

SEMIOTICS **THE BASICS**

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THE PEIRCEAN MODEL

At around the same time as Saussure was formulating his model of the sign and of ‘semiology’ (and laying the foundations of structuralist methodology), across the Atlantic closely related theoretical work was also in progress as the pragmatist philosopher and logician Charles Sanders Peirce formulated his own model of the sign, of ‘semeiotic [*sic*]’ and of the taxonomies of signs. In contrast to Saussure’s model of the sign in the form of a ‘self-contained dyad’, Peirce offered a triadic (three-part) model consisting of:

1. The *representamen*: the form which the sign takes (not necessarily material, though usually interpreted as such) – called by some theorists the ‘sign vehicle’.
2. An *interpretant*: not an interpreter but rather the *sense* made of the sign.
3. An *object*: something beyond the sign to which it refers (a *referent*).

In Peirce’s own words:

A sign . . . [in the form of a *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, which I have sometimes called the *ground* of the representamen.
(Peirce 1931–58, 2.228)

To qualify as a sign, all three elements are essential. The sign is a unity of what is represented (the object), how it is represented (the representamen) and how it is interpreted (the interpretant). The Peircean model is conventionally illustrated as in Figure 1.5 (e.g. Eco 1976, 59), though note that Peirce did not himself offer a visualization of it, and Floyd Merrell (who prefers to use a ‘tripod’ with

a central node) argues that the triangular form ‘evinces no genuine triadicity, but merely three-way dyadicity’ (Merrell 1997, 133). The broken line at the base of the triangle is intended to indicate that there is not necessarily any observable or direct relationship between the sign vehicle and the referent. Note here that semioticians make a distinction between a sign and a ‘sign vehicle’ (the latter being a ‘signifier’ to Saussureans and a ‘representamen’ to Peirceans). The sign is more than just a sign vehicle. The term ‘sign’ is often used loosely, so that this distinction is not always preserved. In the Saussurean framework, some references to ‘the sign’ should be to the *signifier*, and similarly, Peirce himself frequently mentions ‘the sign’ when, strictly speaking, he is referring to the *representamen*. It is easy to be found guilty of such a slippage, perhaps because we are so used to ‘looking beyond’ the form which the sign happens to take. However, to reiterate: the *signifier* or *representamen* is the *form* in which the sign appears (such as the spoken or written form of a word) whereas the *sign* is the whole meaningful ensemble.

The interaction between the *representamen*, the *object* and the *interpretant* is referred to by Peirce as ‘*semeiosis*’ (ibid., 5.484; alternatively *semiosis*). A good explanation of how Peirce’s model works is offered by one of my own students, Roderick Munday:

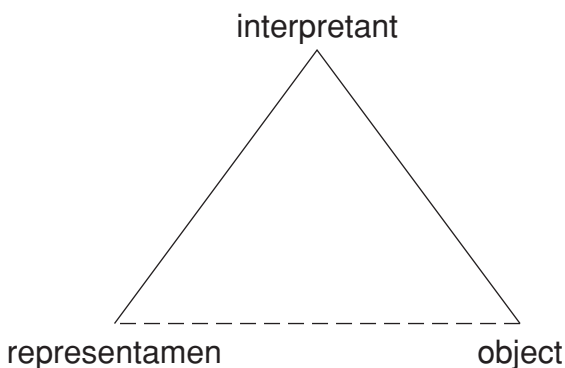


FIGURE 1.5 Peirce’s semiotic triangle

The three elements that make up a sign function like a label on an opaque box that contains an object. At first the mere fact that there is a box with a label on it suggests that it contains something, and then when we read the label we discover what that something is. The process of semiosis, or decoding the sign, is as follows. The first thing that is noticed (the *representamen*) is the box and label; this prompts the realization that something is inside the box (the *object*). This realization, as well as the knowledge of what the box contains, is provided by the *interpretant*. 'Reading the label' is actually just a metaphor for the process of decoding the sign. The important point to be aware of here is that the object of a sign is always hidden. We cannot actually open the box and inspect it directly. The reason for this is simple: if the object could be known directly, there would be no need of a sign to represent it. We only know about the object from noticing the label and the box and then 'reading the label' and forming a mental picture of the object in our mind. Therefore the hidden object of a sign is only brought to realization through the interaction of the representamen, the object and the interpretant.

