

## 51. The structuralist approaches

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### 1. Kinds of structuralism

In various disciplines we can find theoretical conceptions which are designated by the term 'structuralism'. (1) In psychology, at the turn of the century, Wilhelm Wundt (1832–1920) (s. art. 31) and Edward Bradford Titchener (1867–1927) tried to identify the fundamental elements of thought and the laws governing their combinations by models conceived by analogy with physical chemistry. In this way, they hoped to uncover the structure of mental events (Dellarosa 1988, 3 f.). (2) In anthropology and sociology, many authors – prominent amongst them are Emile Durkheim (1858–1917), Bronisław Malinowski (1884–1942), and Talcott Parsons (1902–1979) – have come to conceive of societies and of institutions as structures, the parts of which are supposed to have determinate functions for maintaining the whole. This approach is also known as »structural functionalism« (cf. Bohnen 1975, chap. 2; Vanberg 1975, chap. 6). (3) In linguistics, in the twenties and thirties of this century, various approaches were developed which stress the systematic character of natural languages. They have come to be known as »structuralist« approaches. (4) Connected with linguistic structuralism is structuralism in literary theory, some of whose most prominent proponents are Roman Jakobson (1896–1982) (cf. Jakobson 1960), Jan Mukařovský (1891–1975) and more recently Roland Barthes (1915–1980) and Tzvetan Todorov (\*1939). This current of thought looks at literary artefacts as autonomous structures largely independent of their authors' intentions. (5) Furthermore, there is a tendency to see analogies between various manifestations of human thought and activity and the structure of natural language or of sign systems in general. The workings of the mind (Jacques Lacan, 1901–1981), modes of social organization and behaviour (Claude Lévi-Strauss, \*1908), and even the history of ideas as such (Michel Foucault, 1926–1984) are taken to manifest autonomous structures similar to those of natural

language. (6) A point of view in the philosophy of science which is also referred to by the term 'structuralism' seems to be unrelated to all the currents of thought mentioned above. Since the sixties, some authors, prominent amongst them Patrick Colonel Suppes (\*1922) and Wolfgang Stegmüller (1923–1991), have studied set-theoretical structures which satisfy formulations of scientific theories (cf. Stegmüller 1979, 4). – Here, I will consider only structuralism in the study of language, i.e. structuralist approaches in the sense of (3) above, and discuss some philosophical problems connected with these.

### 2. Structuralism in linguistics

#### 2.1. Origins and beginnings

Structuralism in linguistics can be understood as a reaction to historical-comparative linguistics of the 19th century, especially to conceptions of the so-called Neo-grammarians (Junggrammatiker). The study of language in the 19th century concentrated in general on sound changes in the history of the Indo-European languages. The Neo-grammarians in particular were interested in the psychological mechanisms underlying sound changes; they stressed that language "nur im Individuum ihre wahre Existenz hat" [has its true existence only in the individual] (Osthoff/Brugmann 1977, 199), and they abandoned the romantic preference for historically early language forms. A clear statement of neo-grammarian principles can be found in Paul (1968). He emphasized the relevance of psychology for linguistics. According to him, linguistic investigations are sterile if they »do not also find out something about the historical genesis of language« (20 f.). – At the beginning of this century students of language began to take seriously the idea that states of language could and should be described without having recourse to their historical genesis. This was the demand for *synchronic* description, as Ferdinand de Saussure (1857–1913) (s. art. 36) called it in contradistinction to *diachronic* description having to do with processes of change. Connected with this demand was an emphasis on the systematic character of natural languages and a distinction between language as a system and language as used by the individuals (s. art. 67). These con-

ceptions were linked to a trichotomy of language system, speech behaviour, and language competence. This trichotomy was set up by Georg von der Gabelentz (1840–1893) (cf. Gabelentz 1969) and later it was adopted by de Saussure (1967) who brought it into a form which was to exert influence on later linguists (about links between von der Gabelentz and de Saussure, cf. Coseriu in Gabelentz 1969, 7–24; 31–33). — In linguistic research there already existed a practice to describe states of language without taking historical processes into account, i.e. without looking into their genesis. In the last quarter of the 19th century, linguists, especially in Switzerland, began studying the geography of languages and dialects (cf. e.g. Tappolet 1977). Naturally, they were more interested in language as it is spoken in a certain region at a certain time than in delineating the historical processes leading up to the state of the language to be described. In North America, Franz Boas (1858–1942) and his school studied American Indian languages. When recording and analyzing these languages, they of course could only try to describe language states. They were not in the position to give an account of the historical changes which these languages had undergone. — De Saussure's conception of the system of language (*langue*) had two specific features: (1) explicitly, the emphasis on the relational connections between the elements of the system; (2) more implicitly, the idea of function: the elements of the system have the function of signs. — De Saussure concentrated his attention especially on two types of relation: syntagmatical relations and associative or, as Louis Hjelmslev (1899–1965) called them later, paradigmatical relations. A sign is syntagmatically related to those other signs with which it can appear together in a well-formed array. It is paradigmatically related to those which can be substituted for it in these arrays. De Saussure linked the notion of relational connection with a distinction between form and substance: the linguistic system is essentially form; the substance in which it materializes is of secondary importance in a science of language (1967, 254; 276). With regard to sign function de Saussure discussed the connection between linguistic sense (or content) and linguistic expression. He emphasized the arbitrariness of this connection. On the other hand, he did not discuss how the linguistic sign is related to non-linguistic reality. — The concept of linguistic system as it was formu-

lated by von der Gabelentz and de Saussure has affinities to theoretical ideas propounded in other fields of inquiry: (a) Cassirer (1946 a, 106–109) pointed out that the linguistic concept of a system is similar to conceptions of an organism discussed in 18th century biology. (b) At the beginning of the 20th century in psychology, the idea of the perceptual Gestalt was gaining influence. This is the idea that, in perception, sensory data are organized in comprehensive forms which cannot be considered mere sums of the individual elements (cf. for an introductory account Smith 1988). In linguistic analysis this corresponds to the distinction between the set of all individual instances of language behaviour and the linguistic system as a whole. (c) At that time, the idea of system also became important in sociology, in particular in the work of Durkheim. Possibly, de Saussure's conception of *langue* was influenced by Durkheim (Doroszewski 1933, 89). In any case, de Saussure emphasized that language as a system is a social institution and as such independent of the individuals speaking it.

