THE PROBLEM OF 'L'ARBITRAIRE DU SIGNE'

> The nature of the verbal sign, as of the sign in any semiotic system, must be specified through the relationship between the signans and signatum, as well as through the relations of the given sign to the other signs of the system, both at the level of the signata and at that of the corresponding signantia. In defining a sign of a semiotic system, then, we must consider not only the 'vertical' relationship between the two components of a sign taken in isolation, but also the twofold 'horizontal' relations existing between the respective components of the interrelated signs. The Saussurean thesis of the arbitrariness of the sign is partial and incomplete in that it specifies only the 'vertical' relations, disregarding the nature of the 'horizontal' ones. On the other hand, the opposite views on the motivated, iconic nature of the bond between the signans and signatum, as maintained by the adversaries of the Saussurean thesis, involve exclusively the sphere of the 'horizontal' relations and cannot refer to the 'vertical' relationship, which is characterized in principle by arbitrariness and conventionality. If the verbal sign is conceived of as a unity of the 'vertical' and 'horizontal' relations, the opposed propositions concerning the nature of the relations between the signans and signatum present themselves not as contradictory, but as complementary to each other (in Niels Bohr's sense of the term), specifying with necessary completeness the essence of the verbal sign.

The question of the nature of the linguistic sign and of the character of relations which constitute its essence is one of the crucial problems of linguistics and of the general theory of sign systems—contemporary semiotic—whose main principles were outlined and advocated by the philosopher Charles Sanders Peirce and the linguist Ferdinand de Saussure. The data of linguistics, as one of the main and most advanced fields of semiotic, prove to be of vital importance in this respect for an over-all characterization of sign systems and for the elucidation of the essence and governing laws of signs in general.

In his general classification of signs, Peirce distinguishes sharply between the material qualities of a sign—its signans—and an immediate interpretant of the sign—its signatum.[1] The differences seen in the relationships between the signans and signatum give a basis for distinguishing among three cardinal sign-types: (a) icons, i.e. signs in which the signans is characterized by a certain degree of factual similarity with the signatum, being its formal reflection or repetition (e.g. the picture of an animal as an iconic sign of the animal itself); (b) indices, i.e. signs in which the signans is attached to the signatum by a causal or any other relationship (e.g. factual contiguity, sequence in space and time), according to

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[1] The concept of the sign as an indissoluble unity of two constituents—the signifier (sēmainon) and signified (sēmainomenon)—was current in Stoic theory, where the former was defined as 'perceptible' (aisthēton) and the latter as 'intelligible' (noēton). In St. Augustine's writings—presenting, with Latinized terms, an adaptation and further development of the Stoic doctrine of the action of signs (sēmeiōsis)—the signum (sign) was conceived of as an entity consisting of the signans (signifier) and signatum (signified). This formalized dichotomy between form and meaning, distinguishing 'the signifier' and 'the signified' in language, underlies the medieval philosophy of language, as well as the sign theories of Peirce and, in particular, of Saussure, whose terminologies are strikingly reminiscent of the Stoic doctrine (cf. Jakobson 1965:22–3, Robins 1967:16).

the principle 'aliquid stat pro aliquo'—something that serves to imply the existence of something else (e.g. smoke as a sign-index of a fire); and (c) symbols, i.e. signs in which the signans is linked with the signatum by convention, where this connection does not depend on the presence or absence of any resemblance or physical contiguity, being arbitrary and realized because of a certain rule or convention (Peirce 1931–35, vol. 2).[2]

The problem of the nature of the connection or relationship between the signans and signatum, between the form of a word and its meaning, is one of the oldest problems of linguistics, and evoked fervent discussion even at the dawn of scientific linguistic thought: is the link between the form and the meaning of a word established 'by nature' (phusei) or by convention (thesei)? Essentially the same questions are involved, with an emphasis on the functional rather than genetic aspects of the problem, in attempts to define the character of the verbal sign in modern linguistic science (cf. Büchner 1936, Schneider 1930); and depending on which solution is adopted, there are, in the ensuing scholarly controversy, opposing views on the nature and essence of the verbal sign.