(personal correspondence, 14/4/2005)

The representamen is similar in meaning to Saussure's signifier while the interpretant is roughly analogous to the signified. However, the interpretant has a quality unlike that of the signified: it is itself a sign in the mind of the interpreter (see Figure 1.6). Peirce noted that 'a sign . . . addresses somebody, that is, creates in the mind of that person an equivalent sign, or perhaps a more developed sign. The sign which it creates I call the *interpretant* of the first sign' (Peirce 1931–58, 2.228). In Roman Jakobson's words, for Peirce, 'the meaning of the sign is the sign it can be translated into' (Jakobson 1952b, 566). Umberto Eco uses the phrase 'unlimited semiosis' to refer to the way in which this could lead (as Peirce was well aware) to a series of successive interpretants (potentially) *ad infinitum* (Eco 1976, 68–9; Peirce 1931–58, 1.339, 2.303). Elsewhere Peirce added that 'the meaning of a representation can be nothing but a representation' (*ibid.*, 1.339). Any initial interpretation can be reinterpreted. That a signified can itself

play the role of a signifier is familiar from using a dictionary and finding oneself going beyond the original definition to look up yet another word which it employs. Peirce's emphasis on sense-making involves a rejection of the equation of 'content' and meaning; the meaning of a sign is not contained within it, but arises in its interpretation. Note that Peirce refers to an 'interpretant' (the sense made of a sign) rather than directly to an interpreter, though the interpreter's presence is implicit – which arguably applies even within Saussure's model (Thibault 1997, 184). As we have seen, Saussure also emphasized the value of a sign lying in its relation to other signs (within the relatively static structure of the sign system) but the Peircean concept (based on the highly dynamic process of interpretation) has a more radical potential which was later to be developed by poststructuralist theorists. Arising from Peirce's concept of the interpretant is the notion of *dialogical*

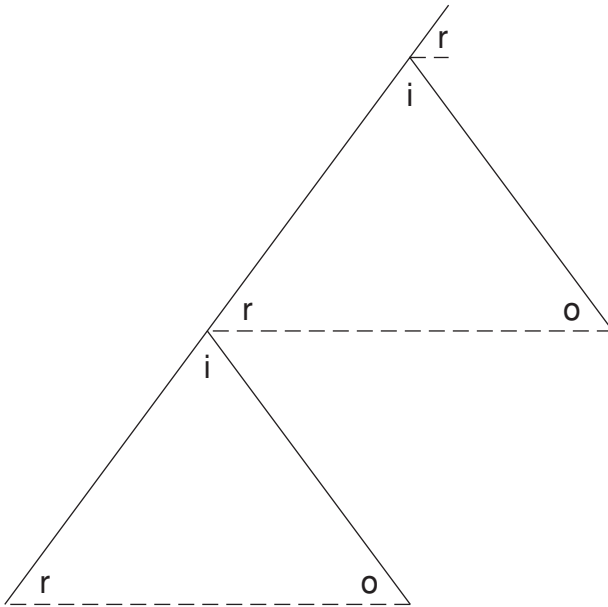


FIGURE 1.6 Peirce's successive interpretants

thought which was absent from Saussure's model. Peirce argued that 'all thinking is dialogic in form. Your self of one instant appeals to your deeper self for his assent' (Peirce 1931–58, 6.338). This notion resurfaced in a more developed form in the 1920s in the theories of Mikhail Bakhtin (1981). One important aspect of this is its characterization even of internal reflection as fundamentally social. Some writers have experienced revision as a process of arguing with themselves – as I did when I revised this text (Chandler 1995, 53).

Variants of Peirce's triad are often presented as '*the semiotic triangle*' – as if there were only one version. In fact, prior to Peirce, a triadic model of the sign was employed by Plato (c.400 BC), Aristotle (c.350 BC), the Stoics (c.250 BC), Boethius (c.500), Francis Bacon (1605) and Gottfried Wilhelm von Leibniz (c.1700). Triadic models were also adopted by Edmund Husserl (1900), Charles K. Ogden and Ivor A. Richards (1923) and Charles W. Morris (1938).

The most obvious difference between the Saussurean and Peircean model is of course that (being triadic rather than dyadic) Peirce's model of the sign features a third term – an *object* (or referent) beyond the sign itself. As we have seen, Saussure's *signified* is not an external referent but an abstract mental representation. Although Peirce's *object* is not confined to physical things and (like Saussure's *signified*) it can include abstract concepts and fictional entities, the Peircean model explicitly allocates a place for materiality and for reality outside the sign system which Saussure's model did not directly feature (though Peirce was not a naïve realist, and he argued that all experience is mediated by signs). For Peirce the object was not just 'another variety of "interpretant"' (Bruss 1978, 96), but was crucial to the meaning of the sign: 'meaning' within his model includes both 'reference' and (conceptual) 'sense' (or more broadly, representation and interpretation). Furthermore, Peircean semioticians argue that the triadic basis of this model enables it to operate as a more general model of the sign than a dyadic model can (ibid., 86). Nevertheless, the inclusion of a referent does not make a triadic model inherently less problematic than a dyadic one. John Lyons notes that 'there is considerable disagreement about the details of the triadic analysis even among those who accept that all three components . . . must be taken into account' (Lyons 1977, 99).