In the twenties and thirties, many students of language adopted the ideas sketched above and formed various linguistic schools which became known as 'structuralist' (Arpajean 1964, 17–86; Bierwisch 1966; Christmann 1958; 1961; Coseriu 1988; Lepschy 1969; Sampson 1980, 50–80; 103–129, all of them survey these schools). Here, I will concentrate on four approaches: the structural functionalism of the Prague school, the so-called 'glossematics' of the Copenhagen school, American structuralism and various attempts at structuralist semantics.

## 2.2. Prague structuralism

The Prague school emerged in the second half of the 1920s. But already 1911 one of its founders, Vilém Mathesius (1882–1945), had insisted on synchronic descriptions of linguistic states (1964, 30 f). Among the prominent members of the Prague school in linguistics are Jakobson, Mathesius, and Nikolaj Sergeevič Trubeckoj (1890–1938). They were influenced by Russian linguistics and Russian theory of literature, but also by de Saussure and Edmund Husserl (1859–1938) (about the latter's connection with Jakobson, cf. Holenstein 1976). Vachek (1966) gives an account of the Prague school research; important texts have been collected by him (Vachek 1964). — The Prague linguists opposed de Saussure's conception of language states as

irrelevant for linguistic change. They tried to exploit synchronic descriptions for the explanation of diachronic processes. According to them, language change is conditioned in part by imbalances in language states. Thus, they introduced the idea of a tendency towards linguistic balance: whenever the system comes out of balance, i.e. when some linguistic elements no longer fulfil their proper functions, certain processes set off for a restoration of the equilibrium. This account of linguistic change involves an appeal to the functions of language. Some Prague linguists took over Karl Bühler's (1879–1963) (s. art. 38) tripartite classification of the functions of language: representative (*Darstellung*), expressive (*Ausdruck*), and vocative (*Appell*) function (1934, 30–33). Later, in 1960 b, Jakobson modified this classification and expanded it further. — The main field of research of the Prague school was phonology. In his *Grundzüge der Phonologie* Trubeckoj contrasted phonetics with phonology. The former has to answer the question “wie dies und das gesprochen wird” [how this or that is pronounced] (1977, 13), whereas the latter has an entirely different task: “Der Phonologe hat *am Laut* nur dasjenige ins Auge zu fassen, *was eine bestimmte Funktion im Sprachgebilde erfüllt*” [the phonologist has to investigate only those features of the linguistic sound *which fulfil a definite function in the system of language*] (1977, 14; for the contrast between phonetics and phonology see also Holenstein 1989); Trubeckoj succeeded in classifying distinctive sound oppositions. Building on the work of Trubeckoj, Jakobson (1971, *Sel. Writings* I, 301 ff) proposed to reduce all phonemes to combinations of distinctive binary features. Jakobson and Morris Halle (1956, 38–44) develop this idea in detail.

### 2.3. The Copenhagen school

Best known among the members of the Copenhagen school are Hjelmslev, Viggo Brøndal (1887–1942), and Hans Jørgen Uldall (1907–1957). They developed the so-called ‘glossematics’. Bertha Siertsema (1965) provides an outline of this approach. — Glossematics takes over de Saussure's thesis that language is form and not substance, and expands on it. “Sie verschiebt aber zugleich damit die Grenze zwischen *Sprache* und *Rede*” [At the same time it shifts the boundary between *language* and *speech*] (Coseriu 1988, 123); that means for the analysis of language that it disregards everything pertaining to the

realization of language in speech. In opposition to the Prague school Hjelmslev insisted on linguistic form as being completely independent of phonetic substance. He identified the elements of language with their functional roles, and therefore thought that the way they are materially realized is irrelevant for the analysis of language as a system. The social character of language also diminishes in importance, and the whole emphasis is put upon purely formal features. In this way, Hjelmslev tried to construct an autonomous science of language. In pursuing this aim he wanted to contribute not only to linguistics, but also to semiotics, i.e. to a general theory of signs.

### 2.4. American structuralism

In the second half of the last century American linguists had begun to document and analyze languages of the American Indians. This activity led to the recognition of the systematic character of language at a given time. The occurrences of linguistic elements could be *described* only; it was not possible to trace the history of the languages under investigation as there were no written records available. The procedure applied was called ‘descriptive’, and, accordingly, the American structuralists have become known also as ‘descriptivists’. The most influential representatives were Edward Sapir (1884–1939) and Leonard Bloomfield (1887–1949). Sapir pointed out that “a basic plan, a certain cut” is characteristic for every language, and he called this the “the structural genius” of the language (1921, 120). Bloomfield (cf. 1933) also emphasized that languages are systems, and, like Sapir (1925), he tried to exhibit the systematic character of language especially with work on the sound structure of languages. — American structuralism has three specific features: (1) Because of their study of hitherto unknown American Indian languages, American structuralists had to reflect upon the methods used in describing and analyzing languages. Methodological awareness with regard to empirical procedures, therefore, in American structuralism generally is more developed than in the European schools. (2) American structuralists had to analyze utterances made by people belonging to illiterate cultures, and, for this reason, they had the problem of isolating sentences in heard speech. This led to an emphasis on sentences and sentence boundaries in linguistic description. Thus, in their conception of language American structuralists allotted a

more important place to sentences than did European structuralists who directed their attention instead to elements on the phonological and morphological levels. (3) Many American structuralists adopted an *anti-mentalistic* attitude. In his later writings, after 1926, Bloomfield attacked *mentalistic* linguistics and psychology. Mentalism for him meant (a) a dualist point of view concerning the mind-body problem; according to it the mind is a substance completely different from physical matter (1933, 32); and (b) a theoretical approach which explains speech and other behaviour by invoking ›thoughts‹, ›concepts‹, ›images‹, and so on. These two tenets can be distinguished, though, and the latter does not necessarily imply dualism. When in the following I use the word 'mentalism' I will take it in this latter sense only, which, in any case, is the one of methodological importance. Antimentalism motivates a sceptical attitude towards the appeal to intuitions about linguistic meaning. Many American structuralists believed that language can be described and analyzed without an obligatory recourse to meaning intuitions. Bloomfield and many of his successors, notably Bernard Bloch (\*1907), Zelig Sabbetai Harris (\*1909), George Leonard Trager (\*1906) and Henry Lee Smith (\*1913) tried to give such a description of linguistic forms. In particular they tried to do without one kind of linguistic relations considered by de Saussure, namely paradigmatic relations, as the identification of paradigmatic relations relies on distinctions of meanings. Instead, they concentrated on the occurrences of linguistic items in syntagmatic relations, i.e. on what they called their 'distribution'. — Dell Hathaway Hymes and John Fought (1971) give a historical survey of American structuralism.

