposition of crown and bottle, the crown serves as an index pointing by its high attention value (and uniqueness) to the bottle next to it; the bottle *participates* ('is part of') the fame irradiating from the picture of the crown. The product name, 'Beefeater', is itself an index of the product it designates (all proper names are indices), but it is also an index in many other respects. Homonymous with the name of the guardians of the royal treasures kept in the Tower of London, traditionally also called 'Beefeaters', this brand name not only parasitically participates by its own name in the fame of the guardians of the Tower but also profits from their fine reputation indexically insofar as these guardians are in professional contiguity with the royal treasures they guard. The label, an index of the product to which it is attached (as all labels are), contains in its graphic design further indices associating the product with the values of the Royal treasures by the principle of contiguity. On it, we see iconic representations of medals won in '1823, 1911, 1924', which serve as indices of the quality of the product. There is the place name 'London' (a verbal index of the capital of England), a picture of the crown (an icon, which in relation to the bottle marks it indexically as a 'royal' product), an icon of the Tower of London, which is an index in relation to the treasures kept there, and, of course, the icon of the Beefeater guarding all this.

In the end, the ad suggests so many similarities between the product and the crown that the uncritical reader may be led to believe that there is also an iconic relationship between the gin contained in the bottle and the treasures kept in the Tower of London. What seemed to be related only indexically, at first sight, now seems to be similar and hence iconically related, too: the name of the product is not only similar to, but is even a *copy* of, the guardians' name. Both the crown and the gin are 'guarded' by valiant guardians placed in front of the place in which they are

kept. It is true that the Beefeater guarding the gin is only a picture of a Beefeater (on the label of the bottle). The iconic sign of the guardian thus turns out to be a visual metaphor. Whereas the crown is literally guarded by the traditional Beefeaters, the gin is only metaphorically guarded by them: by the picture of the guardian in the center of its label. This set of similarities makes the product, which has so many similarities with the treasures of England, a metaphorical icon of these 'treasures'. Metaphorically, we are led to conclude that not only the Tower of London but also the bottle of Beefeater Gin contains a treasure. This parasitic iconicity is coupled with the claim made by the ambiguous and vague top line that 'There is only one', which we are led to read as 'There are really two unique treasures to be discovered here'. Read literally, the referent of the pronoun 'one' can only be the crown, since only the crown is unique, whereas the 'treasure' contained in the bottle is not literally a precious treasure. Metaphorically, the top line, which claims 'uniqueness', is also meant to refer to the branded product. Uniqueness, according to this claim, is the main quality shared by both objects in juxtaposition. If all these implicit and explicit claims become firmly rooted in the consumers' minds and if it becomes a belief and habit that this product is as unique as the Imperial Crown, the brand has the chance of becoming a true symbolic legisign, a symbol of values rooted in laws and habits. However, in the language of consumer goods, symbols tend to change with consumers' preferences and habits. Symbols live, but they can die, too. The efforts of advertisers are efforts to prevent their brand images from disappearing from the consumers' attention and memory.

REFERENCES

Arnheim, R. (1954) *Art and Visual Perception*. Berkeley, CA: University of California Press.

Ashwin, C. (1984) 'Drawing, design and semiotics', in V. Margolin (ed.), *Design Discourse*. Chicago, IL: University of Chicago Press. pp. 199–209.

Austin, J. L. (1962) *How To Do Things with Words*. Oxford: Oxford University Press.

Barthes, R. (1964) 'Rhétorique de l'image', *Communications*, 4: 40–51.

Barthes, R. (1967) *Système de la Mode*. Paris: Seuil.

Barthes, R. (1977) *Image – Music – Text*. New York: Hill & Wang.

Barthes, R. (1980) *La Chambre Claire: Note sur la Photographie*. Paris: Cahiers du Cinéma.

Benveniste, E. (1969) 'Sémiologie de la Langue', *Semiotica*, 1: 1–12, 127–35.

Boehm, G. (1994) 'Die Bilderfrage', in G. Boehm (ed.), *Was ist ein Bild*? München: Fink. pp. 325–343.

Calabrese, O. (1980) 'From the semiotics of painting to the semiotics of pictorial text', *Versus*, 25: 3–27.