It is important in this particular account of semiotics to note how one of the foremost post-Saussurean structuralists reacted to the Peircean model of the sign, since his inflection of structuralism had important consequences for the evolution of the European semiotic tradition. Prior to his discovery of Peirce's work, Roman Jakobson, a consistent exponent of binary structures in language, had clearly adopted the Saussurean sign – despite his critique of Saussure's analytical priorities: 'The constitutive mark of any sign in general or of any linguistic sign in particular is its *twofold* character: every linguistic unit is bipartite and involves both aspects – one sensible (i.e., perceptible) and the other intelligible, or in other words, both the "signifier" and the "signified"' – his preferred terms (adopted from St Augustine) usually being *signans* (signifier) and *signatum* (signified). Jakobson added that the linguistic sign involved 'the indissoluble dualism of . . . *sound* and *meaning*' (Jakobson 1949a, 50; cf. 1949b, 396). 'Meaning' can be a slippery term in this context, since it can refer either to sense (accommodated in both the Saussurean and Peircean models) or reference (accounted for directly only in Peirce's model), but Jakobson's signified at this stage seems much the same as Saussure's. Jakobson's increasing emphasis on the importance of *meaning* represented a reaction against the attempt of 'reductionist linguists' in the USA (American structuralists and early transformational grammarians) 'to analyze linguistic structure without reference to meaning' whereas he insisted that 'everything in language is endowed with a certain significative and transmissive value' (Jakobson 1972, 42). After his encounter with Peirce's work in the early 1950s, Jakobson became and remained a key adopter and promoter of Peircean ideas, yet in 1958 he still accepted that the signified/*signatum* 'belonged to' linguistics and the referent/*designatum* to philosophy (Jakobson 1973, 320). Even when he came to emphasize the importance of *context* in the interpretation of signs he did not directly incorporate a 'referent' into his model of the sign, referring to the term as 'somewhat ambivalent' (Jakobson 1960, 353). By 1972 he had granted the referent (in the form of contextual and situational meaning) a more explicit status within linguistics (Jakobson 1973, 320), but his model of the sign still remained formally dyadic.

Nevertheless, he had come to equate the signified with Peirce's 'immediate interpretant' (Jakobson 1966, 409), and on one occasion he referred to there being 'two sets of *interpretants* . . . to interpret the sign – one [referring] to the code, and the other to the context' (Jakobson 1956, 75), despite Peirce's note that the interpretant *excluded* 'its context or circumstances of utterance' (Peirce 1931–58, 5.473). Clearly Jakobson sought to incorporate into the dyadic model the special quality of Peirce's interpretant, referring to the signified as the 'translatable' (or interpretable) part of the sign (e.g. Jakobson 1958, 261, 1963b, 111 and 1966, 408). Thus a major semiotician felt able to accommodate reference (indirectly) without abandoning a dyadic model. Indeed, he insisted that 'in spite of . . . attempts' to revise the 'necessarily twofold structure' of the sign or its constituent parts (the signifier/*signans* and the signified/*signatum*), 'this more than bimillenary model remains the soundest and safest base for the newly developing and expanding semiotic research' (Jakobson 1968, 699) – though there is some irony in the model he cites being that of the Stoics, who despite having prefigured the Saussurean distinction between signifier and signified, did so as part of a triadic rather than dyadic model (Eco 1984, 29–33). One Peircean scholar comments that: 'At base, Jakobson's semiotics is still more Saussurean than Peircean, committed to the diacritical nature of each aspect and every instance of the sign' (Bruss 1978, 93). Jakobson was a key propagator of Peircean concepts in the European semiotic tradition (Umberto Eco being the other), and although his structuralism was in many ways markedly different from that of Saussure, his stance on the sign model enabled European semiotics to absorb Peircean influences without a fundamental transformation of the dyadic model.

RELATIVITY

Whereas Saussure emphasized the arbitrary nature of the (linguistic) sign, most post-Saussurean semioticians stress that signs differ in how arbitrary/conventional (or by contrast 'transparent') they are. The relatively arbitrary 'symbolism' of the medium of verbal language reflects only one form of relationship between signifiers

and their signifieds. In particular, a common-sense distinction between ‘conventional signs’ (the names we give to people and things) and ‘natural signs’ (pictures resembling what they depict) dates back to ancient Greece (Plato’s *Cratylus*). St Augustine later distinguished ‘natural signs’ (*signa naturalia*) from conventional signs (*signa data*) on a different basis. For him, natural signs were those which were interpreted as signs by virtue of an immediate link to what they signified – even though no conscious intention had created them as such (he instanced smoke indicating fire and footprints indicating that an animal had passed by) (*On Christian Doctrine*, Book II, Chapter 1). Both of these types of ‘natural’ signs (respectively iconic and indexical) as well as ‘conventional’ (symbolic) signs feature in Charles Peirce’s influential tripartite classification.