### 2.5. Structuralist semantics

There were several attempts towards a structuralist semantics. In part, they are to be found outside of the structuralist schools listed here. These attempts concentrate on items of the vocabulary rather than on sentences as units of semantic description. According to them, the meaning of a word is at least in part determined by its place in the structure of the vocabulary of the language. A short account of these conceptions is given by John Lyons (1971, chaps. 8 and 9). Relevant texts are collected by Lothar Schmidt (1973) and Horst Geckeler (1978). — One of the first moves in this direction was the theory

of semantic fields (Wortfelder) put forward by Jost Trier (1894–1970) in 1931. Trier applied de Saussure's idea of the linguistic system to the vocabulary of German. He characterized the vocabulary of a language as an integrated system of words (actually: lexemes) related to each other in their meanings. According to him this system is in constant flux. Trier himself studied the semantic field relating to knowledge and understanding, and he did this not only synchronically but also with regard to its historical development. He compared different temporary states of this semantic field. — Trier believed that every language is connected with a special ›Weltanschauung‹. The semantic fields belonging to a language organize the experience of the members of the linguistic community, and eventually help to express the ›Weltanschauung‹ inherent in the language of the community. Trier's theory of semantic fields and similar work by Leo Weisgerber (1899–1985) (s. art. 58) are relevant for the thesis of linguistic relativity (s. art. 74) according to which language determines thought. A recent formulation of a theory of semantic fields is given by Richard Grandy (1987). Grandy emphasizes the usefulness of the theory in pragmatics. — Walter Porzig (1934) made a somewhat different contribution to structuralist semantics. He was more syntactically oriented than Trier. He studied syntagmatic connections between words and the corresponding relationships in meaning. Similar investigations were undertaken by Lyons (1971, chap. 9). His interest concentrated on relations of opposition and contrast between words and on other structural features of the vocabulary. — Sometimes proposals for a componential analysis are also called 'structuralist'. They postulate that the meaning of words is the result of combining elementary meaning units. Hjelmslev (1959 b) and Jakobson have sketched semantics of this type. Jerrold J. Katz and Jerry Fodor (1963) tried to integrate such an analysis into generative transformational grammar.

### 2.6. Further structuralist approaches

Here, I will briefly mention some further approaches belonging to linguistic structuralism. (a) The school of Geneva: Charles Bally (1865–1947) and Albert Sechehaye (1870–1946) were its main representatives. They dealt with problems of stylistics. Furthermore, the Geneva school edited de Saussure's unpublished manuscripts. Important texts are

collected by Robert Godel (1969). (b) The London School was founded by John Rupert Firth (1890–1960). Its orientation is – like the orientation of American structuralism – antimentalistic; but it puts higher emphasis on contextual factors and social functions of speech (cf. Sampson 1980, 212–235). (c) Important for the development of Prague structuralism was Russian linguistics at the turn of the century with Filipp Fedorovič Fortunatov (1848–1914) and Jan Ignacy Baudouin de Courtenay (1845–1929) as its main representatives. Baudouin de Courtenay characterized the phoneme as the mental image of a spoken sound. This conception proved to be important for the formation of phonology. – After the second world war, Russian linguists were creative again, especially with the development of generative models in the fifties and sixties. Helmut Jachnow (1971) supplies a short historical survey. (d) Generative transformational grammar: this approach introduced by Noam Chomsky (\*1928) tries to construct a model of human language competence with the help of axiomatic systems. Sometimes it is classified as »structuralist« (Bierwisch, 1966, 104). This is justified insofar as this approach tries to account for the systematic character of language. It uses generative models. In these models mathematical tools like recursion theory are employed which were developed in mathematical logic. Generative transformational grammar differs from European structuralism in its lack of emphasis on the functions of language; it differs from earlier American structuralism in its rejection of behaviourism and antimentalism. With regard to one issue, though, it contrasts with all other approaches usually considered to be »structuralist«: in the theory of language it assigns a central place to the psychological requisites for language use in the individual.

### 3. Methodological issues

#### 3.1. Prefatory remark

The linguistic approaches considered here combine methodological prescriptions for the investigation of languages with general theoretical ideas about linguistic subject matter. They have two features in common: (1) they all concur in attributing high importance to synchronic descriptions; (2) they all assign a secondary role to the behaviour and the psychological make-up of the language-using in-

dividual. Apart from this, though, in their theoretical as well as in their methodological ideas the structuralist approaches differ widely. Between and even within the different schools there is no agreement on the proper conception of linguistic structure. Hence there are diverging theoretical ideas about the character of linguistic subject matter and about linguistic explanation. Furthermore, there are diverging methodologies for the description of language, even on the synchronic level. – In this section I will discuss some problems which belong to the philosophy of linguistics or to its general methodology. First, I will try to isolate different conceptions of structure. Second, I will discuss the methodological import of the distinction between synchronic and diachronic descriptions. The last two topics treated are more relevant to European than to American structuralism: they concern the nature and adequacy of functional explanation in linguistics and the demands for the autonomy of linguistics.

#### 3.2. The notion of structure

Von der Gabelentz (1969, 3; 63) and de Saussure (1967) used the word 'system' (respectively its equivalents in French and German), not the word 'structure'. Only later the use of the word 'structure' became current. Jakobson may be responsible for this change in terminology: in 1929 he uses the word 'structuralism' (1971, *Sel. Writings* II, 711) apparently for the first time in linguistics. – The concept of structure can be made mathematically precise. (1) In set theory a structure is a domain of »colourless« individuals together with a pattern of relations or a single relation of sufficiently high order (Gandy, 142 f). Such a characterization does not distinguish between structures interesting for some purpose and those which may lack any interest whatsoever. Therefore, it is not really relevant for linguistic structuralism. (2) A more specific mathematical concept is what might be termed an *axiomatizable* structure. Sets of individuals with *computable* relations defined upon them are axiomatizable structures in this sense: e.g. the denumerably infinite set of well-formed expressions of such languages can be generated from finite sets of symbols by computable relations. – In any case, to ask for a description of a language as a structure in the sense of (1), merely, is not very significant as, indeed, everything can be considered that way. The demand for it, therefore, must be specified in some way or other