Among linguistic scholars who upheld the conventional character of the verbal sign, the American linguist William Dwight Whitney (1827–1894) should be mentioned first; his doctrine was later adopted and developed by Saussure (cf. Godel 1957:193), who declared that 'the bond uniting the signifiant with the signifié is arbitrary'. The principle of the arbitrariness of the sign (l'arbitraire du signe) is the first and one of the basic principles in the linguistic framework of Saussure. According to Saussure (1967:152), 'the principle stated dominates the science of language and its consequences are innumerable'.[3]

Since the appearance of Saussure's posthumous *Cours* in 1916, the thesis of the arbitrary sign—of the conventional character of the link uniting the signans (Saussure's signifiant) with the signatum (signifié), of the absence of any internal motivation between the sound form of a word and its meaning—has dominated the views of most linguists.[4] Agreement with this view on the nature of the verbal sign is, however, far from unanimous; and contemporary linguistic science includes rejoinders from the adversaries of the Saussurean position (cf. Engler 1962, 1964; Spang-Hanssen 1954; cf. also 'Materialy ...' 1969). Special mention should be made in this connection of the objections to the Saussurean thesis raised by such scholars as Benveniste (1939) and Jakobson (1965).

[2] For further details, with a wide comparison of diverse semiotic systems, see Jakobson 1970a, b.

[3] For probable influences on the formation of Saussure's views, see Coseriu (1967), who gives a comprehensive critical account of the origin and historical developments, in diverse philosophical and linguistic theories, of the thesis of the arbitrary and conventional linguistic sign. According to Coseriu, this thesis, which was fairly current in philosophy and pre-Saussurean linguistics, should be traced back, directly or indirectly, to the Aristotelean doctrine of the historically established functional connection, 'kata synthēkēn', between sound and meaning in nomina.

[4] For a critical review of the relevant literature, with a utilization of Saussure's manuscript sources, see Engler 1962, 1964; cf. also 'Zeichen und System' 1961–62, Čikobava (1959:113–15) and Koerner 1972.

The arbitrariness of the sign is regarded by some scholars as a linguistic universal: 'The relation between a meaningful element in language and its denotation is independent of any physical or geometrical resemblance between them' (Hockett 1963:8).

Contemporary theory of signs recognizes three different levels, representing
different types of abstraction; semantics (the study of the relations between the
signans and signatum), syntactics (the study of signs and the relations between
signs), and pragmatics (the study of signs in relation to their users).[5] These may
be fully applied to the study of linguistic systems and verbal signs (cf. Morris
1964:60–2; Mel'čuk 1968:426–7). At the same time, the inferences from a study
of the system in its semantic and syntactic aspects may not coincide fully with the
results of its study in the pragmatic aspect. The considerations advanced by Ben-
veniste, as to the existence of an intimate, natural, and necessary link for a native
speaker between the signans and signatum, involve a transfer of the problem onto
the pragmatic plane—evaluating a sign system as perceived and appreciated by its
user, taking into account his concrete psychological associations. Hence the
objections to the arbitrary sign put forth by Benveniste, referring wholly to the
sphere of pragmatics, do not in principle affect the character of the relationship
between the signans and signatum as studied in semantics and syntactics.

The nature of the verbal sign, as of the sign in any semiotic system, must obvi-
ously be specified not only through the relationships between its two components,
but also through the relations of the given sign to the other signs of the system,
both at the level of the signata and at that of the corresponding signantia. In
defining a sign of a semiotic system, then, we must consider not only the 'vertical'
relations between the two components of a sign taken in isolation, but also the
'horizontal' relations between the respective components of interrelated signs—
i.e. the relations between the signata on the one hand, and the relations between
the corresponding signantia on the other. The 'horizontal' relations, in contra-
distinction to the 'vertical' ones, are distinguished by their twofold character—
implying, as it were, parallel relationships at the respective levels between the two
components of the interrelated signs: the relations between the signata (on the
plane of content) and the relations between the corresponding signantia (on the
plane of expression). Schematically, the twofold nature of the 'horizontal' rela-
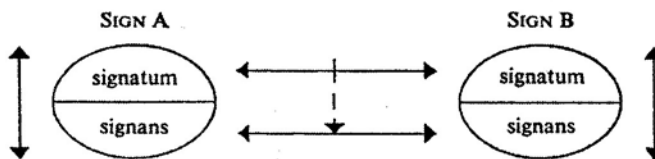tionship may be represented as in Figure 1.