While Saussure did not offer a typology of signs, Peirce offered several (Peirce 1931–58, 1.291, 2.243). What he himself regarded as ‘the most fundamental’ division of signs (first outlined in 1867) has been very widely cited in subsequent semiotic studies (*ibid.*, 2.275). Although it is often referred to as a classification of distinct ‘types of signs’, it is more usefully interpreted in terms of differing ‘modes of relationship’ between sign vehicles and what is signified (Hawkes 1977, 129). In Peircean terms they are relationships between a representamen and its object or its interpretant, but for the purpose of continuity I have continued to employ the Saussurean terms *signifier* and *signified* (cf. Jakobson 1966). Here then are the three modes:

1. **Symbol/symbolic:** a mode in which the signifier does *not* resemble the signified but which is fundamentally *arbitrary* or purely *conventional* – so that this relationship must be agreed upon and learned: e.g. language in general (plus specific languages, alphabetical letters, punctuation marks, words, phrases and sentences), numbers, morse code, traffic lights, national flags.
2. **Icon/iconic:** a mode in which the signifier is perceived as *resembling* or imitating the signified (recognizably looking, sounding, feeling, tasting or smelling like it) – being similar in possessing some of its qualities: e.g. a portrait, a cartoon,

a scale-model, onomatopoeia, metaphors, realistic sounds in 'programme music', sound effects in radio drama, a dubbed film soundtrack, imitative gestures.

3. **Index/indexical:** a mode in which the signifier is *not arbitrary* but is *directly connected* in some way (physically or causally) to the signified (regardless of intention) – this link can be observed or inferred: e.g. 'natural signs' (smoke, thunder, footprints, echoes, non-synthetic odours and flavours), medical symptoms (pain, a rash, pulse-rate), measuring instruments (weathercock, thermometer, clock, spirit-level), 'signals' (a knock on a door, a phone ringing), pointers (a pointing 'index' finger, a directional signpost), recordings (a photograph, a film, video or television shot, an audio-recorded voice), personal 'trademarks' (handwriting, catch-phrases).

These three modes arose within (and because of) Peirce's triadic model of the sign, and from a Peircean perspective it is reductive to transform a triadic relation into a dyadic one (Bruss 1978). However, our focus here is on how Peirce has been adopted and adapted within the European structuralist tradition. The widespread use of these Peircean distinctions in texts which are otherwise primarily within that tradition may suggest either the potential for (indirect) referentiality in dyadic models or merely slippage between 'sense' and 'reference' in defining the 'meaning' of the sign. Certainly, as soon as we adopt the Peircean concepts of iconicity and indexicality we need to remind ourselves that we are no longer 'bracketing the referent' and are acknowledging not only a systemic frame of reference but also some kind of referential context beyond the sign-system itself. Iconicity is based on (at least perceived) 'resemblance' and indexicality is based on (at least perceived) 'direct connection'. In other words, adopting such concepts means that – even if we are not embracing a wholly Peircean approach – we have moved beyond the formal bounds of the original Saussurean framework (as in Roman Jakobson's version of structuralism).

The three forms of relationship between signifier and signified are listed here in decreasing order of conventionality. Symbolic signs

such as language are (at least) highly conventional; iconic signs always involve some degree of conventionality; indexical signs 'direct the attention to their objects by blind compulsion' (Peirce 1931–58, 2.306). *Indexical* and *iconic* signifiers can be seen as more constrained by referential *signifieds* whereas in the more conventional *symbolic* signs the *signified* can be seen as being defined to a greater extent by the *signifier*. Within each form signs also vary in their degree of conventionality. Other criteria might be applied to rank the three forms differently. For instance, Hodge and Kress suggest that indexicality is based on an act of judgement or inference whereas iconicity is closer to 'direct perception', making the highest 'modality' that of iconic signs (Hodge and Kress 1988, 26–7). Note that the terms 'motivation' (from Saussure) and 'constraint' are sometimes used to describe the extent to which the signified determines the signifier. The more a signifier is constrained by the signified, the more 'motivated' the sign is: iconic signs are highly motivated; symbolic signs are unmotivated. The less motivated the sign, the more learning of an agreed convention is required. Nevertheless, most semioticians emphasize the role of convention in relation to signs. As we shall see, even photographs and films are built on conventions which we must learn to 'read'. Such conventions are an important social dimension of semiotics.