to be of any substantial or, even better, empirical interest. One substantial notion of structure refers to sets of elements and their possible combinations (cf. Holenstein 1974, 15 f). This concept expresses an atomism according to which complex entities come into being when atoms are put together. In linguistic structuralism, though, the opinion that such an atomism is applicable and fruitful for linguistic investigations is not prevalent. But it may lie at the base of Jakobson's and Halle's theory of distinctive features and of componential analysis in structuralist semantics. — Two other substantial conceptions of structure, however, are more characteristic for linguistic structuralism. According to the Prague school, language is a system of means of expression which are directed toward the fulfilment of a goal — a functional system (*système fonctionnel*, Vachek 1964, 33). A functional system is a whole consisting of parts or elements which serve definite ends or functions (the word 'function' here does not refer to functions in the mathematical sense). The Prague school explicitly emphasized this notion of function. But the conceptions of de Saussure and of Hjelmslev also involve an appeal to functions. For them sign functions are of central importance. But whereas de Saussure and Hjelmslev considered only *static* linguistic systems from a functional perspective, the Prague linguists paid attention to the historical development of languages under a functional point of view. — Not all uses of a substantial concept of structure can be understood in this way. Already de Saussure emphasized that linguistic units do exist only in virtue of the relations in which they are situated. Linguistic units exist as such only insofar as they play certain roles, or fulfil certain functions; one abstracts completely from the way these units are realized materially. A structure, thus, is a system of functional roles. This seems to be the point of the slogan 'Language is form, not substance', and also to be intended by the emphasis de Saussure puts on *values* as elements of the linguistic system. This manner of thinking is similar to the ideas underlying the concept of functional system. But it differs from them in not assigning an independent existence to the elements of the system; the elements exist only be virtue of filling places in the system. These places may be occupied by various 'substances', i.e. material entities of various kinds can be put into these places (for the concept of functional role cf. Loar 1981, 45). — The

last concept of structure to be considered here is of a methodological nature. It involves the requirement that a set containing many elements is to be described by a small set of sentences. A set admitting such a description is called a 'system' or a 'structure'. Harris (1954, 35) for example writes:

"it is possible to describe the occurrence of each element indirectly, by successive groupings into sets, in such a way that the total statements about the groupings of elements into sets and the relative occurrence of the sets are fewer and simpler than the total statements about the relative occurrence of each element directly".

Hjelmslev favours the same idea: he postulates that every *x*-process, i.e. every text, is a system of this kind, and, hence, can be described in such an economical way (1963, 57). This concept of structure is connected closely with the second mathematical concept mentioned above: something is a structure which can be described exhaustively by an axiomatic system, and thus is an axiomatizable structure. — In addition to the two mathematical concepts of structure we have three substantial concepts and another one which is of a methodological nature:

- (a) structure as a set of elements with their possible combinations;
- (b) structure as functional system;
- (c) structure as system of functional roles;
- (d) structure as a domain which can be described axiomatically.

The mathematical concepts mentioned above are neutral with regard to the first three concepts. For the identity of a mathematical structure does not depend on the way the elements are realized materially or on the functions they have. The fourth concept only is connected with the mathematical notion of an axiomatizable structure. — It remains to be remarked that (a) is of minor importance in linguistic structuralism, (b) is characteristic for the Prague functionalists, (c) for glossematics, (d) for glossematics and American structuralism.

### 3.3. The description of structures

Structuralists distinguish between diachronic and synchronic descriptions and hold that synchronic description is an important task for linguists. That is, they pose the methodological requirement (a) to describe the state of a language at a given time as a structure — i.e. either as a functional system or as a system of functional roles or as a domain to be described axiomatically — and (b) to omit

reference to the coming about of these language states when describing them. This methodological requirement together with the distinction between diachronic and synchronic description has not always been understood correctly. Here I will comment on two misconceptions.

(1) Sometimes we can read that a synchronic investigation is not a historical investigation — see Heinrich Lausberg (1948) for a succinct statement. It seems that this opinion can be traced back to de Saussure. In the *Cours* he suggests that economics (a theoretical branch of scientific thought which in no obvious way can be taken to belong to historical disciplines) corresponds to synchronic linguistics whereas economic history corresponds to diachronic linguistics. — The word 'history' can be taken to refer to "the study of sequential changes that have occurred in any subject matter" (Nagel 1961, 547). But historians seem to be concerned also with making "warranted singular statements about the occurrence and the interrelations of specific actions and other particular occurrences" (Nagel 1961, 550). Thus, an account can be called 'historical', if it treats particular occurrences with respect to their interrelation including processes of their coming about. A diachronic description deals with a succession of several events, respectively several states of a system. Such descriptions may be connected with genetical explanations. Adopting the use of the word 'history' just explained, a diachronic description can be called a 'historical description'. But according to this use of the word 'history', also a description of the state of a system at a certain time qualifies as a historical description. In general, such a synchronic description can be made without referring to earlier states of the system. This does not change its character of being a historical description when 'historical' is used in the sense adopted here. Of course, the use of the word 'historical' can be restricted to diachronic descriptions, respectively to the events and changes described by them. But I cannot see that any theoretically interesting reasons justify such a terminological decision. Therefore, the problem, whether synchronic descriptions should be called 'historical' or not, seems to be merely a terminological issue without factual content.

(2) With regard to their empirical data synchronic descriptions appear to be in a special position when compared with diachronic descriptions. For it seems as if the objects of

a synchronic description are accessible to introspection. De Saussure had emphasized a so-called 'subjective analysis' as specific for synchronic descriptions. With 'subjective analysis' he referred to the analysis by a native speaker, and he said explicitly that this analysis cannot fail: "La langue ne se trompe pas" [Language cannot be deceived] (1967, 415). When constructing synchronic descriptions the Prague linguists appealed to linguistic consciousness (Trubetzkoy 1973, 63 f; Vachek 1966, 30). Later, a similar stance is taken by Chomsky when he employs the linguistic intuitions of native speakers for the evaluation of grammatical models. — This peculiar nature of the data for synchronic descriptions may give rise to epistemological problems. The epistemological position involved includes a claim of priority: the information contained in a synchronic description is epistemologically privileged as compared to, for example, information contained in diachronic descriptions. The introspection by which synchronic information is obtained seems to guarantee that it is certain and incorrigible knowledge (cf., e.g., Coseriu 1988, 60). Such a position might derive from considerations which are related to the epistemological status of psychology popular at the end of the last century. Franz Brentano (1838–1917), Husserl and Wilhelm Dilthey (1833–1911) distinguished between descriptive and genetic psychology. According to them descriptive psychology appeals to introspection and, therefore, is in a position to grasp reliably what is going on in the mind. Genetic psychology on the other hand, tries to explain the succession of mind states, and this explanation requires statements involving laws which cannot be validated by introspection alone. — Today such a position with regard to synchronic descriptions may appear questionable. Various theoretical considerations and also various experimental results tell against the reliability of introspective methods (Lyons 1986, chap. 5) There may even be cases in which these doubts are not justified. But we cannot remain content with merely registering this fact, and we feel that an explanation in cases of actual reliability of introspection is called for. Hence, if we want justifiably to appeal to speaker's intuitions we need a psychological theory specifying to which extent and for which reasons linguistic intuitions are reliable.

