

To appear in: Maienborn, Claudia/ von Heusinger, Klaus/Portner, Paul (eds.): *Semantics. An International Handbook of Natural Language Meaning*. Berlin/New York.

Gerd Fritz, Gießen (Germany)

## 113. Theories of meaning change – an overview

1. Basic issues of historical semantics
2. 19<sup>th</sup> century historical semasiology and the ideational theory of meaning
3. Diachronic structural semantics
4. Cognitive semantics
5. Theories of grammaticalization
6. Meaning as use and pragmatic semantics
7. Formal semantics and pragmatics
8. Conclusion
9. References

### 1. Basic issues of historical semantics

Theories of meaning change have to give answers at least to some of the following questions: (i) Under what conditions are semantic innovations possible? (ii) Are there characteristic types and regularities of meaning change? (iii) How do universal constraints and cultural traditions interact in meaning change? (iv) How do innovations become routinized and conventionalized? (v) What are the paths and mechanisms of diffusion of semantic innovations? (vi) How does semantic innovation change the internal structure of a cluster of senses of a lexical item (the question of polysemy), (vii) How does semantic innovation change the semantic relationships between different expressions (the question of meaning relations and semantic fields), (viii) How are meaning changes related to changes in the history of mind, the history of society, the history of theories (changes of knowledge and changes of concepts) etc.? (ix) How do we interpret texts from earlier historical periods (the hermeneutical question)? (x) What counts as an explanation of a meaning change?

One of the aims of this article is to show which of these questions have been tackled so far in different research traditions, in which ways and with what amount of success. The kinds of detailed questions that can be asked concerning meaning change and the types of possible answers to these questions are determined to a large extent by the theories of meaning presupposed in formulating these questions. Therefore my discussion of important traditions of research in historical semantics will be linked to and partly organized in relation to the theories of meaning embraced by scholars in the respective research traditions.

The relationship between historical semantics and theoretical semantics is not a one-sided affair. Not only did semantics as a scientific study first arise in the context of 19<sup>th</sup> century historical linguistics, but also in 20<sup>th</sup> century semantics and especially since the 1980s many foundational issues of semantics have been discussed in connection with problems of meaning change, e.g. the problem of polysemy. What Blank and Koch wrote about cognitive semantics could be generalized to other approaches to semantics as well: „In our opinion, investigation of diachronic problems can, in turn, sharpen our view for fundamental semantic processes and should therefore be able to advance theorizing in cognitive linguistics. In this sense, historical semantics is an ideal testing ground for semantic models and theories ...” (Blank/Koch 1999: 1). This includes issues like the boundaries between semantics and pragmatics and methodological questions like minimalism. A case could be made for the view that theories of meaning which contribute to our understanding of meaning change are not only wider in scope than

those that do not, but that they are actually superior. It is therefore not surprising that recently even scholars in the field of formal semantics, a family of approaches to semantics originally not attracted to historical questions, have taken up matters of flexibility of meaning and meaning change (cf. Eckardt 2006). Generally speaking, the history of historical semantics is highly instructive for a study of the ways in which the development of lexical semantics was advanced by competing theoretical conceptions of word meaning. So part of this history of theories can be told as a history of controversies. In this context it is worth noting that the discussion of a rapprochement between competing schools of semantics (cognitive semantics, pragmatic semantics, formal semantics) which has been initiated in the last few years has also partly taken place in the context of historical semantics (cf. Geeraerts 2002, Eckardt/von Heusinger/Schwarze 2003). From the point of view of empirical research in semantics, the history of word meanings in different languages is an invaluable repository of data for semantic analysis and a source of inspiration for the treatment of questions like what is universal and what is culturally determined in meaning and change of meaning.