Carter, C. L. (1972) 'Syntax in language and painting', *The Structurist*, 12: 45–50.

Carter, C. L. (1976) 'Painting and language', *Leonardo*, 9: 111–118.

Deledalle, G. (1979) *Théorie et Pratique du Signe*. Paris: Payot.

Eco, U. (1968) *La Struttura Assente*. Milano: Bompiani. German translation (1972) *Einführung in die Semiotik*. München: Fink.

Eco, U. (1976) *A Theory of Semiotics*. Bloomington, IN: Indiana University Press.

Eco, U. (1984) *Semiotics and the Philosophy of Language*. Bloomington, IN: Indiana University Press.

Eco, U. (1985) 'How culture conditions the colors we see', in M. Blonsky (ed.), *On Signs*. Baltimore, MD: Johns Hopkins University Press. pp. 157–175.

Edeline, F., Klinkenberg, J.-M. and Minguet, P. (Groupe μ). (1992) *Traité du Signe Visuel*. Paris: Seuil.

Floch, J.-M. (1985) *Petites Mythologies de l'Oeil et de l'Esprit: Pour une Sémiotique Plastique*. Paris–Amsterdam: Hadès-Benjamins.

Floch, J.-M. (1989) 'The semiotics of the plastic arts and the language of advertising', in P. Perron and F. Collins (eds), *Paris School Semiotics II: Practice*. Amsterdam: Benjamins. pp. 55–77.

Floch, J.-M. (1990) *Sémiotique, Marketing et Communication: Sous les Signes, les Stratégies*. Paris: Presses University de France. Translated by Orr-Bodkin, R. (2001) *Semiotics, Marketing and Communication: Beneath the Signs, the Strategies*. Houndmills: Palgrave Macmillan.

Fontanille, J. (1995) *Sémiotique du Visible*. Paris: Presses University de France.

Goodman, N. (1968) *Languages of Art*. Indianapolis, IN: Bobbs-Merrill.

Halawa, M. A. (2008) *Wie sind Bilder Möglich? Argumente für eine Semiotische Fundierung des Bildbegriffes*. Köln: Halem.

Iversen, M. (1986) 'Saussure vs Peirce: Models for a semiotics of visual art', in A. L. Rees and F. Borzello (eds), *The New Art History*. London: Camden. pp. 82-94.

Krampen, M. (1983) *Icons of the Road* (=*Semiotica*, 44[1–2]). Berlin: de Gruyter.

Kress, G. and Van Leeuwen, T. (1996) *Reading Images: The Grammar of Visual Design*. London: Routledge.

Lindekens, R. (1976) *Essai de Sémiotique Visuelle*. Paris: Klincksieck.

Marin, L. (1971) 'Eléments pour une sémiologie picturale', in L. Marin, *Etudes Sémiologiques*. Paris: Klincksieck. pp. 17–43.

Meier-Oeser, S. (1997) *Die Spur des Zeichens*. Berlin: de Gruyter.

Metz, C. (1968) *Essais sur la Signification au Cinéma I*. Paris: Klincksieck.

Nadin, M. (ed.) (1985) *The Meaning of the Visual: On Defining the Field* (=*Semiotica*, 52[3–4]). Berlin: de Gruyter.

Nadin, M. (1990) 'Design and semiotics', in W. A. Koch (ed.), *Semiotics in the Individual Sciences*. Bochum: Brockmeyer. pp. 418–436.

Nöth, W. (1972) *Strukturen des Happenings*. Hildesheim, New York: Olms.

Nöth, W. (1990) *Handbook of Semiotics*. Bloomington, IN: Indiana University Press.

Nöth, W. (1998) 'The language of commodities', *International Journal of Research in Marketing*, 4: 173–186.

Nöth, W. (2000) *Handbuch der Semiotik*, 2nd edn. Stuttgart: Metzler.

Nöth, W. (2003) 'Photography between reference and self-reference', in R. Horak (ed.), *Rethinking Photography I+II: Narration and New Reduction in Photography*. Salzburg: Fotohof Edition. pp. 22–39.

Nöth, W. (2004) 'Zur Komplementarität von Sprache und Bild aus semiotischer Sicht', *Mitteilungen des Deutschen Germanistenverbandes*', 51(1): 8–22.