### 3.4. Functional explanation in linguistics

The requirement to describe languages as functional systems or as systems of functional roles forces the linguist to take into account the functions of linguistic units:

"Actually, all structuralists reckon with the function of linguistic units: setting apart a feature as 'distinctive' implies that its function suffices to make it an object of interest and assign it to a definite class" (Martinet 1962, 3).

This remark by André Martinet (\*1908) applies especially to European structuralism. In American structuralism less emphasis is put on function in connection with structure. For, in America, the methodological concept of structure played a more important role and did not suggest an appeal to functions. — Trubeckoj and Jakobson — later also Martinet (1962) and Michael Alexander Kirkwood Halliday (\*1925) (1970) — stressed the functional point of view. Trubeckoj saw language as a structure which has to make possible many different single speech acts. That there is such a variety of speech acts depends on the fact that language has an inventory of morphemes which have to be distinguishable for speaker and hearer. It is the function of a sound *S* in a sound system *P* with a specific organization *O* that morphemes get distinguished by *S* via its position in the system *P*. Someone who specifies the function of a sound in this way, by doing it wants to *explain* why there is this sound in the language at a given time, and why it is related to other sounds in a certain way. But functional considerations are appealed to not only in synchronic but also in diachronic investigations. Trubeckoj and Jakobson claimed that sound changes often have the task to restore an equilibrium in the linguistic system. — Linguistic structuralism uses the notion of function in these ways, and this means that it employs a kind of explanation which is known as 'functional explanation' in the philosophy of science (cf. Nagel 1961, 401–428; 520–535; Hempel 1959). Biology has applied functional explanations successfully to the structure of organisms and of animal societies. There are, however, some problems connected with such explanations which — as it seems to me — have not been noted sufficiently by linguistics. — It is a characteristic feature of functional systems that they preserve a certain state or a certain property even though the surroundings or the system itself may undergo considerable changes. If a func-

tional explanation is adequate then the state or property to be preserved by the system is specified with some precision and explicitness. Often, though, such a specification is not forthcoming, and then the following remark applies:

"proposed explanations aiming to exhibit the functions of various items in a [...] system in either maintaining or altering the system have no substantive content, unless the *state* that is allegedly maintained or altered is formulated more precisely than has been customary" (Nagel 1961, 530).

For example, only one persistent feature of a language might be specified, namely that it makes communication possible. But then referring to the distinctive function of a sound *S* does not yet explain why just *S* is part of the sound system and not another sound serving the same distinctive function. One might, of course, postulate a state of balance which sound systems strive for. But if it cannot be made clear what it means to be in balance, the explanation offered will be inadequate. If at the same time other factors are made responsible for sound changes (e.g. influence from outside the language area) and the relative importance of the different factors is not specified, the explanation is even less satisfactory. — Explanations appealing to linguistic functions in this way are incomplete to a high degree. The reason for this is that the theoretical ideas about the connection between linguistic structure and linguistic functions are relatively vague and, therefore, have only low empirical content. Insofar as such theoretical ideas do not satisfy the demand for precision and empirical testability, the methodological requirement to describe languages as functional systems cannot be fulfilled in an adequate way. Similar problems arise in sociology and anthropology, and have been discussed there extensively (cf. Vanberg 1975, 167–171). A more adequate assessment of linguistic functionalism might well be possible if more attention were paid to the affinities between sociological and linguistic functionalism.

### 3.5. The autonomy of linguistics

Two elements of de Saussure's thought can be employed for the justification of an alleged autonomy of linguistics: first, his emphasis on the social character of language and on the supposed chasm between language as an institution and the linguistic accomplishments of the individual; second, his thesis that language is form, not substance, i.e. his concep-



tion of linguistic structure as a system of functional roles. In structuralism after de Saussure, the autonomy of linguistics has been argued several times. Here, I will comment on two such arguments: one by Trubeckoj for the autonomy of phonology, and one by Hjelmslev for the autonomy of linguistics as a science dealing with form. — Trubeckoj joined de Saussure in the emphasis on the social character of language and elaborated this with regard to the relationship between phonetics and phonology. According to Trubeckoj, phonetics has to disregard linguistic meaning completely and exclusively to adopt methods from the natural sciences. With such an attitude and using such methods, phonetics has to investigate the physical properties of language sounds and to study the physiological and psychological properties of their production and reception (1977, 13). The speech act as analyzed by phonetics is "eine Welt der empirischen Erscheinungen" [a world of empirical phenomena] (1977, 15). Phonology, on the other hand, is interested in the meaning and in the function of what is spoken. It is concerned with the »social utilization of material things«:

"In allen solchen Fällen muß die soziale Institution als solche von den konkreten Handlungen, in denen sie sich sozusagen realisiert und die ohne sie nicht möglich wären, streng getrennt werden, wobei die Institution in den Beziehungen und Funktionen, die auf sie bezogene Handlung aber von der phänomenologischen Seite untersucht werden muß."

[In all such cases the social institution as such is to be separated from the concrete actions. Through them the institution, as it were, realizes itself, and the actions are not possible without the institution. The institution has to be studied with regard to relations and functions, the actions related to the institution must be studied from the phenomenological aspect.] (Trubetzkoy 1977, 15).

