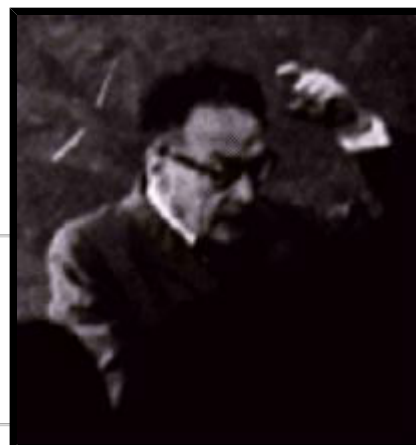


Roman Jakobson (1942)

## Six Lectures on Sound and Meaning

### Lecture I

**Source:** *Lectures on Sound & Meaning*, publ. MIT Press, Cambridge, Mass., 1937, Preface by Claude Lévi-Strauss. Most of first and all of last lectures reproduced here.



I AM SURE you are familiar with Edgar Allan Poe's famous poem *The Raven*, and with its melancholy refrain, 'Nevermore.' This is the only word uttered by the ominous visitor, and the poet emphasises that 'what it utters is its only stock and store.' This vocable, which amounts to no more than a few sounds, is none the less rich in semantic content. It announces negation, negation for the future, negation for ever. This prophetic refrain is made up of seven sounds seven, because Poe insists on including the final *r* which is, he says, 'the most producible consonant.' It is able to project us into the future, or even into eternity. Yet while it is rich in what it discloses, it is even richer in what it secretes, in its wealth of virtual connotations, of those particular connotations which are indicated by the context of its utterance or by the overall narrative situation. Abstracted from its particular context it carries an indefinite range of implications. 'I betook myself to linking/ fancy unto fancy,' the poet tells us, 'thinking what this ominous bird of yore -/ What this grim, ungainly, ghastly, gaunt, and ominous bird of yore/ Meant in croaking "Nevermore" ./ This I sat engaged in guessing ... This and more I sat divining... .' Given the context of the dialogue the refrain conveys a series of different meanings: you will never forget her, you will never regain peace of mind, you will never again embrace her, I will never leave you! Moreover this same word can function as a name, the symbolic name which the poet bestows upon his nocturnal visitor.

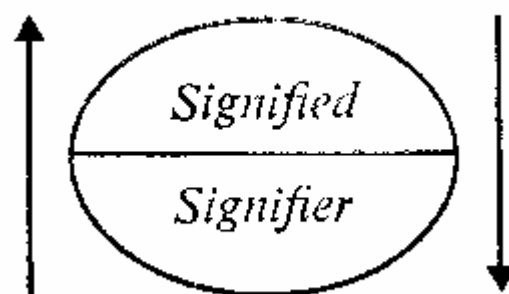
Yet this expression's value is not entirely accounted for in terms of its purely semantic value, narrowly defined, i.e., its general meaning plus its contingent, contextual meanings. Poe himself tells us that it was the potential onomatopoeic quality of the sounds of the word *nevermore* which suggested to him its association with the croaking of a raven, and which was even the inspiration for the whole poem. Also, although the poet has no wish to weaken the sameness, the monotony, of the refrain, and while he repeatedly introduces it in the same way ('Quoth the raven, "Nevermore" ') it is nevertheless certain that variation of its phonic qualities, such as modulation of tone, stress and cadence, the detailed articulation of the sounds and of the groups of sounds, that such variations allow the emotive value of the word to be quantitatively and qualitatively varied in all kinds of ways.

The utterance of Poe's refrain involves only a very small number of articulatory motions – or, to look at this from the point of view of the acoustic rather than the motor aspect of speech, only a small number of vibratory motions are necessary for the word to be heard. In

short, only minimal phonic means are required in order to express and communicate a wealth of conceptual, emotive and aesthetic content.. Here we are directly confronted with the mystery of the idea embodied in phonic matter, the mystery of the word, of the linguistic symbol, of the Logos, a mystery which requires elucidation.