SYMBOLIC MODE

What in popular usage are called 'symbols' would be regarded by semioticians as 'signs' of some kind but many of them would not technically be classified as purely 'symbolic'. For instance, if we joke that 'a thing is a phallic symbol if it's longer than it is wide', this would allude to *resemblance*, making it at least partly *iconic* – Jakobson suggests that such examples may be best classified as 'symbolic icons' (Jakobson 1968, 702). In the Peircean sense, *symbols* are based purely on *conventional association*. Nowadays language is generally regarded as a (predominantly) symbolic sign-system, though Saussure avoided referring to linguistic signs as 'symbols' precisely because of the danger of confusion with popular usage. He noted that

symbols in the popular sense are ‘never wholly arbitrary’: they ‘show at least a vestige of natural connection’ between the signifier and the signified – a link which he later refers to as ‘rational’ (Saussure 1983, 68, 73). While Saussure focused on the arbitrary nature of the linguistic sign, a more obvious example of arbitrary symbolism is mathematics. Mathematics does not need to refer to an external world at all: its signifieds are indisputably *concepts* and mathematics is a system of relations (Langer 1951, 28).

For Peirce, a symbol is ‘a sign which refers to the object that it denotes by virtue of a law, usually an association of general ideas, which operates to cause the symbol to be interpreted as referring to that object’ (Peirce 1931–58, 2.249). We interpret symbols according to ‘a rule’ or ‘a habitual connection’ (*ibid.*, 2.292, 2.297, 1.369). ‘The symbol is connected with its object by virtue of the idea of the symbol-using mind, without which no such connection would exist’ (*ibid.*, 2.299). It ‘is constituted a sign merely or mainly by the fact that it is used and understood as such’ (*ibid.*, 2.307). A symbol is ‘a conventional sign, or one depending upon habit (acquired or inborn)’ (*ibid.*, 2.297). Symbols are not limited to words, although ‘all words, sentences, books and other conventional signs are symbols’ (*ibid.*, 2.292). Peirce thus characterizes linguistic signs in terms of their *conventionality* in a similar way to Saussure. In a rare direct reference to the arbitrariness of symbols (which he then called ‘tokens’), he noted that they ‘are, for the most part, conventional or arbitrary’ (*ibid.*, 3.360). A symbol is a sign ‘whose special significance or fitness to represent just what it does represent lies in nothing but the very fact of there being a habit, disposition, or other effective general rule that it will be so interpreted. Take, for example, the word “*man*”. These three letters are not in the least like a man; nor is the sound with which they are associated’ (*ibid.*, 4.447). He adds elsewhere that ‘a *symbol* . . . fulfils its function regardless of any similarity or analogy with its object and equally regardless of any *factual* connection therewith’ (*ibid.*, 5.73). ‘A genuine symbol is a symbol that has a general meaning’ (*ibid.*, 2.293), signifying a kind of thing rather than a specific thing (*ibid.*, 2.301).

ICONIC MODE

Unfortunately, as with ‘symbolic’, the terms ‘icon’ and ‘iconic’ are used in a technical sense in semiotics which differs from its everyday meanings. In popular usage there are three key meanings which can lead to confusion with the semiotic terms:

- to be ‘iconic’ typically means that something or someone would be expected to be instantly recognized as famous by any fully fledged member of a particular culture or sub-culture;
- an ‘icon’ on the computer screen is a small image intended to signify a particular function to the user (to the semiotician these are ‘signs’ which may be variously iconic, symbolic or indexical, depending on their form and function);
- religious ‘icons’ are works of visual art representing sacred figures which may be venerated as holy images by devout believers.

In the Peircean sense, the defining feature of iconicity is merely *perceived resemblance*. Peirce declared that an iconic sign represents its object ‘mainly by its similarity’ (Peirce 1931–58, 2.276). Note that despite the name, icons are not necessarily visual. A sign is an icon ‘insofar as it is like that thing and used as a sign of it’ (ibid., 2.247). Indeed, Peirce originally termed such modes, ‘likenesses’ (e.g. ibid., 1.558). He added that ‘every picture (however conventional its method)’ is an icon (ibid., 2.279). Icons have qualities which ‘resemble’ those of the objects they represent, and they ‘excite analogous sensations in the mind’ (ibid., 2.299; cf. 3.362). Unlike the index, ‘the icon has no dynamical connection with the object it represents’ (ibid.). Just because a signifier resembles that which it depicts does not necessarily make it purely iconic. Susanne Langer argues that ‘the picture is essentially a symbol, not a duplicate, of what it represents’ (Langer 1951, 67). Pictures resemble what they represent only in some respects. What we tend to recognize in an image are analogous relations of parts to a whole (ibid., 67–70). For Peirce, icons included ‘every diagram, even although there be no sensuous resemblance between it and its object, but only an analogy

between the relations of the parts of each' (Peirce 1931–58, 2.279). 'Many diagrams resemble their objects not at all in looks; it is only in respect to the relations of their parts that their likeness consists' (ibid., 2.282). Even the most realistic image is not a replica or even a copy of what is depicted. It is not often that we mistake a representation for what it represents.