## 2. 19<sup>th</sup> century historical semasiology and the ideational theory of meaning

Throughout the early development of historical semantics up to 1930 and in some cases much later (cf. Kronasser 1952) a view of meaning was taken for granted which has been called the ideational theory of meaning (cf. Alston 1964: 22-25). The classic statement of this theoretical view had been given by Locke as follows: „Words, in their primary or immediate signification, stand for nothing but the *Ideas* in the mind of him that uses them, how imperfectly soever, or carelessly [sic] those *Ideas* are collected from the Things, which they are supposed to represent“ (Locke 1689/1975: 405). By the time historical semantics emerged as a scientific enterprise in the second half of the 19<sup>th</sup> century, this view was more or less the common-sense view of meaning. The fact that Frege and other contemporaries forcefully criticized this view on the grounds that ideas (*„Vorstellungen“*) were purely subjective, whereas meaning (*„Sinn“*) ought to be in some sense intersubjective, was either not noticed or not considered a serious problem (cf. Frege 1892/1969: 43f., Frege 1918/1966: 40ff.). (The problem of the subjectivity of ideas had of course been noticed by Locke.) One consequence of the ideational theory of meaning was that semantics was considered to be intimately related to matters of psychology, which was an unquestioned assumption for many linguists of the period. This attitude was, of course, also fostered by the fact that by the end of the 19<sup>th</sup> century psychology had become a highly successful and prestigious field of research. So at least paying lip-service to the psychological relevance of historical work was also a matter of scientific rhetoric for many linguists – very much like today. In the first paragraph of his classic *“Meaning and change of meaning”* Stern explicitly stated: *“The study of meanings, as of all psychic phenomena, belongs to psychology”* (Stern 1931: 1). It is therefore not surprising that the problem of lexical innovation was largely posed as a problem of individual psychology: How do new associations of ideas come about in the mind of an individual? To explain a change of meaning was to show how the mind could bridge the gap between a first cluster of ideas, the original meaning, and a second cluster, the new meaning. A case in point is the treatment of metaphor as a potentially innovative semantic technique. If one had to explain the first metaphorical use of the word *lion* to denote a brave man, the characteristics of the metaphor „must be sought in the speaker’s mental processes“ (Stern 1931: 301). The question to be answered was how would the idea of a brave man call up the idea of a lion and what could be the basis for the perception of a point of similarity between brave men and lions. An explanation of a meaning change could be considered successful from this point of view if the gap between the original and the new set of ideas could be shown to be small, if the gap could be reduced by the introduction of plausible intermediary stages, or if it could be bridged with reference to general laws of association (cf. Wundt 1904: 623). This methodological principle, which one

could call the principle of minimal steps, was based on a psychological hypothesis which was rarely made explicit as it was again firmly grounded in common-sense assumptions: The mind, like nature, does not take excessive leaps.

From this point of view three stages of a change of meaning could be differentiated: In the first stage a word is used in a certain context, in which a certain (additional) idea becomes connected to the word. In a second, transitory stage the new idea is more intimately connected to the word through continuous use, so that the additional idea is called up in the mind even outside the original specific context. Finally, in the last stage, the new idea becomes the central idea (“Hauptbedeutung”) which again admits new combinations of ideas. So what happens is that a secondary idea which is originally only associated to the word in certain specific contexts gains in strength and becomes the primary idea (cf. Stöcklein 1898:14f.). This view anticipates both the recent emphasis on the importance of certain “critical contexts” of innovation (cf. Diwald 2002) and the cognitivist idea of shifts from peripheral uses to prototypical uses in meaning change and vice versa (cf. Geeraerts 1997).

In a classic of historical semantics, the chapter on meaning change in his book “Principien der Sprachgeschichte”, Hermann Paul introduced a refinement of the ideational theory by distinguishing between established meaning (“usuelle Bedeutung”) and contextual meaning (“occasionelle Bedeutung”), a distinction which plays a fundamental role in his theory of meaning change (Paul 1886: 66ff.). He defined the established meaning as the total content of ideas which is associated with the word for the members of a community of speakers, whereas the “occasional” meaning is defined as the content of ideas which the individual speaker associates with the utterance of a word and which he expects the hearer to associate with this utterance as well. “Occasional” meaning is considered to be richer in content and narrower in range than conventional meaning, it is generally more specialized and monosemous, whereas conventional meaning is more general and may be polysemous. The latter explication shows that Paul did not have at his disposal the sharp distinction between sentence (or word) meaning and utterer’s meaning which Grice introduced in his seminal article “Meaning” (Grice 1957) and which was also inherent in Wittgenstein’s distinction between “bedeuten” and “meinen” (Wittgenstein 1953). Paul seems to have conceived of “occasional” and “usual” meaning as two different members of the same category. This category mistake, as one might see it today, does however not seem to have interfered with his theory of meaning change.

The main tenet of this theory is that every meaning change starts from an innovative occasional meaning. Such an innovative use may then be remembered by a speaker and thereby become a precedent for later uses. Through repeated application of the word in its occasional meaning the occasional meaning may become established in the community of speakers and thereby become “usual”. The next generation of speakers will then learn the word in its new conventional meaning. As an important element in his theory of meaning change Paul assumed that the types of meaning change exactly correspond to the types of modification of occasional meaning. This assumption makes the essential theoretical link between synchronic meaning variation and change of meaning, which up to the present day connects pragmatics and historical semantics. Paul’s theory of meaning change also comprises other elements which are familiar to modern historical semanticist, e.g. a version of the concept of common knowledge as a basis for semantic innovation and the idea that knowledge is socially distributed, which leads to semantic specialization in different social groups. The importance of context for the emergence of innovations was stressed by other authors of the semasiological tradition as well, e.g. by Wegener (1885) and Sperber (1923), who explicitly differentiated between syntactic context and context of situation (“Situationszusammenhang”) (Sperber 1923/1965: 25). The relevance of the syntactic context for the emergence of semantics innovations, which has also recently been emphasized again (cf. Eckardt 2006), was stressed by Paul as well as by other contemporaries (e.g. Stöcklein 1898) and later representatives of semasiological research (e.g. Wellander 1923, Leumann 1927). Another aspect of meaning