Of course, we have known for a long time that a word, like any verbal sign, is a unity of two components. The sign has two sides: the sound, or the material side on the one hand, and meaning, or the intelligible side on the other. Every word, and more generally every verbal sign, is a combination of sound and meaning, or to put it another way, a combination of signifier and signified, a combination which has been represented diagrammatically as follows:

But while the fact that there is such a combination is perfectly clear, its structure has remained very little understood. A sequence of sounds can function as the vehicle for the meaning, but how exactly do the sounds perform this function? What exactly is the relation between sound and meaning within a word, or within language generally? In the end this comes down to the problem of identifying the ultimate phonic elements, or the smallest units bearing signifying value, or to put this metaphorically, it is a matter of identifying the quanta of language. In spite of its fundamental importance for the science of language it is only recently that this set of problems has at last been submitted to thorough and systematic investigation.



It would certainly be wrong to ignore the brilliant insights concerning the role of sounds in language which can be found scattered through the work of the thinkers of Antiquity and of the Middle Ages, for example those of Thomas Aquinas, who was among the most profound of philosophers of language: and it would equally be wrong to ignore the subtle observations of the ancient oriental, and above all Hindu, grammarians. But it is only in the last two centuries that our science has devoted itself really energetically to the detailed study of linguistic sounds.

This interest in linguistic sounds derived at first from essentially practical objectives, such as singing technique or teaching the deaf and dumb to speak: or else phonation was studied by physicians as a complex problem in human physiology. But during the nineteenth century, as linguistics gained ground, it was this science which gradually took over research into the sounds of language, research which came to be called *phonetics*. In the second half of the nineteenth century linguistics became dominated by the most naive form of sensualist empiricism, focusing directly and exclusively on *sensations*. As one would expect the intelligible aspect of language, its signifying aspect, the world of meanings, was lost sight of, was obscured by its sensuous, perceptible aspect, by the substantial, material aspect of sound. Semantics, or the study of meaning, remained undeveloped, while phonetics made rapid

progress and even came to occupy the central place in the scientific study of language. The neogrammarian school of thought, which was the most orthodox and characteristic current of thought in linguistics at the time, and which was dominant in the last quarter of the nineteenth century and up to the First World War, rigorously excluded from linguistics all problems of teleology. They searched for the origin of linguistic phenomena but obstinately refused to recognise that they are goal-directed. They studied language but never stopped to ask how it functions to satisfy cultural needs. One of the most distinguished of the neogrammarians, when asked about the content of the Lithuanian manuscript which he had been assiduously studying, could only reply with embarrassment, 'As for the content, I didn't notice it.' At this time they investigated *forms* in isolation from their *functions*. And most important, and most typical of the school in question, was the way in which they regarded linguistic sounds; in conformity with the spirit of the time their view was a strictly empiricist and naturalistic one. The fact that linguistic sounds are signifiers was deliberately put aside, for these linguists were not at all concerned with the linguistic function of sounds, but only with sounds as such, with their 'flesh and blood' aspect, without regard for the role they play in language.

Linguistic sounds, considered as external, physical phenomena have two aspects, the motor and the acoustic. What is the immediate goal of the phonatory act? Is it the acoustic phenomenon or is it the motor phenomenon itself? Obviously it is the acoustic phenomenon which the 'speaker aims at producing, and it is only the acoustic phenomenon which is directly accessible to the listener. When I speak it is in order to be heard. Of the two aspects of sound it is, therefore, the acoustic aspect which has intersubjective, social significance, whereas the motor phenomenon, in other words the workings of the vocal apparatus, is merely a physiological prerequisite of the acoustic phenomenon. Yet phonetics in the neogrammarian period concerned itself in the first place with the *articulation* of sound and not with its acoustic aspect. In other words it was not strictly speaking the sound itself but its production which was the focus of attention, and it was this which formed the basis for the description and classification of sounds. This perspective may seem odd or even perverse to us, but it is not surprising in the context of neogrammarian doctrine. According to this doctrine, and to all others which were influential in that period, the genetic perspective was the only one considered acceptable. They chose to investigate not the object itself but the conditions of its coming into being. Instead of describing the phenomenon one was to go back to its origins. Thus the study of linguistic sounds was replaced by historical phonetics, i.e., by a search for their prototypes in earlier forms of each given language, while so-called static phonetics was more or less entirely given over to the observation of the vocal apparatus and its functioning. This discipline was incorporated into linguistics in spite of the obviously heterogeneous character of the two domains. Linguists tried to pick up a bit of physiology with results that are well illustrated by the following typical example: Edward W. Scripture, a famous phonetician who also had training as a physician, ironically quotes the current description of a particular laryngeal articulation which would, had this description been accurate, have inevitably resulted in the fatal strangulation of the speaker! But even disregarding mistakes like this we can ask what results would the study of linguistic sounds