Semioticians generally maintain that there are no 'pure' icons. All artists employ stylistic conventions and these are, of course, culturally and historically variable. Peirce stated that although 'any material image' (such as a painting) may be perceived as looking like what it represents, it is 'largely conventional in its mode of representation' (Peirce 1931–58, 2.276).

We say that the portrait of a person we have not seen is *convincing*. So far as, on the ground merely of what I see in it, I am led to form an idea of the person it represents, it is an icon. But, in fact, it is not a pure icon, because I am greatly influenced by knowing that it is an *effect*, through the artist, caused by the original's appearance . . . Besides, I know that portraits have but the slightest resemblance to their originals, except in certain conventional respects, and after a conventional scale of values, etc.

(ibid., 2.92)

Iconic and indexical signs are more likely to be read as natural than symbolic signs when making the connection between signifier and signified has become habitual. Iconic signifiers can be highly evocative. Such signs do not draw our attention to their mediation, seeming to present reality more directly than symbolic signs.

An extended critique of 'iconism' can be found in Eco (1976, 191ff). The linguist John Lyons notes that iconicity is 'always dependent upon properties of the medium in which the form is manifest' (Lyons 1977, 105). He offers the example of the onomatopoeic English word *cuckoo*, noting that it is only (perceived as) iconic in the phonic medium (speech) and not in the graphic medium (writing). While the phonic medium can represent characteristic sounds (albeit in a relatively conventionalized way), the graphic medium can

represent characteristic shapes (as in the case of Egyptian hieroglyphs) (Lyons 1977, 103). We will return shortly to the importance of the materiality of the sign.

INDEXICAL MODE

Indexicality is perhaps the most unfamiliar concept, though its links with everyday uses of the word 'index' ought to be less misleading than the terms for the other two modes. Indexicality is quite closely related to the way in which the index of a book or an 'index' finger point directly to what is being referred to. Peirce offers various criteria for what constitutes an index. An index 'indicates' something: for example, 'a sundial or clock *indicates* the time of day' (Peirce 1931–58, 2.285). He refers to a 'genuine relation' between the 'sign' and the *object* which does not depend purely on 'the interpreting mind' (ibid., 2.92, 298). The *object* is 'necessarily existent' (ibid., 2.310). The index is connected to its object 'as a matter of fact' (ibid., 4.447). There is 'a real connection' (ibid., 5.75) which may be a 'direct physical connection' (ibid., 1.372, 2.281, 2.299). An indexical sign is like 'a fragment torn away from the object' (ibid., 2.231). Unlike an icon (the object of which may be fictional) an index stands 'unequivocally for this or that existing thing' (ibid., 4.531). The relationship is *not* based on 'mere resemblance' (ibid.): 'indices . . . have no significant resemblance to their objects' (ibid., 2.306). 'Similarity or analogy' are not what define the index (ibid., 2.305). 'Anything which focuses the attention is an index. Anything which startles us is an index' (ibid., 2.285; cf. 3.434). Indexical signs 'direct the attention to their objects by blind compulsion' (ibid., 2.306; cf. 2.191, 2.428). Whereas iconicity is characterized by *similarity*, indexicality is characterized by *contiguity*. 'Psychologically, the action of indices depends upon association by contiguity, and not upon association by resemblance or upon intellectual operations' (ibid.). Elizabeth Bruss notes that indexicality is 'a relationship rather than a quality. Hence the signifier need have no particular properties of its own, only a demonstrable connection to something else. The most important of these connections are spatial co-occurrence, temporal sequence, and cause and effect' (Bruss 1978, 88).