Nöth, W. (2005a) 'Warum Bilder Zeichen sind: Bild- und Zeichenwissenschaft', in S. Majetschak (ed.), *Bild-Zeichen: Perspektiven einer Wissenschaft vom Bild*. München: Fink. pp. 49–61.

Nöth, W. (2005b) 'Zeichentheoretische Grundlagen der Bildwissenschaft', in K. Sachs-Hombach (ed.), *Bildwissenschaft zwischen Reflexion und Anwendung*. Köln: Halem. pp. 33-44.

Nöth, W. (2007a) 'The death of photography in self-reference', in W. Nöth and N. Bishara (eds), *Self-Reference in the Media*. Berlin: Mouton de Gruyter. pp. 95–106.

Nöth, W. (2007b) 'Die Karte und ihre Territorien in der Geschichte der Kartographie', in J. Glauser and C. Kiening (eds), *Text – Bild – Karte. Kartographien der Vormoderne*. Freiburg: Rombach. pp. 39–68.

Nöth, W. (2007c) 'Metapictures and self-referential pictures', in W. Nöth and N. Bishara (eds), *Self-Reference in the Media*. Berlin: Mouton de Gruyter. pp. 61–78.

Nöth, W. (2009a) 'Bildsemiotik', in K. Sachs-Hombach (ed.), *Bildtheorien: Anthropologische und kulturelle Grundlagen des Visualistic Turn*. Frankfurt/Main: Suhrkamp. pp. 235–254.

Nöth, W. (2009b) 'Metareference from a semiotic perspective', in W. Wolf (ed.), *Metareference across Media: Theory and Case studies*. Amsterdam: Rodopi. pp. 89–134.

Nöth, W. (2010) 'Semiotic foundations of pragmatics', in W. Bublitz and N. Norrick (eds), *Handbook of Pragmatics*. Berlin: de Gruyter.

Nöth, W. and Santaella, L. (2000) 'Bild, Malerei und Photographie aus der Sicht der peirceschen Semiotik'. in U. Wirth (ed.), *Die Welt als Zeichen und Hypothese*. Frankfurt/Main: Suhrkamp. pp. 354–374.

Paris, J. (1975) *Painting and Linguistics*. Pittsburgh, PA: Carnegie-Mellon University.

Peirce, C. S. (1931–1958) *Collected Papers, Vols 1–6*, C. Hartshorne and P. Weiss (eds); *Vols 7–8*, A. W. Burks (ed.). Cambridge, MA: Harvard University Press. [Cited as CP. References are to volumes and paragraphs.]

Saint-Martin, F. (1990) *Semiotics of Visual Language*. Bloomington, IN: Indiana University Press.

Santaella, L. and Nöth, W. (1998) *Imagem: Cognição, Semiótica, Mídia*. São Paulo: Iluminuras.

Santaella, L. and Nöth, W. (2010) *Estratégias Semióticas da Publicidade*. São Paulo: Cengage

Schefer, J.-L. (1969) *Scénographie d'un Tableau*. Paris: Seuil.

Sebeok, T. A. and Umiker-Sebeok, J. (eds) (1995) *Advances in Visual Semiotics*. Berlin: Mouton de Gruyter.

Sonesson, G. (1989) *Pictorial Concepts*. Lund: Lund University Press.

Sonesson, G. (1993) 'Die Semiotik des Bildes: Zum Forschungsstand am Anfang der 90er Jahre', *Zeitschrift für Semiotik*, 15: 127–160.

Stjernfeld, F. (2007) *Diagrammatology: An Investigation on the Borderlines of Pphenomenology, Ontology, and Semiotics*. Berlin: Springer.

Thürlemann, F. (1984) 'Die Farbe in der Malerei', in T. Borbé (ed.), *Semiotics Unfolding*. Berlin: Mouton. pp. 1389–1396.

Thürlemann, F. (1990) *Vom Bild zum Raum: Beiträge zu einer semiotischen Kunstwissenschaft*. Köln: DuMont.

Zemsz, A. (1967) 'Les optiques cohérentes (La peinture est-elle langage?)', *Revue d'Esthétique*, 2: 40–73.