in their motor aspect arrive at.

At first, even though linguists attempted to discuss sounds in a strictly naturalistic manner and to scrupulously leave aside the problem of the functions they perform in language, they did in fact unconsciously employ properly linguistic criteria in their classifications of sounds, and especially in their demarcation of sounds in the speech chain. This illicit importation was facilitated by the fact that linguists, and psychologists too, were as yet quite unfamiliar with the role of the unconscious, and in particular with its great importance in all linguistic operations. But as the observation of phonatory acts was improved and as the employment of special instruments came to replace reliance on purely subjective experience, the linguistic correlate of the physiological phenomena was increasingly lost sight of.

It was towards the end of the century that instrumental phonetics (or as it was usually but less accurately called 'experimental phonetics') began to make rapid progress. With the help of increasingly numerous and improved instruments a remarkable precision was achieved in the study of all the factors involved in buccal articulation and in the measurement of expiration. A new era in the physiological investigation of linguistic sounds was opened up by X-ray photography. X-rays, used in conjunction with sound film, revealed the functioning of the vocal apparatus in all its details; the whole of *sound* production, the entire phonatory act, was uncovered and could be actually seen as it happened. When this method became practically and technically available to phoneticians a large number of the previous phonetic instruments became redundant.

It was radiography above all which brought to light the crucial role of the posterior parts of the vocal apparatus, parts which are most hidden and which were until then most inaccessible to the available methods of experimental phonetics. Before the arrival of radiography there was, for example, very little accurate knowledge of the functioning in the process of the phonatory act of the hyoid bone, of the epiglottis, of the pharynx, or even of the soft palate. The importance of these parts, and especially of the pharynx, was suspected, but nothing about them was known in detail. Remember that the pharynx is at a crossroads from which leads off, at the top, the passage to the mouth cavity and the passage to the nasal cavity, and below, the passage to the larynx. Each of these upper two passages is opened or closed by the velum whereas the lower passage, to the larynx, is opened or closed by the epiglottis. It was only a few dozen years ago that one could read on the subject of the pharynx, in the text-book of Ludwig Sütterlin, a well-known linguist and phonetician: 'The pharynx seems to be very important in sound production, in that it can be narrowed and widened, but at the present time nothing more definite is known with certainty on the subject' (*Die Lehre von der Lautbildung*, Leipzig, 1908).

As a result especially of recent work by Czech and Finnish phoneticians using radiography we do now have a more adequate understanding of the functioning of the pharynx in phonation, and we can now affirm that the phonetic role of this organ is no less important than, for example, that of the lips, which are in some ways analogous to it. It can be seen from these more recent observations that so long as the physiological investigation of sounds