While a photograph is also perceived as resembling that which it depicts, Peirce noted that it is not only iconic but also *indexical*: ‘photographs, especially instantaneous photographs, are very instructive, because we know that in certain respects they are exactly like the objects they represent. But this resemblance is due to the photographs having been produced under such circumstances that they were physically forced to correspond point by point to nature. In that aspect, then, they belong to the . . . class of signs . . . by physical connection [the indexical class]’ (Peirce 1931–58, 2.281; cf. 5.554). So in this sense, since the photographic image is an index of the effect of light, all *unedited* photographic and filmic images are indexical (although we should remember that conventional practices are always involved in composition, focusing, developing, and so on). Such images do of course ‘resemble’ what they depict, and some commentators suggest that the power of the photographic and filmic image derives from the iconic character of the medium. However, while digital imaging techniques are increasingly eroding the indexicality of photographic images, it is arguable that it is the indexicality still routinely attributed to the medium that is primarily responsible for interpreters treating them as objective records of reality. Peirce, a philosophical realist, observed that ‘a photograph . . . owing to its optical connection with its object, is evidence that that appearance corresponds to a reality’ (Peirce 1931–58, 4.447). Of the three modes, only indexicality can serve as evidence of an object’s existence. In many contexts photographs are indeed regarded as evidence, not least in legal contexts. As for the moving image, video-cameras are of course widely used ‘in evidence’. Documentary film and location footage in television news programmes exploit the indexical nature of the medium (though of course they are not purely indexical). However, in one of his essays on photographic history, John Tagg, wary of ‘the realist position’, cautions that ‘the existence of a photograph is no guarantee of a corresponding pre-photographic existent . . . The indexical nature of the photograph – the causative link between the pre-photographic referent and the sign . . . can guarantee nothing at the level of meaning.’ Even prior to digital photography, both ‘correction’ and montage were practised, but Tagg argues that *every* photograph involves ‘significant distortions’ (Tagg

1988, 1–3). This is an issue to which we will return in Chapter 5 when we discuss whether photography is ‘a message without a code’. We may nevertheless grant the unedited photograph at least potential evidentiality.

MODES NOT TYPES

It is easy to slip into referring to Peirce’s three forms as ‘types of signs’, but they are not necessarily mutually exclusive: a sign can be an icon, a symbol and an index, or any combination. A map is indexical in pointing to the locations of things, iconic in representing the directional relations and distances between landmarks, and symbolic in using conventional symbols (the significance of which must be learned).

As we have noted, we are dealing with symbolic, iconic and indexical modes of relationship rather than with types of signs. Thus, Jakobson observes that ‘strictly speaking, the main difference . . . is rather in the hierarchy of their properties than in the properties themselves’ (Jakobson 1963d, 335; cf. 1968, 700). Peirce was fully aware of this: for instance, we have already noted that he did not regard a portrait as a pure icon. A ‘stylized’ image might be more appropriately regarded as a ‘symbolic icon’ (Jakobson 1963d, 335). Such combined terms represent ‘transitional varieties’ (1968, 700). Peirce also insisted that ‘it would be difficult if not impossible to instance an absolutely pure index, or to find any sign absolutely devoid of the indexical quality’ (Peirce 1931–58, 2.306). Jakobson points out that many deliberate indexes also have a symbolic or indexical quality, instancing traffic lights as being both indexical and symbolic and noting that even the pointing gesture is not always interpreted purely indexically in different cultural contexts (Jakobson 1968, 700–1). Nor are words always purely symbolic – they can be ‘iconic symbols’ (such as onomatopoeic words) or ‘indexical symbols’ (such as ‘that’, ‘this’, ‘here’, ‘there’) (see Jakobson 1966 on iconicity and indexicality in language).

Jakobson notes that Peirce’s three modes co-exist in a ‘relative hierarchy’ in which one mode is dominant, with dominance determined by context (Jakobson 1966, 411). Whether a sign is

symbolic, iconic or indexical depends primarily on the way in which the sign is used, so textbook examples chosen to illustrate the various modes can be misleading. The same signifier may be used iconically in one context and symbolically in another: a photograph of a woman may stand for some broad category such as ‘women’ or may more specifically represent only the particular woman who is depicted. Signs cannot be classified in terms of the three modes without reference to the purposes of their users within particular contexts. A sign may consequently be treated as symbolic by one person, as iconic by another and as indexical by a third. Signs may also shift in mode over time. For instance, a Rolls-Royce is an index of wealth because one must be wealthy to own one, but social usage has led to its becoming a conventional symbol of wealth (Culler 1975, 17).

Consistently with his advocacy of binary relations, Jakobson boldly asserts that Peirce’s three modes of relations are ‘actually based on two substantial dichotomies’ (Jakobson 1968, 700) – an assertion which understandably irritates a Peircean scholar (Bruss 1978, 92). Combining four terms used by Peirce, Jakobson proposes a matrix of his own with *contiguity* and *similarity* on one axis and the qualities of being either ‘imputed’ or ‘factual’ on the other. Within this scheme, the index is based on ‘factual contiguity’, the icon on ‘factual similarity’ and the symbol on ‘imputed contiguity’ – leaving an initially empty category of ‘imputed similarity’ to which Jakobson assigns ostensibly non-referential signs which nevertheless generate emotional connotations – such as music and non-representational visual art (*ibid.*, 700–5).