Language and its sound system, therefore, belong to the social world, and social facts demand special methods of investigation. Hence, the study of language and the sounds of language is to a large extent independent of investigations dealing with »empirical« phenomena related to them. — Hjelmslev (1963) elaborates de Saussure's thesis of language as form. According to him, the analysis of linguistic states yields descriptions of systems of functional roles. These systems are purely formal sign systems or semiotic structures, and they constitute a domain for scientific investigation of its own. Semiotic structures are systems consisting of two components each of which is hierarchically constructed and can

be analyzed into sub-units. One component can be related to the content communicated by linguistic utterances, and, therefore, is called the 'content plane of language'. The other component can be related to the way this content is expressed, by means of sounds or by means of inscriptions or in some other way. This component is called the 'expression plane of language'. Both these components have the same structure. A semiotic structure differs in its nature completely from the things which belong to non-linguistic object domains. Hjelmslev calls non-linguistic reality 'substance', and, according to him, »substance« is investigated by sciences other than linguistics. From a formal point of view, it is a characteristic feature of form or semiotic structure that it can be divided into two structurally identical components. Semiotic structures form the subject matter of linguistics and cannot be described by recourse to other scientific disciplines. Hence, language has to be investigated »immanently« or from a strictly linguistic point of view (cf. Hjelmslev/Uldall 1936, 1). Language must not be considered »essentially a function of other things«, i.e. an outcome of biological, psychical, physical or social factors. The adoption of this »immanent« procedure makes it possible for linguistics to become an »exact science«. — First a comment on Trubeckoj's thesis of autonomy. In the social sciences of this century, particularly in sociology, there has been an ongoing controversy between two research programmes: an *individualist* programme which tries to explain social institutions and their changes by an appeal to psychological factors and psychological theories; and a *collectivist* programme which defends the autonomous and independent reality of the social world (cf. Bohnen 1975). Structural functionalism in sociology is part of this latter programme. Trubeckoj emphasizes that social facts form a domain apart from the domain of »empirical phenomena«, and thus the fate of his thesis of the autonomy of linguistics comes to depend on the eventual outcome of the controversy between the two sociological research programmes. If the reality of the social world can be vindicated Trubeckoj's autonomy thesis will be supported. If, on the other hand, individualist explanations are more successful we will have reason to doubt the autonomy thesis. — Now a comment on Hjelmslev's thesis of autonomy. When Hjelmslev maintains that there are form and substance, this amounts to making the claim that there are

two entirely different domains of reality: One of them is analyzed as language (or as form), and it consists essentially of two structurally identical components. The other domain is substance and cannot be analyzed in this way. The former domain is represented by a formal-syntactical description (or 'algebraical' description as Hjelmslev puts it) which distinguishes between two structurally identical components: content and expression. The latter domain is represented by a formal-syntactical description which does not make such a distinction. — Apparently, Hjelmslev believes that uninterpreted formal systems as such can be satisfied by definite domains of reality in a unique way: each of the two formal systems selects its own corresponding part of reality. But results of modern logic and model theory make us doubt that this is possible. With regard to many kinds of formal systems it has been shown that one such system can be satisfied by many domains differing in cardinality and in the way a relational pattern is defined upon them (cf., e.g., Enderton 1972, 140–154). Here it is not possible to discuss Hjelmslev's thesis of autonomy in a more detailed way. But if one would want to achieve an adequate assessment of it, it would be necessary to specify much more explicitly than Hjelmslev has done, the formal differences between the description of language or form and the description of substance. Only then it might become possible to judge whether the results from logic and model theory really are relevant for the evaluation of Hjelmslev's claims.

#### 4. Problems in the theory of meaning

##### 4.1. Prefatory remark

I use the phrase 'theory of meaning' as a general catchword for theoretical considerations dealing with aspects of the meaning and reference of linguistic units. I take it that questions concerning the sense of linguistic expressions or the reference of singular terms to non-linguistic objects have to be discussed under this label. — In the theory of meaning the European schools covered here have favoured positions markedly different from those of most American structuralists. Following de Saussure, most European approaches take meaning to be constituted by innerpsychic components. According to the European approaches, it is methodologically admissible to have recourse to the speakers'

linguistic consciousness and to intuitions about meaning. When constructing phonological and morphological accounts of languages, European structuralists have availed themselves of these methodological resources. They have, however, spent much less effort for the development of detailed theories of meaning and systematic accounts of the semantic structure of individual languages. American structuralists, on the other hand, have eschewed as far as possible an appeal to linguistic consciousness and to meaning intuitions in describing languages. Most American structuralists rejected a mentalistic account of meaning and took meaning to reside in the world outside the linguistic utterance. They believed, furthermore, that we lack the knowledge from other disciplines for giving a satisfactory account of meaning. Therefore, it is not surprising that American structuralists have done little constructive work towards a theory of meaning. — In what follows, I will comment on some topics characteristic for structuralist approaches to meaning. First, I will discuss de Saussure's ideas about linguistic meaning. Then, I will make some remarks about American structuralism and its views on linguistic meaning and intuitions concerning language. I will conclude with considering the role which the notions of truth and reference have played in the different structuralist schools.

##### 4.2. De Saussure's theory of meaning

De Saussure's theory of meaning is mentalistic. He postulated two inner-psychic components of the linguistic sign: (a) the mental image of a sound pattern, and (b) the concept connected with the mental image. De Saussure thought that the mental image signifies the concept associated with it. In this way he distinguished two parts of the linguistic sign: one part which signifies, the 'signifiant' and another part which is signified, the 'signifié'. This contrast and the terminology used have their origins in the meaning theory of the Stoics (s. art. 2). They distinguished between the sign (σημαίνον) and its meaning (σημαίνόμενον) which "we apprehend as it arises in our mind" (Gräser 1978 a, 78). Two principles apply to meaningful expressions or to the linguistic sign (cf. the analysis by Rulon Wells 1947, 12):

- (1) The sign is arbitrary, i.e. the connection between the sound image and the concept signified is arbitrary;

- (2) The sign has a value, i.e. it has a certain place in a system of signs.

We can say that the *meaning* of a sign is its signification, i.e. the concept signified by the sound image, together with its value. The relation between the two is as follows: the value is the functional role of the concept in a system of concepts. And the concept signified is the substance which fills the functional role. — The idea that the meaning of an expression is determined by its place in the system resembles the doctrine of implicit definition in the philosophy of mathematics (cf. Kambartel 1968, 165–170). This doctrine identifies the place of an expression in a formal system with its meaning. In de Saussure's theory, though, the place in the system is only one ingredient of the meaning; the other ingredient is the concept taking the place in the system. Another difference is that, according to the doctrine of implicit definition, the formal system determining the meaning consists of sentence-like entities. De Saussure, on the other hand, does not consider sentences to be part of the system of language. Not sentences, but only subsentential syntagmatic patterns and paradigmatic substitution sets can determine the place of an expression in the linguistic structure, and thereby its meaning.