had no grasp of the functioning of the pharynx and of contiguous parts, it was only possible to arrive at a fragmentary and unsatisfactory description. A physiological classification of sounds which scrupulously takes into account the varying degrees of opening of the mouth but which fails to consider the varying degrees of opening of the pharynx can lead us into error. If phoneticians concentrated on the functioning of the lips and not on that of the pharynx this was not because the former had been shown to be the more important. If the physiology of sound production were to refuse to draw on other disciplines it would have no way of establishing the relative importance of the various organs involved. If phoneticians, in classifying linguistic sounds, took the labial factor but not the pharyngeal factor into account, this was solely because the former was more accessible to observation than the latter. As it broadened the field of inquiry and as it became an increasingly precise discipline, the autonomous investigation of phonation decomposed the sounds which it analysed into a disconcerting multitude of detail without, however, being able to answer the fundamental question, namely that of the value which is assigned by language to each of these innumerable details. In its analysis of the various sounds of a language, or of several languages, motor phonetics uncovers for us a stunning multitude of variations, but it has no criterion for distinguishing the functions and the degrees of relative significance of all these observed variations, and thus has no way of discovering the invariants among all this variety.

Now the identification of individual sounds by phonetic observation is an artificial way of proceeding. To the extent that phonetics is concerned exclusively with the act of phonation, that is with the production of sounds by the various organs, it is not in a position to accomplish this, as Ferdinand de Saussure had already made clear. In his *Cours de linguistique general*, given between 1906 and 1911 and edited after his death (1913) by his pupils Charles Bally and Albert Sechehaye, and published in 1916, the great linguist said with foresight: 'Even if we could record on film all the movements of the mouth and larynx in producing a chain of sounds it would still be impossible to discover the subdivisions in this sequence of articulatory movements; we would not know where one sound began and where another ended. Without acoustic perception how could we assert, for example, that in *fal* there are three units and not two or four?' Saussure imagined that *hearing* the speech chain would enable us to directly perceive whether a sound had changed or had remained the same. But subsequent investigations have shown that it is not the acoustic phenomenon in itself which enables us to subdivide the speech chain into distinct elements; only the linguistic value of the phenomenon can do this. Saussure's great merit was to have understood clearly that in the study of the phonatory act, when we raise the question of phonetic *units* and that of demarcating the sounds in the speech chain, something extrinsic is unconsciously brought into play. Twenty years after his death the film that Saussure would have liked to have seen was in fact made. The German phonetician Paul Menzerath made an X-ray sound film of the workings of the vocal apparatus, and this film completely confirmed Saussure's predictions. Drawing on this film and on the latest results of experimental phonetics Menzerath and his Portuguese associate Armando Lacerda demonstrated that the act of speech is a continuous, uninterrupted movement (*Koartikulation, Steuerung und Lautabgrenzung*, 1933). Whereas traditional doctrine had distinguished between *positional*

sounds, which are held steady, and *transitional* sounds which lack this stability and which occur in the transition from one position to another, these two phoneticians showed that all sounds are in fact transitional. As for the speech chain, they arrived at an even more paradoxical conclusion. From a strictly articulatory point of view there is no *succession* of sounds. Instead of following one another the sounds overlap; a sound which is acoustically perceived as coming after another one can be articulated simultaneously with the latter or even in part before it. However interesting and important the study of linguistic sounds in their purely motor aspect may be everything indicates to us that such a study is no more than an auxiliary tool for linguistics, and that we must look elsewhere for the principles by which the phonic matter of language is organised.

Even though they focused on the motor aspect of language, phoneticians were nevertheless unable to ignore the quite obvious, indeed tautological, fact that sound as such is an acoustic phenomenon. But they believed that the investigation of the *production* of sound, rather than of the sound itself, gave one the motor equivalent of the acoustic phenomenon, an equivalent which is more accessible, more instructive and open to more profitable methods of analysis. This view was put forward, for example, by Pierre Rousselot. They assumed that there is a one-to-one correspondence between the two aspects and that the classification of motor phenomena has an exact equivalent in the classification of acoustic phenomena. Thus one need only construct the former, since the latter follows automatically from it. Now this argument, which has been put forward time and again right up to the present day, and which has many implications for the science of linguistics, is utterly refuted, contradicted by the facts. Arguments against this position were put forward long ago, even before the very first hand-books on phonetics.