CHANGING RELATIONS

Despite his emphasis on studying ‘the language-state’ ‘synchronically’ (as if it were frozen at one moment in time) rather than ‘diachronically’ (studying its evolution), Saussure was well aware that the relationship between the signified and the signifier in language was subject to change over time (Saussure 1983, 74ff.). However, this was not the focus of his concern. Critics emphasize that the relation between signifier and signified is subject to dynamic change: any

'fixing' of 'the chain of signifiers' is seen as both temporary and socially determined (Coward and Ellis 1977, 6, 8, 13).

In terms of Peirce's three modes, a historical shift from one mode to another tends to occur. Although Peirce made far more allowance for non-linguistic signs than did Saussure, like Saussure, he too granted greater status to *symbolic* signs: 'they are the only general signs; and generality is essential to reasoning' (Peirce 1931–58, 3.363; cf. 4.448, 4.531). Saussure's emphasis on the importance of the principle of arbitrariness reflects his prioritizing of symbolic signs while Peirce privileges 'the symbol-using mind' (Peirce 1931–58, 2.299). The idea of the evolution of sign-systems towards the symbolic mode is consistent with such a perspective. Peirce speculates 'whether there be a life in signs, so that – the requisite vehicle being present – they will go through a certain order of development'. Interestingly, he does not present this as *necessarily* a matter of progress towards the 'ideal' of symbolic form since he allows for the theoretical possibility that 'the same round of changes of form is described over and over again' (*ibid.*, 2.111). While granting such a possibility, he nevertheless notes that 'a regular progression . . . may be remarked in the three orders of signs, Icon, Index, Symbol' (*ibid.*, 2.299). Peirce posits iconicity as the original default mode of signification, declaring the icon to be 'an original sign' (*ibid.*, 2.92), defining this as 'the most primitive, simple and original of the categories' (*ibid.*, 2.90). Compared to the 'genuine sign . . . or symbol', an index is 'degenerate in the lesser degree' while an icon is 'degenerate in the greater degree'. Peirce noted that signs were 'originally in part iconic, in part indexical' (*ibid.*, 2.92). He adds that 'in all primitive writing, such as the Egyptian hieroglyphics, there are icons of a non-logical kind, the ideographs' and he speculates that 'in the earliest form of speech there probably was a large element of mimicry' (*ibid.*, 2.280). However, over time, linguistic signs developed a more symbolic and conventional character (*ibid.*, 2.92, 2.280). 'Symbols come into being by development out of other signs, particularly from icons' (*ibid.*, 2.302).

The historical evidence does indicate a tendency of linguistic signs to evolve from indexical and iconic forms towards symbolic forms. Alphabets were not initially based on the substitution of

conventional symbols for sounds. Some of the letters in the Greek and Latin alphabets, of course, derive from iconic signs in Egyptian hieroglyphs. The early scripts of the Mediterranean civilizations used pictographs, ideographs and hieroglyphs. Many of these were iconic signs resembling the objects and actions to which they referred either directly or metaphorically. Over time, picture writing became more symbolic and less iconic (Gelb 1963). This shift from the iconic to the symbolic may have been 'dictated by the economy of using a chisel or a reed brush' (Cherry 1966, 33); in general, symbols are semiotically more flexible and efficient (Lyons 1977, 103). The anthropologist Claude Lévi-Strauss identified a similar general movement from motivation to arbitrariness within the conceptual schemes employed by particular cultures (Lévi-Strauss 1962, 156).

DIGITAL AND ANALOGUE

A distinction is sometimes made between *digital* and *analogical* signs. Anthony Wilden, a Canadian communication theorist, declared that 'no two categories, and no two kinds of experience are more fundamental in human life and thought than continuity and discontinuity' (Wilden 1987, 222). While we experience time as a continuum, we may represent it in either analogue or digital form. A watch with an analogue display (with hour, minute and second hands) has the advantage of dividing an hour up like a cake (so that, in a lecture, for instance, we can 'see' how much time is left). A watch with a digital display (displaying the current time as a changing number) has the advantage of precision, so that we can easily see exactly what time it is 'now'. Even an analogue display is now simulated on some digital watches.

We have a deep attachment to analogical modes and we have often tended to regard digital representations as less real or less authentic – at least initially (as in the case of the audio CD compared to the vinyl LP). The analogue–digital distinction is frequently represented as natural versus artificial – a logical extension of Claude Lévi-Strauss's argument that continuous is to discrete is as nature is to culture (Lévi-Strauss 1969, 28). The privileging of the analogical may be linked with the defiance of rationality in romantic ideology