FIGURE 1

Such a differentiated approach to the verbal sign and to the relations which
constitute its essence, envisaging the linguistic sign jointly in the semantic and
syntactic aspects, eliminates a number of objections put forth against the thesis of
the arbitrariness of the sign.

The Saussurean thesis is incomplete in the sense that it specifies only the 'vertical'
relations between the two components of the sign, disregarding the nature of the

5 Cf. Morris 1938, Cherry (1957:221).

'horizontal' relations. Since the verbal sign is a linguistic entity determined by both these types of relationships, any specification of the sign solely by one type of relation, leaving out of account the other type, is incomplete.[6]

At the same time, the opposite thesis of the motivated, iconic nature of the ties between the signans and its signatum, as advanced against the Saussurean doctrine of arbitrariness, involves exclusively the sphere of the 'horizontal' relations between the signs. It cannot refer to the 'vertical' relationship, which is characterized in principle by the conventional, arbitrary nature of the bond between the components of the sign: a concrete signatum may be expressed by any phonemic sequence admissible by the phonotactic rules of a given language.[7] This specific property of the 'vertical' relationship between the components of the sign is one of the factors of multilingualism—furthering, among other things, phonetic variability of language in diachrony.

Attempts at discovering in natural languages certain correspondences between sound and meaning, between the phonetic symbolism and the phonemic form of words, do not in general yield positive results. It is possible to establish, under experimental conditions, definite universal patterns of correspondences of sounds to meanings;[8] but these sounds are not distributed in the concrete words of natural languages according to the symbolic meanings expressed by them in isolation, under experimental conditions.[9]

In this respect especially, the 'vertical' relations are different in principle from the 'horizontal' relations between the components of the verbal sign. A specific feature of the 'horizontal' relations, as outlined above, is their twofold character implying parallel series of interdependencies, i.e. the relationships at the level of the signata as well as at the level of the corresponding signantia of the interrelated signs. Between these two series of 'horizontal' relations a certain correlation exists, finding its expression in the fact that specific relations at the level of the signata are reflected in the character of the relationships between the corresponding signantia.

Thus, diverse relations between the signata on the plane of content (e.g. the relation of quantity, 'one' vs. 'many'; of proximity in space and time, 'near' vs. 'far', 'early' vs. 'late'; of size, 'large' vs. 'small'; the relation of similarity–

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[6] In the part of the *Cours* dealing with linguistic value (valeur linguistique), Saussure does introduce the notion of mutual relations among signs which symbolize their signification; but his 'linguistic value' does not concern the nature of the relations between the components of the verbal sign, which he considers as a sign taken in isolation (cf. Engler 1962:46–9, 62).

[7] This does not concern the onomatopoeic forms (phonetically motivated) which constitute peripheral vocabulary, nor words with morphological or semantic motivation (cf. Ullman 1963:175–6). Only so-called primary signs are meant here, the ultimate constituents of the words—the 'prōta onomata', according to the terminology of Plato's *Cratylus*—'l'arbitraire absolu' according to Saussure (1967:297–303), in contradistinction to 'l'arbitraire relatif'.

[8] Thus the vocoids which on the vocalic scale are close to *a* (compact vowels) tend to denote 'large', whereas the vocoids close to *i* (diffuse vowels) usually convey the meaning 'small'. In pairs of voiced ∼ voiceless consonants under experimental conditions, the voiced is perceived as 'large' (cf. Sapir 1929, Chastaing 1964).

[9] Cf. Eng. *big* ∼ *small*, Russ. *velikij* ∼ *malyj*, Georgian *didi* ∼ *p̣aṭara* etc. (cf. Ullman, 179). For sound symbolism, see also Gudava 1958, Ultan 1970, Nichols 1971.

dissimilarity; the relations of contiguity, kinship etc.[10]) are expressed in the corresponding signantia by specific correlations of phonemic similarity, by phonemic alternations (juxtapositions), by phonemic length of the interrelated words, by certain syntactic features pertaining to the order of the elements, and by other universal properties of the plane of expression of language. Such relations at the level of the signata give rise to the specific character of the relations between the corresponding signantia. These properties of the plane of expression show the dependence of the formal relations between the signantia on the relations between the corresponding signata; we may accordingly speak of a motivation of one series of relationships as being motivated by the other in the content plane of language. Such a dependence of the relations between the signantia on the relations between the corresponding signata does not, however, have the character of a diagrammatic correlation in Peirce's sense, in which the relations between the signata are iconically reflected in the nature of relations between the corresponding signantia. It is rather manifested in the shape of conventional ties between these two series of relationships, which is expressed in a motivated appearance, caused by the character of the relations at the level of the signata, of certain formal features specific for the level of signantia and not in principle characteristic of semantic entities (such as phonetic similarity, phonemic length, phonemic alternations etc.) The relations at the level of the signata are thus specifically projected onto the level of the corresponding signantia.[11]