We can mention, in the first place, a French book, dating from 1630, which was called *Aglossostomographie ou description d'une bouche sans langue quells parle et fait naturellement toutes ses autres fonctions* [Aglossostomography, or the description of a tongueless mouth which speaks and naturally performs all its other functions]. In 1718 Jussien published in *the Mémoires de l'Académie royale des sciences* a treatise called 'Sur la fille sans langue' [On the girl with no tongue]. Each of these works contained a detailed description of people who, though they had only rudimentary tongues, were capable of an impeccable pronunciation of all the sounds which in phonetics nowadays are called the 'linguals,' and which are defined as sounds the emission of which necessarily involves the tongue. These interesting facts have since then been confirmed many times. For example, at the beginning of this century the physician Hermann Gutzmann, who was one of the best known of researchers in the field of errors of pronunciation, was forced to admit that while in French the very same *word* (*langue*) is used to designate a part of the mouth (the tongue) and language itself, in fact as far as the latter is concerned the former is dispensable, for almost all the sounds which we emit can be produced if necessary in quite a different way without the acoustic phenomena being altered at all (*Des Kindes Sprache und Sprachfehler*, Leipzig, 1894). If one of the phonatory organs is missing then another one can function in its place, without the hearer being aware of this. Gutzmann, however, stated that there are

exceptions to this. Thus the sibilants – the fricatives *z*, *s*, and the corresponding affricates – require the involvement of the teeth. Subsequent research, however, has shown conclusively that these apparent exceptions are not in fact so at all. Godfrey E. Arnold, director of the Vienna clinic for language disorders, has shown (*Archiv für gesamte Phonetik*, III, 1939) that even with the loss of the incisors the ability to pronounce the sibilants correctly remains intact as long as the subject's hearing is normal. In cases where dental abnormality gives rise to errors of pronunciation one always finds that the subject's hearing is impaired, and it is this that prevents the functional compensation for the anatomical abnormality.

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Acoustic phonetics, which is developing and increasing in richness very rapidly, already enables us to solve many of the mysteries of *sound*, mysteries which motor phonetics could not even begin to solve. However, even though it has infinitely greater organising power, acoustic phonetics, no more than motor phonetics, cannot provide an autonomous basis for the systematisation and the classification of the phonic phenomena of language. Basically it is faced with just the same obstacles as is motor phonetics. At first acoustics attributed to the different sounds only a limited number of characteristic features. This did not mean that these particular features were the most essential ones. The limits were due above all to the fact that the analytical capacities of the new discipline were as yet rather restricted. But if we consult a thoroughly modern work in the field of acoustic phonetics, such as for example the fine monograph by Antti Sovijärvi on the Finnish vowels and nasals, *Die gehaltenen, geflüsterten und gesungenen Vokale und Nasale der finnischen Sprache* (Helsinki, 1938), we find ourselves once again confronted with a stunning multitude of details concerning the features of each sound, the sound being decomposed into an innumerable variety of fractions. Motor and acoustic phonetics have proved equally incapable of offering any guidance in this chaos, of identifying the pertinent characteristics, the constitutive and inalienable features of each sound. Acoustics can provide us, in impressive detail, with the micrographic image of each sound, but it cannot interpret this image; it is not in a position to make use of its own results. It is as if they were the hieroglyphics of an unknown language. When, as is always the case, two sounds show both similarities and dissimilarities, acoustics, having no intrinsic criteria for distinguishing what is significant from what is not, has no way of knowing whether it is the similarity or the dissimilarity which is crucial in any given case. It cannot tell whether it is a case of two variants of one sound or of two different sounds.

This crucial difficulty is faced not only by experimental acoustics but by any method of phonetic transcription of auditory phenomena, to the extent that the transcription is based solely on purely auditory perception. Such transcriptions, being obliged to note all nuances of pronunciation, even the most subtle, scarcely perceptible and fortuitous among them, are as Antoine Meillet pointed out, difficult to read and difficult to print. This is not a purely technical difficulty. It is once again the vexing problem of identity within variety; without a solution to this disturbing problem there can be no system, no classification. The phonic substance of language becomes as dust. When faced with a similar problem in relation to

motor phonetics we had to make reference to an extrinsic criterion and to ask about the immediate aim of articulations, or more precisely about their acoustic aim. Now we must ask what is the immediate aim of sounds, considered as acoustic phenomena? In raising this question we straight away go beyond the level of the signifier, beyond the domain of sound as such, and we enter the domain of the signified, the domain of meaning. We have said that we speak in order to be heard; we must add that we seek to be *heard* in order to be understood.