change that was emphasized by several authors of this tradition was that, as mentioned before, in an early stage innovations are often restricted to a limited context from which they are then later generalized (cf. Stöcklein 1898: 13f., Sperber 1923/1965: 24, Oksaar 1958: 174ff.).

One corollary of Paul's and others' view of meaning change was that meaning change leads to polysemy and that types of meaning change are reflected in types of polysemy, an idea that has recently been taken up again by various researchers (cf. Blank 1997, Fritz 1995, Geeraerts 1997). The most insightful early treatment of polysemy was due to Michel Bréal, who, in his "Essai de Sémantique" (1897), introduced the term *polysémie* and devoted a chapter to this phenomenon. Whereas polysemy was often thought of as a defect of language, Bréal pointed out the functional advantages of polysemy: "Une nouvelle acception équivaut à un mot nouveau" (Bréal 1897/1924: 146).

Outside the mainstream of traditional semasiology we find an important contribution to the theory of meaning change in a classic article by Antoine Meillet, "Comment les mots changent de sens", published in 1905 in "Année Sociologique" (Meillet 1905/1965). In this programmatic article, Meillet presented the outline of a sociolinguistic view of meaning change which consists in an integrated theory of innovation and diffusion. According to this theory, semantic changes arise mainly due to the fact that speech communities are heterogeneous and that they are organized into different social groups. Whereas society as a whole tends to resist linguistic innovation, small groups tend to encourage innovation, a tendency which can be explained by conditions favouring the creation and adoption of innovations within smaller groups. Due to the high level of common ground in small groups, specialized uses of words come into being and are easily adopted by the members of the group. In addition, this tendency is supported by the fact that group-specific uses contribute to the coherence of the group. As the same individual may belong to different groups, simultaneously or in succession, there is an exchange of linguistic material between such groups, i.e. borrowing. As soon as a word is removed from its original sphere of usage and is taken up by wider circles, the new users will generally lack the inside knowledge available to the original group of speakers and will use the word in a less specific sense. Therefore the moving of words from group languages to the common language and vice versa causes semantic change. In a rudimentary form Meillet's picture contains all the ingredients of later languages-in-contact theories of innovation and diffusion.

One of the main issues of late 19<sup>th</sup> and early 20<sup>th</sup> century historical semantics was the question of the regularity of meaning change. As the discovery of "sound laws" (e.g. Grimm's law) was the paradigm of successful linguistic research in the second half of the 19<sup>th</sup> century, one easily came to the conclusion that semantics should aim to find "semantic laws" on a par with sound laws. An important step in accounting for the variety of semantic innovation was to show how that innovation was guided. In remarkable unison the handbooks on historical semasiology which appeared from the 1870s onwards (Bréal 1897, Darmesteter 1887, Nyrop/Vogt 1903, Paul 1886, Whitney 1875) dealt with this question by giving a classification of types of semantic change. Seeking to impose order on the seeming chaos of semantic developments, they made use of categories well-known from classical logic and rhetoric: restriction of meaning, expansion of meaning, metaphor, metonymy, euphemism, and irony. The productive idea embodied in these classifications was the application of a methodological principle which had been forcefully proclaimed by the so-called Neogrammarians (Paul and others), the principle that the observation of present-day linguistic facts should serve as the basis for the explanation of the linguistic past. Following this principle, general knowledge about contemporary forms and conditions of referring uses, metaphorical and euphemistic speech etc. could be brought to bear on the explanation of historical changes. Of these categories of meaning change the first two (expansion and restriction of meaning) were often criticized as being non-explanatory, merely classificatory categories taken from logic, whereas a description of a semantic innovation as a case of metaphorical innovation was obviously ac-

cepted as explanatory. But, of course, the assertion that innovations of these types frequently occurred was no law statement, and therefore assigning an innovation to one of these types was, strictly speaking, no causal explanation. The same can be said for certain other generalizations that were formulated in this tradition and were called “laws”, e.g. the generalization that semantically closely related expressions tend to show similar meaning changes (cf. Sperber 1923: 67; Stern 1931: 185ff.). In many cases the observation of parallel developments, which is of course a methodically important step, amounts to no more than the documentation of data which call for explanation. (For further examples and discussion of the question of “semantic laws” cf. Fritz 1998: 870ff.) Generally speaking, explicit reflection on what could count as an explanation of meaning change was fairly rare in this period, and it was only much later that basic questions concerning the concept of explanation in historical semantics were raised (cf. Coseriu 1974, Keller 1990).