It is just in this sense that we must interpret the linguistic data adduced by Jakobson and other scholars (cf. Wescott 1971) maintaining the motivated character of the linguistic sign illustrating the existence of inner, iconic connections between the signans and signatum—in particular, between grammatical concepts and their

[10] Such basic relations among the signata constitute the principal conceptual relationships of the content plane of the language, and make up its deep structure. They are characterized by generality and universality, in the sense that such semantic relations are present on the content plane of all languages, reflecting their basic, 'deep' relations.

Human beings, regardless of their language and culture, share a common meaning system, and organize their experience along similar symbolic dimensions (cf. Osgood 1963:244). One might draw up a typology of these basic conceptual relations which make up the deep structure of the plane of content and which underlie the diverse semantic relationships manifested in individual linguistic systems. Such a typology could serve as a semantic metasystem for investigating the transformation of the basic conceptual relations onto the plane of content of individual linguistic systems, and of their manifestation in the corresponding entities on the expression plane.

[11] Such a dependence of the relations between the signantia on the relations between the corresponding signata (this being a universal property of the interrelated signs) is not eliminated in the process of diachronic change. Phonetic changes in the interrelated verbal signs are apparently realized not as arbitrary and isolated sound shifts, but as a regulated process of interdependent phonetic transformations aimed at preserving the general character of the formal relationship between the signantia motivated by the relations between the corresponding signata. The general character of the formal relationship between the signantia remains, on the whole, invariant under such phonetic transformations, whereas the specific forms of phonemic expression of this relationship may vary considerably in the process of diachronic change. The principle of motivation of the relations between the signantia by the relations between the corresponding signata thus imposes certain regulating limits on the phonetic changes in the interrelated signs. (Cf., in contradistinction to this thesis, Saussure's view on the unlimited character of phonetic changes—this being a corollary to the principle of the arbitrariness of the sign; cf. Saussure 1968:344).

phonological expression—as opposed to the Saussurean thesis of the arbitrariness of the sign. Thus the phonetic similarity of such paired numerals as Russ. *devjat'* 'nine' ~ *desjat'* 'ten', Svan *woštxw* 'four' ~ *woxwišd* 'five', Ger. *zwei* 'two' ~ *drei* 'three', Tigriña *šoʿatte* 'seven' ~ *šommonte* 'eight', which came about as a result of an assimilation of one form to the other, is caused by the existence of a certain relationship at the level of the signata: the relation of immediate neighborhood between numerals is reflected in a partial phonetic resemblance between the corresponding signantia.

The phonetic closeness of such kinship terms as Eng. *father* ~ *mother* ~ *brother*, or Fr. *père* ~ *mère* ~ *frère*, is a phonemic allusion to the semantic proximity of the corresponding signata standing in definite relationships to each other. Thus certain relations at the level of the signata are manifested at the level of the corresponding signantia by definite relationships of phonetic character specific for the plane of expression; the plane of signata calls forth a specific character of the formal relations on the plane of signantia. In this sense alone can we speak of the motivation of one series of relations through the other, of the dependence of the relations between the signantia on those between the corresponding signata. Very characteristic in this respect are groups of words with assonance pertaining to a definite semantic field, e.g. Ger. *Bube, Bursche, Bengel, Baby, Balg, Blage*, in which certain semantic relations among signata are exhibited in the corresponding signantia in a monotonous repetition of concrete phonemic units, establishing a specific phonetic relationship at the level of the signantia.[12]