The road goes from the phonatory act to *sound*, in a narrow sense, and from sound to meaning! At this point we leave the territory of phonetics, the discipline which studies sounds solely in their motor and acoustic aspects, and we enter a new territory, that of phonology, which studies the sounds of language in their linguistic aspect.

One hundred years ago the Romantic Russian writer Vladimir Odoevskij told the story of a man who received from a malevolent magician the gift of being able to see everything and to hear everything: 'Everything in nature became fragmented before him, and nothing formed into a whole in his mind,' and for this unfortunate man the sounds of speech became transformed into a torrent of innumerable articulatory motions and of mechanical vibrations, aimless and without meaning. The victory of naive empiricism could not have been foretold and represented in a more forceful way. In the laboratories of the scientists of this tendency the phonic resources of language were split up into a multitude of microscopic facts which they proceeded to measure with great care while deliberately neglecting their goal and *raison d'être*. It was in conformity with this approach that metrists at that time taught that one can only study verse if one forgets both the language it is written in and the meaning which it conveys. The study of the sounds of language completely lost touch with the truly linguistic problem, that of their value as verbal signs. The disheartening picture of the chaotic multitude of facts inevitably suggested the antithetical principle, that of unity and organisation. 'Phonology,' said the master of French linguistics, Antoine Meillet, 'frees us from a kind of nightmare which had weighed upon us.' In the next lecture we shall try to state more exactly what phonology is and how it succeeds in reconnecting the problem of sound with that of meaning.

## Lecture IV

TO START the last of our discussions on sounds and meaning I want to summarise rapidly the points raised in my earlier lectures. Speech sounds cannot be understood, delimited, classified and explained except in the light of the tasks which they perform in language. Motor, acoustic and auditory description of phonic matter must be subordinated to a structural analysis of it. In other words the auxiliary discipline of *phonetics* must be placed in the service of *phonology*, which is an integral part of linguistics. Phonology, which in its early days relied far too much on a mechanistic and creeping empiricism, inherited from an obsolete form of phonetics, now seeks more and more to overcome these vestiges. The task is to investigate speech sounds in relation to the meanings with which they are invested, i.e., sounds viewed as signifiers, and above all to throw light on the structure of the relation



between sounds and meaning. In analysing a word from the point of view of its phonic aspect we decompose it into a sequence of distinctive units, or phonemes. The phoneme, although it is an element at the service of meaning, is itself devoid of meaning. What distinguishes it from all other linguistic, and more generally, semiotic values, is that it has only a negative charge.

The phoneme is dissociable into distinctive features. It is a bundle of these features; therefore, notwithstanding outmoded but still current conceptions, the phoneme is a complex entity: it is not the phoneme but each of its distinctive features which is an irreducible and purely appositive entity. Every linguistic sign is located on two axes: the axis of simultaneity and that of succession. The phoneme is the smallest linguistic entity which disposes of these two axes. The distinctive features are subdivided into a class of inherent features, which are bound to the axis of simultaneity, and a class of prosodic features which involve the other axis, that of succession.

Ferdinand de Saussure attributes to the linguistic sign two essential characters which he states in the form of two fundamental principles. The analysis of the phoneme, and especially of the distinctive qualities which are its constituents, has led us to abandon one of these two principles, that which asserts 'the linear character of the signifier.' The inquiry into the system of phonemes allows us also to reevaluate the other principle, 'the arbitrariness of the sign.' According to Saussure it was the pioneer of general linguistics in America, William Dwight Whitney, who in his book *The Life and Growth of Language*, published in 1875, 'pointed linguistics in the right direction' by his emphasis on the arbitrary character of verbal signs.