The thesis of the arbitrariness of the linguistic sign has been much referred to and has been much discussed in literature (s. art. 62). Coseriu (1967) amply documents its long history and traces it back to Aristotle's claim that linguistic meanings are συνθήκη, i.e. are conventional. — Here, I want to list some possible versions of the arbitrariness thesis, and indicate how de Saussure should be interpreted. A relation of 'meaning' can be said to be arbitrary with regard to different relata, i.e. different kinds of things entering the relation. With the different kinds of things entering the meaning relation we get different arbitrariness claims:

- (a) The relation of reference between a linguistic expression and the object referred to is arbitrary.
- (b) The relation of reference between a concept associated with an expression and the object referred to is arbitrary.
- (c) The relation of signification between an expression, conceived of as a sound pattern, and the concept signified is arbitrary.
- (d) The relation of signification between an expression, conceived of as the mental image of a sound pattern, and the concept signified is arbitrary.

Each of these claims can be taken in two ways: on the one hand as applying to types of expressions, concepts, sound patterns or mental images of sound patterns; on the other hand as applying to tokens of these things. De Saussure claimed that the relation of signification between a mental image of a sound pattern and the concept signified is arbitrary. And it seems that he intended types of concepts and types of mental images, not their tokens. — Also the words 'arbitrary' and 'arbitrariness' as applied to Saussurean signification invite different interpretations. For it is possible to distinguish between *diachronic* and *synchronic* arbitrariness — this corresponds to the distinction Eric Jean-Louis Buyssens (1973) makes between historical and functional arbitrariness: (1) Obviously, the connection between the mental image of a sound pattern and the concept signified is the result of a historical process. We take it that definite causes have brought about this result. Considered in this way the connection is not arbitrary. (2) But we may also take the connection between mental image and concept as it presents itself at any given moment, and disregard the history of this connection. We can then ask in which way the two relata correspond to each other. Taking this perspective the connection appears to be unmotivated, as de Saussure (1967, 155) says. And that means (a) we cannot see that it corresponds to a rational decision, i.e. we cannot give a reason why the mental image is an apt means for signifying the concept (Saussure 1967, 168); and (b) we cannot discern a similarity between the mental image of the sound pattern and the concept. De Saussure does mention (b), but most of the time he puts emphasis on (a). He considers the lack of an apparent means-end relationship (between the employment of the mental image and the signification of the concept) to be specific for the linguistic sign. For him this lack of an means-end relationship is distinctive for the institution of language as compared with other social institutions. — De Saussure's thesis has often been misunderstood. Emile Benveniste (1902–1976) (1973) believed that de Saussure should have been concerned with the relation between the mental image and the extra-linguistic object referred to. Benveniste maintained that this relation is arbitrary, but that the relation between mental image and concept is necessary. Niels Ege (1973) and Buyssens (1973) have done much to clarify the situation. Nevertheless, recently, writ-

ing about de Saussure's theory of meaning, Michael Devitt and Kim Sterelny (1987, 217) have created the impression that de Saussure's thesis applies to the relation between linguistic sound pattern and object referred to by the sound pattern.

#### 4.3. Intuition and meaning in American structuralism

The early Bloomfield and Sapir were mentalists. Sapir, for example, held a mentalist conception of meaning:

"Communication, which is the very object of speech, is successfully effected only when the hearer's auditory perceptions are translated into the appropriate and intended flow of imagery or thought or both combined" (1921, 18).

But the later Bloomfield (since 1926) and his school abandoned mentalism and adopted a behaviourist psychology. The rejection of mentalism implies the rejection of introspection as a source of reliable data about mental events. No longer it was considered legitimate to have recourse to the speakers' intuitions about which forms belong to language and which meanings they have. — Bloomfield, therefore, opposed the opinion that

"prior to the utterance of a linguistic form, there occurs within the speaker a non-physical process, a *thought*, a *concept* [...], and that the hearer, likewise, upon receiving the sound-waves goes through an equivalent or corresponding process" (1933, 142).

Hence, it is not useful to define

"the meaning of a linguistic form as the characteristic mental event which occurs in every speaker and hearer in connection with the utterance or hearing of the linguistic form" (Bloomfield 1933, 142).

Nevertheless, Bloomfield did not eliminate meaning. He located it outside the speaker:

"The features of situation and action which are common to all utterances of a speech form are the *meaning* of that speech form" (1970c, 401).

But this conception of meaning seems to preclude any scientific study of it, at least for the moment:

"in order to give a scientifically accurate definition of meaning for every form of a language, we should have a scientifically accurate knowledge of everything in the speaker's world" (Bloomfield 1933, 139).

Meaning cannot be studied satisfactorily, for this would presuppose a complete scientific account of the surrounding world which is not (yet) available. Thus, Bloomfield's re-

luctance to treat meaning in linguistics did not derive directly from his anti-mentalism, but it rather was an immediate consequence of his conception of meaning. — The later Bloomfield held the following two tenets: (a) Introspection cannot yield reliable information about language. (b) Meaning cannot be studied in linguistics as we lack the necessary information from other disciplines. These two tenets were to influence the work of the followers of Bloomfield (cf. Koerner 1970; Stark 1972). Because of tenet (b), the Bloomfieldians did not occupy themselves with semantics, and in their linguistic description and analysis they remained confined to phonology, morphology, and syntax. Because of tenet (a), the Bloomfieldians tried to avoid having recourse to linguistic intuitions in setting up descriptions of language. Neither the intuitions of the linguists themselves nor the intuitions of the speakers of the language investigated should be appealed to. A description in conformance with these standards was considered to be rigorous. — Several attempts at such a rigorous analysis of language were made in the forties and fifties. Once a level of analysis with the appropriate units, i.e. phonemes or morphemes, is selected, rigorous analysis can be carried through quite successfully. But it seems that the selection of units at the respective level relies on judgments by intuition concerning their property of being significant or meaningful. With regard to the differentiation of phonemes, Harris admits:

"In principle, meaning need be involved only to the extent of determining what is repetition. If we know that 'life' and 'rife' are not entirely repetitions of each other, we will then discover that they differ in distribution (and hence in meaning)" (1960, 7, n. 4).