To get an idea of the wealth and quality of work produced in this period one has to go beyond the handbooks and look at the large dictionaries (e.g. the “Oxford English Dictionary” and the “Deutsches Wörterbuch von Jacob und Wilhelm Grimm”) and at dissertations and articles written in journals, which provide a vast repository of historical data and analyses. Because of the generally positivistic outlook of scholars of this period, their work was highly data-driven, so that much of this work could be termed corpus-linguistic *avant la lettre*. On account of their attention to empirical detail, there are hardly any questions of meaning change known to us today that were not raised in one way or the other by scholars of this period. Unfortunately, much of this work is not known to present-day researchers, due partly to its inaccessibility, partly to language barriers. Overviews of semasiological research can be found in Jaberg (1901), Kronasser (1952), Ullmann (1957), Nerlich (1992), and Busse (2005).

### 3. Diachronic structural semantics

In the late 1920s and early 1930s, structuralist methods, which had been particularly successful in phonology, began to become applied also to the field of semantics. Essentially, structural semantics is not a theory of meaning at all but rather a methodology for semantic analysis. The basic idea that semantic analysis of a linguistic item should not be restricted to individual words but should also take into consideration its neighbours, i.e. words with a similar meaning, and its opponents, i.e. words with antonymous meaning, had been well-known to late 19<sup>th</sup> century linguists before the advent of structuralism (e.g. Paul 1895). It is interesting to see that in describing parts of the vocabulary where the systematic character of groups of expressions is fairly obvious, pre-structuralist and non-structuralist authors often displayed a quasi-structuralist approach. This is true, for example, of descriptions of the history of kinship terms or forms of address.

In a more programmatic and theoretically explicit way this basic structuralist idea had been spelt out by Ferdinand de Saussure in his “Cours de linguistique générale” (1916). In Part 2, Chapter IV, § 2 of this groundbreaking book, which was compiled and edited by his pupils after his death, de Saussure discussed the difference between the meaning of a word and its “value” (“valeur”). He started out from the traditional definition of meaning as the idea conventionally connected to the sound pattern of an expression and then went on to argue that this definition captures only one aspect of meaning, which has to be complemented with a second aspect, the “value”, i.e. the position which the respective word occupies in a system of lexical items. To illustrate this point he compared the meaning/value of the French word *mouton* and the English word *sheep*. The two words, so his argument goes, may have the same meaning, i.e. they evoke the same idea of a certain kind of animal, but they do not have the same value, as there is in English a second word in opposition to *sheep*, namely *mutton*, which is not the case with French *mouton*. Apart from the fact that this description could be improved upon, this theory obviously shows a certain tension between the two aspects that de-

termine meaning, which was not clarified by de Saussure or his followers like Trier. The question remained open in which way meaning as idea and meaning as value contribute to the overall meaning of an expression. This theoretical problem did however not interfere with the application of the basic methodological principle.

Starting from de Saussure's fundamental assumptions and applying his general methodological principles to the field of semantics, Jost Trier and some of his contemporaries (e.g. Weisgerber 1927) criticized the atomist views of traditional semasiology, as they saw it, and developed a type of structuralist semantics which in its early form was called the theory of *conceptual fields* („Begriffsfelder“, Trier 1931), sometimes also called *lexical fields* (“Wortfelder”) or *semantic fields* (“Bedeutungsfelder”). The basic tenets of this theory have been described by Ullmann (1957), Geckeler (1971), Gloning (2002) and others. Therefore I shall only point out those facets of the theory that are particularly interesting from the point of view of theories of meaning change. As mentioned before, words were no longer considered as isolated units but as elements of a lexical system. Their value was defined by their position in a system of lexical oppositions and could be described in terms of a network of semantic relations. Trier himself used the concepts of hyponymy (“Oberbegriff”) and antonymy (“Gegensinn”), however, due to his informal style of presentation he did not attempt to make explicit these or other types of sense relations (cf. Lyons 1963), nor did he attempt the kind of componential analysis that later structuralist authors used (e.g. Bech 1951). Change of meaning, in Trier's view, consisted in the change of the structure of a lexical system from one synchronic stage of a language to the next. Within the framework of this theory the task of historical semantics could no longer be the description and explanation of the historical fate of individual words (“Einzelwortschicksale”) but rather the comparison of the structures of successive synchronic semantic fields along the time axis. Trier used his methods to analyze stages in the history of expressions of intellectual appraisal in German from Old High German to Middle High German, i.e. adjectives corresponding in meaning approximately to Latin words like *sapiens* and *prudens* or English words like *wise*, *intelligent*, *clever*, *cunning* etc. as well as the respective substantives. Starting by assuming a given conceptual field and then differentially analyzing the expressions allocated to this field, he used an onomasiological approach on a large corpus of medieval texts. His most famous analysis concerned the sub-field of (intellectual) competence, where, according to Trier, in 12th century German there existed the opposition of *kunst* ‘qualification acquired through noble upbringing or higher education’ vs. *list* ‘technical skill learned by apprenticeship’, an opposition that was later to be replaced by the opposition of *kunst* vs. *wizzen*, ‘ability’ vs. ‘knowledge’, which no longer embodied courtly and social aspects of intellectual qualities. Trier's pupils and followers applied this method to later historical developments in the intellectual field and to other fields like perception verbs (Seiffert 1968), adjectives of quantification and dimensionality (Stanforth 1967), the synonyms of *warten* ‘to look out for’, ‘to wait for’ (Durrell 1972) or expressions denoting sounds (Lötscher 1973).