This principle has provoked disagreement, especially in recent years. Saussure taught (*Course*, 100/68) that in the word its 'signified' is not connected by any internal relation to the sequence of phonemes which serve as its 'signifier': 'It could equally well be represented by any other: this is proved by differences between languages, and by the very existence of different languages: the signified 'ox' has as its signifier *b-ö-f* (*bœuf*) on one side of the border and *o-k-s* (*Ochs*) on the other.' Now this theory is in blatant contradiction with the most valuable and the most fertile ideas of Saussurian linguistics. This theory would have us believe that different languages use a variety of signifiers to correspond to one common and unvarying signified, but it was Saussure himself who, in his *Course*, correctly defended the view that the meanings of words themselves vary from one language to another. The scope of the word *bœuf* and that of the word *Ochs* do not coincide; Saussure himself cites 'the difference in value' between the French *mouton* and the English *sheep* (*Course*, 160/115). There is no meaning in and by itself; - meaning always belongs to something which we use as a sign; for example, we interpret the meaning of a linguistic sign, the meaning of a word. In language there is neither signified without signifier nor signifier without signified.

The most profound of modern French linguists, Émile Benveniste, in his article '*Nature du signe linguistique*' which appeared in the first volume of *Acta Linguistica* (1939), says in opposition to Saussure that 'the connection between the signifier and the signified is not

arbitrary; on the contrary, it is *necessary*.' From the point of view of the French language the signified '*boeuf*' is inevitably tantamount to the signifier, the phonic group *b-ö-f*. 'The two have been imprinted on my mind together,' Benveniste stresses; 'they are mutually evocative in all circumstances. There is between them such an intimate symbiosis that the concept "boeuf" is like the soul of the acoustic image *b-ö-f*.'

Saussure invokes the differences between languages, but actually the question of the arbitrary relation or the necessary connection between the signified and the signifier cannot be answered except by reference to a given state of a given language. Recall Saussure's own shrewd advice: 'It would be absurd to draw a panorama of the Alps from the points of view of several peaks of the Jura simultaneously; a panorama must be drawn from a single point.' And, from the point of view of her native language, a peasant woman from Francophone Switzerland was right to be astonished: how can cheese be called *Käse* since *fromage* is its only natural name.

Contrary to Saussure's thesis, the connection between signifier and signified, or in other words between the sequence of phonemes and meaning, is a necessary one; but the only necessary relation between the two aspects is here an association based on contiguity, and thus on an external relation, whereas association based on resemblance (on an internal relation) is only occasional. It only appears on the periphery of the conceptual lexicon, in onomatopoeic and expressive words such as *cuckoo*, *zigzag*, *crack*, etc. But the question of the internal relation between the sounds and the meaning of a word is not thereby exhausted. Lack of time prevents us from being able to do more than touch on this subtle and complex question. We have said that distinctive features, while performing a significative function, are themselves devoid of meaning. Neither a distinctive feature taken in isolation, nor a bundle of concurrent distinctive features (i.e., a phoneme) taken in isolation, means anything. Neither nasality as such nor the nasal phoneme /n/ has any meaning of its own.

But this void seeks to be filled. The intimacy of the connection between the sounds and the meaning of a word gives rise to a desire by speakers to add an internal relation to the external relation, resemblance to contiguity, to complement the signified by a rudimentary image. Owing to the neuropsychological laws of synaesthesia, phonic oppositions can themselves evoke relations with musical, chromatic, olfactory, tactile, etc. sensations. For example, the opposition between acute and grave phonemes has the capacity to suggest an image of bright and dark, of pointed and rounded, of thin and thick, of light and heavy, etc. This 'sound symbolism,' as it was called by one of its original investigators, Edward Sapir, this inner value of the distinctive features, although latent, is brought to life as soon as it finds a correspondence in the meaning of a given word and in our emotional or aesthetic attitude towards this word and even more towards pairs of words with two opposite meanings.