The judgment whether 'life' and 'rife' are repetitions or not, seems to require a prior judgment whether 'life' and 'rife' have the same meaning.

Willard Van Orman Quine (\*1908) recognized in 1953 that descriptive linguistics presupposes "a prior notion of significant sequence, or possible normal utterance" (1961c, 52). He also recognized that lexicography and translation depend on judgments of synonymy (1961c, 56). So it seems that, after all, it is not possible to eliminate intuitive judgments completely from the data base of linguistic analysis. If we adhere to the anti-mentalistic perspective, and if we continue to use judgments by intuition for setting up linguistic descriptions, then we will have to con-

clude that there is nothing for such judgments "to be right or wrong about" (Quine 1961c, 63). This reasoning, apparently, leads to Quine's thesis of the indeterminacy of meaning and translation (s. art. 72).

#### 4.4. Truth and reference in structuralism

Nowadays, many discussions concerning the theory of meaning are dedicated to matters which have to do with truth and linguistic reference (s. art. 67). The various brands of structuralism, however, have paid little attention to these topics. Why is this so?

(a) *Truth*: The notions of truth and falsity are relevant to the theory of meaning for at least three reasons: (1) Truth and falsity are properties of sentences apparently concerning the relation between language and reality. (2) Logical relations between sentences involve possible truth values of the sentences entering these relations. For example, 'a sentence *B* is a logical consequence of a sentence *A*' expresses a relation between *A* and *B* which holds if and only if the relation 'whenever *A* is true, *B* is necessarily true' holds. But the question of how the form of sentences contributes to their truth values seems to belong to the subject matter of a theory of meaning for a given language. (3) Knowing the truth conditions of a declarative sentence might be involved in knowing the meaning of a sentence. In other words, we do not understand a declarative sentence, if we do not know under which conditions it would be true. — From the sixties onward, semantical problems involving sentences and their truth conditions came to the fore in approaches to the semantics of natural language. This type of research is closely connected with the tradition of logical or formal semantics (s. art. 55) deriving from Gottlob Frege (1848–1925) (s. art. 34) and Alfred Tarski (1902–1983). Apparently, linguistic structuralism has contributed little to these developments. Why did linguistic structuralism avoid studying problems pertaining to truth-conditions of sentences? — De Saussure considered the analysis of sentences to be of little importance. And in the later European approaches sentences again have not played an important role. De Saussure's reluctance to treat sentences in linguistics has at least three reasons: (1) De Saussure claimed that uttered sentences are entirely dissimilar between each other (1967, 240). If there is a resemblance between sentences, this resemblance is due only to the words occurring in them. Therefore, no interesting general

facts can be discovered involving sentences. (2) According to de Saussure, sentences do not belong to language; instead, they belong to speech (*parole*) (1967, 240; 283). He was, however, primarily interested in a science of *langue*. (3) De Saussure did not have a method of analysis at his disposal which in a formally satisfactory way would show how to demarcate sentences from other linguistic units. Only after appropriate techniques of recursion theory had become available, such methods have been developed. — This attitude towards sentences has consequences for semantics and theories of meaning: First, semantic and meaning-theoretic investigations will concentrate their attention on single words and connections between them. Second, properties of sentences determining their truth or falsity and relations of logical consequence between sentences of natural language are held not to belong to the subject matter of linguistics. Third, the question whether sentence meaning might have to do something with the truth-conditions of sentences does not even arise as a problem meriting discussion. — Thus, the fact that sentences are not held to be important for a theory of meaning leads to the exclusion of many semantical phenomena and problems from theoretical considerations. This is true not only for de Saussure, but also for the European schools.

In American structuralism, however, the central importance of sentences for a scientific study of language has early been recognized. Bloomfield remarked in 1914:

"[...] the first and original datum is the sentence". On the other hand, "the individual word is the product of theoretical reflection which ought not to be taken for granted" (Bloomfield 1970a, 61).

American structuralists, when analyzing spoken language, had to segment chains of sounds and, in order to be able to do this, they had to pay close attention to features of speech which might correspond to boundaries between sentences in discourse. This might explain why sentences are considered more important in American structuralism than in the European schools. The later American structuralists, however, thought that at the present state of knowledge meaning could not be studied satisfactorily. Therefore, they refrained from exploiting the recognition of the methodological importance of sentences for the construction of a semantic theory. They also were not willing to consider logical relations between sentences (one of the few ex-

ceptions to this is Harris 1952). For this would have meant to consider linguistic units which are longer than sentences. Bloomfield believed that relations above the sentence level could only be relations of meaning, and he was convinced, therefore, that they were not amenable to analysis.

(b) *Reference*: I will take 'reference' in a broad sense which includes the relation between singular terms and the objects designated by them as well as the relation between predicate expressions and the sets of objects they are true of (s. art. 77). Reference is relevant to a theory of meaning for at least two reasons: (1) The study of the reference relation seems to be of particular importance for the general problem of how language relates to reality. (2) The truth-conditions of a sentence depend on the reference of the expressions occurring in the sentence. The study of truth-conditions may contribute to a theory of meaning for reasons explained above. — Now, we may ask what linguistic structuralism has contributed to the study of the reference relation. De Saussure did not discuss how linguistic signs are related to non-linguistic reality. Linguistic reference was simply not a topic for him. This attitude may derive from certain positions which he held in epistemology (cf. Scheerer 1980, 114; 119). Another reason for excluding reference from linguistics may have been that he considered reference to belong to speech (*parole*), not to language (*langue*). Therefore, it could not have a place in an autonomous science of language. — The Prague structuralists, however, discussed linguistic reference. Hence, it is wrong to say, as Devitt and Sterelny (1987, 215) do, that structuralism as a whole rejects linguistic reference. Bühler and Jakobson investigated a semantic triangle consisting of speaker, hearer, and extra-linguistic situation. For them the speaker's ability to refer to non-linguistic reality was an aspect of the repre-

sentation function of language. Bühler also developed a theory of indexical expressions thereby trying to account for their suitability for referring to extra-linguistic reality (1934, 79–148) (s. art. 79). Bloomfield, as observed above, had a very inclusive conception of linguistic meaning. And, therefore, he doubted that meaning could be analyzed and described in a satisfactory way by linguists. He did not make attempts to isolate ingredients of meaning, and he did not include the relation between an utterance of a speech form and objectual features of the situation of utterance amongst the topics of his research.

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*Axel Bühler, Mannheim (Deutschland)*