Whereas Trier's approach concentrated on the paradigmatic dimension, i.e. the dimension of items replaceable for each other in a certain position in the linear sequence, other authors dealt with the syntagmatic dimension, i.e. the co-occurrence of words in sentences. Again, this topic had also been dealt with by pre-structuralist authors like Sperber who, in his classic booklet (Sperber 1923) analyzed the collocations (“Konsoziationen”) of various expressions. A well-known early structuralist paper on this topic is Porzig (1934), where the co-occurrence of words like *blond* and *hair* or *to fell* and *trees* is described. Historical changes in this dimension could also be considered part of the change of meaning of a given expression. However, authors of this period did not do much to clarify in what sense co-occurrence relations could be considered to be an aspect of the meaning of a word. This was only later achieved in the development of distributional semantics (cf. Firth 1957), an approach which has recently gained renewed attraction due to new techniques of corpus analysis, which make it possible to

analyze characteristic collocations and their historical change in great detail and with a view to quantitative data (cf. Heringer 1999).

Critics of Trier found fault with various aspects of his theories and methods. One point of criticism was clearly formulated by Ullmann: “His hypothesis that fields are always completely covered by word-areas like mosaics, and divide up the whole universe into an organically articulated whole, remains unsubstantiated, and actually runs counter to what we know about the vagueness of the sense and the fluidity of its contours” (Ullmann 1957: 158). This objection was also empirically validated by Oksaar’s comprehensive study of the history of German adverbs signaling speed, *plötzlich* ‘suddenly’, *schnell* ‘rapidly’ and others (Oksaar 1958), which was inspired by Stern’s pre-structuralist analysis of English adverbs like *immediately* (Stern 1931: 185ff.). A different kind of criticism concerned the lack of precision and explicitness of Trier’s semantic descriptions, a critique which led to later versions of structural semantics using distinctive semantic features of various kinds. These versions, which were theoretically more ambitious and descriptively more precise, were developed and applied to historical material by scholars like Gunnar Bech and Eugenio Coseriu. Bech (1951) used a system of semantic features to characterize the meaning of lexical items belonging to a closely-patterned domain of vocabulary, namely the modal verbs of German (e.g. *müssen*, *können*, *dürfen*, *mögen*). In this classic paper he analyzed various lexical oppositions within the field of modals, and from these oppositions he extracted semantic features in three dimensions (necessity vs. possibility, intrasubjective vs. extrasubjective modal factor, causality vs. autonomy), describing the meaning of each expression as a cluster of three features. As the oppositions change over time, the clusters associated with each individual item also change in characteristic patterns. A similar method was applied to the history of English modals by Teller (1962). When the semantics of modals and their history became a focus of semantic research some twenty years ago (cf. Fritz 1997a, Diewald 1999, Traugott/Dasher 2002: 105ff.), these classical studies also received new interest.

From the point of view of the theory of meaning, the semantic features used by Bech involve problems concerning their status and their formal properties, which they share with other concepts of semantic features and which have been discussed by Lewis (1972: 169ff.), Heringer (1974: 88ff.) and others. It is not clear whether the expressions used to indicate the features were considered to be simply descriptive natural language predicates or part of a special metalinguistic vocabulary or if they were even meant to indicate a universal store of concepts. And, of course, the feature language had no syntax, which considerably restricted its descriptive power.