In poetic language, in which the sign as such takes on an autonomous value, this sound symbolism becomes an actual factor and creates a sort of accompaniment to the signified. The Czech words *den* 'day' and *noc* 'night,' which contain a vocalic opposition between acute and grave, are easily associated in poetry with the contrast between the brightness of

midday and the nocturnal darkness. Mallarmé deplored the collision between the sounds and the meanings of the French words *jour* 'day' and *nuit* 'night.' But poetry successfully eliminates this discordance by surrounding the word *jour* with acute vowelled vocables and the word *nuit* with grave vowelled vocables; or alternatively it highlights semantic contrasts which are in harmony with that of the grave and acute vowels, such as that between the heaviness of the day and the mildness of the night.

The search for the symbolic value of phonemes, each taken as a whole, runs the risk of giving rise to ambiguous and trivial interpretations because phonemes are complex entities, bundles of different distinctive features. These latter are invested with a purely appositive character and each of these oppositions lends itself to the action of synaesthesia, as is demonstrated in the most striking way in the language of children.

For Whitney everything in the formation of a linguistic sign is arbitrary and fortuitous, including the selection of its constitutive elements. Saussure remarked in this connection: 'Whitney goes too far when he says that the vocal organs were selected by us quite by chance' and that men would have been able equally well to choose gesture and to use visual images instead of acoustic images.' The Genevan master correctly objects that the vocal organs 'were certainly in some way imposed on us by nature,' but at the same time Saussure believes that the American linguist was right on the essential point: 'Language is a convention, and the nature of the sign which is agreed upon makes no difference.' In discussing the relations between static linguistics and evolutionary linguistics' Saussure, followed by his disciples, went so far as to say that in the science of language 'there is no place for natural givens,' and to assert 'the always *fortuitous* character' of any state of any language as well as of whatever change brought this state about. The repertory of distinctive elements of any given language can only be contingent, and any one of these elements could be replaced by another one which, though completely lacking any material similarity with the former, would be invested with, indeed would embody, the same distinctive value. Saussure identifies this state of things with the game of chess in which one can replace a destroyed or mislaid piece by one of completely different shape as long as one gives it the same role in the game. So the question is raised of whether the distinctive features, whether the assortment of phonemes in operation, is in reality purely arbitrary or whether this assortment, although obviously a social phenomenon, is not – just like the very fact of using the vocal apparatus – 'in some way imposed on us by nature.'

We have pointed out that the distinctive features of the phonemes are strictly appositive entities. It follows from this that a distinctive property never stands alone in the phonological system. Because of the nature, in particular the logical nature, of oppositions, each of these properties implies the coexistence in the same system of the opposite property; length could not exist without shortness, voicing without voicelessness, the acute character without the grave character, and vice versa. The duality of opposites is therefore not arbitrary, but necessary. The oppositions themselves also do not stand alone in the phonological system. The oppositions of the distinctive features are interdependent, i.e., the existence of one

opposition implies, permits or precludes the coexistence of such and such other opposition in the same phonological system, in the same way that the presence of one particular distinctive feature implies the absence, or the necessary (or at least probable) presence of such and such other distinctive properties in the same phoneme. Here again arbitrariness has very restricted scope.

Apart from the typological study of the greatest variety of the world's language systems, it is the structural analysis of language in the process of development – the analysis of children's language and its general laws – and of language in the process of disintegration – aphasic language – which enables us to throw light on the selection of phonemes, the distinctive features, and their mutual relations, and to get closer to the main principles of this selection and of this interdependence so as to be in a position to establish and explain the universal laws which underlie the phonological structure of the world's languages. The systematic investigation of the way in which phonological resources are put to use in the construction of grammatical forms, which was initiated by Baudouin's school and by the Prague circle under the name of 'morphology,' promises to construct an indispensable bridge between the study of sound and that of meaning, as long as one takes into account the range of linguistic levels and what is specifically fundamental to each of them.

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#### Further Reading:

[Biography](#) | [Saussure](#) | [Barthes](#) | [Talcott Parsons](#) | [Lévi-Strauss](#) | [Durkheim](#) | [Althusser](#)

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