Linguistic facts from the realm of morphology, as dealt with by Jakobson (1965), must be interpreted in the same sense. Of particular interest in this respect is the correlation between singular and plural forms. There are languages in which the plural forms are distinguished from the corresponding singular by an additional morpheme, whereas there is no language with a reversed correlation, i.e. with a specific morpheme for singular vs. absence of an affix in the plural forms (Greenberg 1963b:74). This correlation in phonemic length between singular and plural forms (shorter singular vs. longer plural forms) is a specific manifestation of the relationship of quantity ('one' vs. 'many') on the plane of signata. Note also the correlation of the short vs. longer verbal forms in the singular and plural, respectively, of French (1) *je finis* ~ *nous finissons*, (2) *tu finis* ~ *vouz finissez*, (3) *il finit* ~ *ils finissent*; or of Polish (1) *znam* 'I know' ~ *znamy*, (2) *znasz* ~ *znacie*, (3) *zna* ~ *znają*. Such correlations between the signata and corresponding signantia underlie the whole morphological structure of language (cf. the correlation of different degrees of adjectives in Indo-European and other languages, as outlined by Jakobson.) In such forms, the relation of the growing intensity of a quality is reflected at the level of the signantia by a gradual increase in phonemic length of the corresponding adjectives: Lat. *altus* ~ *altior* ~ *altissimus*; Eng. *high* ~ *higher* ~ *highest*; Georg. *mayali* 'high' ~ *umaylesi* 'highest' etc. (cf. Jakobson 1965:30).

These and similar examples, the number of which could be considerably increased by instances from diverse languages, testify to the existence of a specific

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[12] Cf. Deeters (1955:31). For such constellations of words having similar meanings tied to similar sounds (e.g. Eng. *twist, twirl, tweak, twill, tweed, tweeze, twiddle, twine, twinge*), see Bolinger (1950:117–36). Interesting linguistic data are to be found also in Syromiatnikov 1972.

dependence in the sphere of the 'horizontal' relations, i.e. the dependence of the relations between the signantia on those between the corresponding signata. Such a dependence is, however, not of an iconic nature (iconicity is characteristic of various types of diagrammatic representations). It is in principle conventional, in the sense that the specific formal relations between the signantia, though conditioned and motivated by the character of the relations between the corresponding signata, do not reflect them iconically; on the one hand, we have relations of quantity, of the intensity of a quality, of immediate neighborhood etc.; on the other, we have relations of phonemic length and phonetic similarity between the corresponding signantia.[13]

We may consequently conclude that the dependence of the plane of expression on the plane of content as regards linguistic signs is confined exclusively to the sphere of 'horizontal' relations, and does not extend to the sphere of 'vertical' relations, which are characterized in principle by arbitrariness and lack of motivation. Along these lines, apparently, we must interpret the famous experiments with figures designated by the 'words' *takete* and *maluma* (Köhler 1947:224–5). The motivated character of the link between the signans and signatum, as revealed in this and similar psychological experiments,[14] does not involve the 'vertical' relationship; it must be referred exclusively to the 'horizontal' relations between the signs.

The thesei–phusei problem of the verbal sign, when envisaged separately on the plane of the 'vertical' or on the plane of the 'horizontal' relations, is characterized by incompleteness, and leads necessarily to contradictory conclusions as to the nature of the linguistic sign and the character of the relations between the signans and signatum. When the linguistic sign is conceived of as a unity of the 'vertical' and the 'horizontal' relations, the opposed propositions concerning the nature of the relations between the signans and signatum present themselves not as contradictory, but as complementary to each other, specifying with necessary completeness the essence of the verbal sign. These propositions—each true, but partial when considered in isolation with respect to the entity under consideration—are in the type of correlation called 'complementarity' by Niels Bohr.[15]

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[13] Elements of a diagrammatic correspondence in linguistic signs may be seen in the realm of syntax, where the linear sequence of the members of a syntactic group may to a certain extent be in iconic dependence on the relations of succession or rank of their referents. E.g., the chain of verbs *vēnī, vīdī, vīcī*, in Julius Caesar's famous aphorism, reproduces iconically the succession of interrelated events; or, in *Le Président et le Ministre prirent part à la réunion*, the sequence of the syntactic members *Président ~ Ministre* reflects the hierarchical order of the referents (Jakobson 1965:27; cf., however, Bolinger 1968:16).

[14] Cf. Tsuru & Fries 1933, Davis 1961, Baindurašvili 1971.

[15] For the principle of complementarity, see Bohr 1948, 1958. For the application of the principle to linguistic problems, cf. Jakobson 1971:689–90.

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