In a well-known paper, Coseriu (1964) expounded an updated version of structuralist diachronic semantics. He showed how distinctive features could be extracted from paradigmatic lexical oppositions and how semantic change could be described in terms of changes of systems of oppositions. A favourite example of his was the development of Latin kinship terms in the course of the emergence of the Romance languages. All Romance languages gave up the distinction between „paternal line“ and „maternal line“ which characterized Latin kinship terminology. Whereas Latin had a four-element system for referring to uncles and aunts (*patruus* ‘paternal uncle’, *avunculus* ‘maternal uncle’, *amita* ‘paternal aunt’, *matertera* ‘maternal aunt’), the French counterpart is a two-element system (*oncle* / *tante*). The emerging Romance system is consequently characterized by the loss of the opposition ‘paternal’ vs. ‘maternal’, a development which can be structurally described as the disappearance of the corresponding feature. Coseriu’s approach has been quite influential, especially in the field of Romance studies, but it has recently also come under criticism from Romance scholars and others (cf. Blank 1996, Taylor 1999).

In structuralist research the description of language-specific lexical system changes as explored by Coseriu was often followed by a so-called internal explanation, e. g. by reference to homonymic clashes, or by a so-called external explanation, e. g. by reference to social

changes which were taken to be reflected in the respective semantic change (cf. Friedrich 1966 on „The linguistic reflex of social change“).

Criticism of structuralist semantics, especially feature semantics (*Semantic Markerese*, as Lewis called it), has come from various quarters, from truth-functional theorists, as mentioned before, and more recently from cognitivist and “meaning-as-use” theorists. Among the properties and assumptions of structural semantics which make it less adequate for historical semantics than other present-day semantic theories, the following have frequently been mentioned:

(i) Structuralist theory is strong on the aspects of the language system (“la langue”), but weak on the properties of speech (“la parole”), i.e. the use of language. As semantic innovation and diffusion are matters of language use, large portions of historical semantics cannot be adequately treated within the framework of structural semantics.

(ii) As structuralist semantics is focussed on the analysis of language-internal relationships, it has to draw a strict boundary between semantic and encyclopaedic knowledge, which makes it difficult to explain how innovative patterns of use like metaphor or metonymy work.

(iii) Due to its minimalist methodology, structuralist semantics is not well equipped to analyze cases of polysemy, which play a central role in semantic development.

(iv) Semantic features tend to be viewed in terms of necessary and collectively sufficient conditions for the correct use of an expression. This view precludes a satisfactory analysis of cases of family resemblances and prototype effects of the kind that Wittgenstein and cognitivists influenced by Wittgenstein (e.g. Rosch/Mervis 1975, Lakoff 1987) described. It therefore makes it difficult to account for minimal shifts of meaning and semantic changes involving the shifting of prototypical uses within the polysemic structure of a word.

To conclude: As structural semantics is essentially a theory of the structure of vocabulary and not of the use of vocabulary, it does not provide a theoretical framework for a number of important problems in historical semantics. Generally speaking, it fails to give an integrative view of linguistic activity in its various contexts, i.e. the relationship between language structure and social practices as part of historical forms of life. It does not provide the theoretical means for taking into account either the knowledge used in semantic innovation or the communicative function of innovations, two aspects which, according to more recent views, play a fundamental role in the explanation of semantic innovation. A final limitation lies in the methodological requirement that lexical oppositions should only be sought within homogeneous systems, whereas semantic change is often due to the heterogeneity of linguistic traditions within one linguistic community. As a consequence of these limitations, structural semantics has not contributed much to recent developments in historical semantics. It is, however, interesting to see that the structuralist heritage has been absorbed by most later approaches, e.g. the principle that one should take into account the network of semantic relations between lexical units, both paradigmatic and syntagmatic (cf. Lehrer 1985, Heringer 1999).

#### 4. Cognitive semantics

The rise of cognitive semantics in the 1980s was partly driven by a dissatisfaction with structuralist and “formalist” theories of meaning and language in general (e.g. structural semantics, truth-functional semantics, Chomskyan linguistics). Many of the basic ideas of the various strands of cognitive semantics were developed and presented rhetorically, sometimes polemically, in opposition to these approaches (cf. Lakoff 1987, Taylor 1999). The following points summarize some of the basic tenets of cognitive semantics, of which most are in direct contradiction to fundamental assumptions of structural semantics as mentioned in the preceding section:

- (i) Meanings are mental entities (e.g. concepts, conceptualizations or categories).
- (ii) Aspects of meaning are to be described with reference to cognitive processing.



- (iii) Concepts/categories exhibit an internal structure (clusters of subconcepts structured by different types of links, prototype structures, family resemblance structures etc.)
- (iv) Categories are often blurred at the edges.
- (v) Many categories can not be defined by necessary and sufficient conditions.
- (vi) Linguistic meaning is essentially encyclopaedic. There may be central and peripheral aspects of lexical knowledge, but there is no dividing line between encyclopaedic and lexical knowledge.
- (vii) Metaphorical and metonymical models play a fundamental role for meaning.
- (viii) Cognitive Grammar does not draw a distinction in principle between “sentence meaning” and “utterance meaning” (cf. Taylor 1999: 20).

Whereas structural semantics and its successors did not have much to say about phenomena like metaphor and polysemy, it was exactly these topics that played a central role in the development of cognitive semantics and which triggered the popularity of cognitive linguistics in the 1980s and beyond (cf. Lakoff/Johnson 1980, Brugmann/Lakoff 1988, Taylor 2002). And it is also these topics which made historical semantics interesting for cognitive semantics and vice versa. Of course, the differences between broadly structuralist views and cognitive semantics are linked to fundamental differences in the goals pursued by these directions of research, especially the cognitive linguists’ goal of using the study of linguistic meaning as a window on cognitive processes of conceptualization.

In certain respects, the cognitive view of semantics harks back to traditional semasiology, e.g. in its close relation to psychology, in its concept of meaning, its rejection of a clear distinction between sentence meaning (or word meaning) and utterance meaning, its pronounced interest in topics like polysemy and metaphor, and in its interest in semantic regularity and the “laws of thought”. This connection has been acknowledged by several scholars (e.g. Lakoff 1987: 18, Geeraerts 1988:1997), but, as Geeraerts hastened to add, cognitive semantics is not to be seen as a simple re-enactment of the approach of the older school (Geeraerts 1997: 27). What puts present-day cognitive semantics in a different position seems to be not only the fact that there have been considerable advances in linguistic theory and semantic theory in particular, but also the availability of more sophisticated theories of categorization and conceptualization like the theory of prototypes and family resemblances developed by Rosch and others (e.g. Rosch/Mervis 1975), advanced psychological theories of metaphor (cf. Gibbs 1994), the theory of conceptual blending (Fauconnier/Turner 2002), and the conception of figure-ground organization from Gestalt psychology. Still, on account of the similarity in theoretical outlook it is not surprising that some of the objections to traditional “ideational” views (cf. section 2) have been raised also in relation to cognitive semantics. These objections include the problem of subjectivism (cf. Sinha 1999), the speculative character of the assumed conceptual structures and processes (cf. Taylor 2002: 64f.) and, even more fundamentally, the question of circularity of (some) cognitivist explanations in (historical) semantics, which was raised by Lyons and others (e.g. Lyons 1977: 113; 1991: 13) and has recently been brought up again by Keller (1998: 72). These objections are mostly not considered worth discussing at all by the practitioners of cognitive semantics or tend to be waved aside (e.g. Langacker 1988: 90), but there are exceptions, for instance John R. Taylor, who devotes a chapter of his book on cognitive grammar to these questions (cf. Taylor 2002: Ch. 4, cf. also Taylor 1999: 38). No doubt, these foundational questions should be given further reflection. There are also observations from historical semantics which could shed doubt on the advisability of the direct identification of meaning with concepts. In many cases of meaning change it is doubtful that one should describe the relevant developments as changes of concept. A case in point is the well-known development of the German words for *head*, *Kopf* and *Haupt*. (Similar developments in the Romance languages are documented in Blank 1998.) In medieval German we have the word *kopf* ‘drinking vessel, cup’, which is etymologically related to Vulgar Latin *cuppa*, the source of English *cup*. In the 12<sup>th</sup> century soldiers started to use the word *kopf* as a sarcastic

metaphor to refer to the heads of enemies. In the course of the 15<sup>th</sup> century *kopf* became widely used and the use loses its sarcastic note. During this period the use of *kopf* competes with the traditional Germanic word *haupt* 'head', and the use of *kopf* for referring to drinking vessels becomes obsolete. From the 16<sup>th</sup> century onward, *kopf* is the everyday word for referring to the head, whereas *haupt* continues to be used only in formal language. This kind of semantic history is quite straightforward. If, however, we talk about these changes of use in terms of changes of concepts, we get quite counterintuitive results. One would have to say: From the 12<sup>th</sup> century onward the concept of cup was extended to cover heads as well, and later on this concept lost the aspect of drinking vessel. This is obviously not what happened. As far as we know there were no fundamental changes either in the concept of cup or in the concept of head from the 12<sup>th</sup> to the 16<sup>th</sup> century. Therefore, changes of meaning should not generally be equated with changes of concepts or categories.

As for its contribution to historical semantics, it is particularly through research on metaphor, metonymy and polysemy in general that cognitive semantics has inspired historical work both theoretically and in its methodological outlook. Concerning relevant work in the field to date, we can discern two kinds of contributions. There is on the one hand programmatic work using synchronic data or well-known historical data for the purpose of demonstrating the feasibility and fruitfulness of a cognitive approach to problems of historical semantics (e.g. Sweetser 1990, Langacker 1999) and on the other hand genuinely data-driven empirical work, for instance by Geeraerts (e.g. Geeraerts 1997) or the Romance scholars Blank and Koch, both from an onomasiological and a semasiological perspective.

As an example of empirical work with both theoretical and methodical interest for historical research on polysemy I should like to mention Geeraerts' analysis of the historical development of clusters of uses within the framework of a diachronic prototype semantics. In his case study of the development of the Dutch verb *vergrijpen* from the 16<sup>th</sup> to the 19<sup>th</sup> century (Geeraerts 1983, 1997: 47-62) he shows how peripheral nuances of meaning arise around central, prototypical meanings ('to make a mistake', 'to do something wrong') and form new clusters with „subprototypical“ centres. In some cases, new meanings seem to arise through the joint influence of several existing ones (Geeraerts 1997: 60). Sometimes a certain use of a word seems to crop up now and then, with long intervals, but it does not become an established use. Such “transient meanings” also show aspects of the semantic potential of an expression which may not be continuously exploited by the speakers. This interesting feature of the semantic history of words has been generally neglected in the literature. Especially structuralist semanticists did not have anything to say about this phenomenon. The picture that emerges is not one of individual major changes but of a continuing process of small innovations, of rearrangement and reinterpretation of internal relations in the polysemous meaning structure of the word. The analysis highlights a very frequent type of “soft” development which contrasts with abrupt changes consisting in the introduction of one well-defined new (metaphorical or metonymical) use.

In addition to his empirical analyses, Geeraerts also focuses on theoretical matters of the explanation of change of meaning. He insists that one should not confuse mechanisms and causes of semantic change. The patterns of use he calls mechanisms (e.g. metaphor, metonymy, euphemisms etc.) „indicate the possible paths of change“ (p. 103), whereas a cause „indicates why one of these possibilities is realized“ by an individual speaker (p. 103). He further emphasizes that functional aspects should play a major role in the explanation of semantic changes. In his view, principles like the principle of expressivity or the principle of efficiency are causes in this sense or, more strictly speaking, „functional motivations“ (p. 120). As for these principles, expressivity concerns the communicative needs of the speakers, an aspect of meaning change that has always been emphasized in functional approaches (cf. section 7), whereas principles of efficiency include, amongst others, prototypicality as “a cognitive efficiency principle”. So, the upshot seems to be that, strictly speaking, there are no causes at all

at this level of analysis. There is no doubt that principles play an important role in the speakers' practice of finding new uses and accepting them. But they do not *cause* linguistic action, they *guide* linguistic action. At the level of the individual's activities there are no causes of semantic innovation.

Somewhat outside the mainstream of cognitive semantics we find a group of Romance scholars (Blank, Koch, and their collaborators) who have contributed extensively to historical semantics from a basically cognitivist viewpoint. Starting with the discussion of the theory of prototypes (Koch 1996) and going on to studies of metonymy (Blank 1997, 1999b, Koch 1999, 2001) and cognitive onomasiology (Blank 2003, Koch 2000; cf. also Grondelaers/Geeraerts 2003), these researchers have combined theoretical analysis with fruitful empirical research. A "summa" of this research programme is the comprehensive book on the principles of lexical meaning change by the late Andreas Blank (Blank 1997), in which he discusses basic questions of meaning change, drawing on a wealth of data from the Romance languages. He critically reviews the results of traditional and structuralist historical semantics as presented in the works of Ullmann, especially Ullmann (1964), and develops a non-mainstream cognitive-semantic framework. What links him to the cognitivist movement is his view that meanings have Gestalt properties and that forms of meaning change are essentially based on conceptual associations of various types (Blank 1997: 137ff.). However, he criticizes the identification of meaning and concept and suggests a semiological model which reintroduces the differentiation of encyclopedic knowledge ("Weltwissen") and language-specific semantic knowledge ("sememisches Wissen") including knowledge of the polysemous meaning structure of words (p. 102). Central to this framework is his presentation of types of meaning change in terms of techniques (or devices) of semantic innovation. He aims to show that what was often subsumed under "causes of semantic change" has to be differentiated into techniques of innovation on the one hand (e.g. linguistic devices like metaphor and metonymy), including their cognitive prerequisites, and motives for innovation and for the uptake and lexicalization of innovations on the other (cf. also Blank 1999a). Such motives include the speakers' practice of observing communicative principles, a view which he shares with pragmatic theories of meaning change. On the cognitive plain, he characterizes metaphor and metonymy by the speakers' use of similarity associations and contiguity associations respectively, explicating the traditional contiguity relation in terms of concepts, frames and scenarios (cf. also Blank 1999b, Peirsman/Geeraerts 2006).

In various case studies Blank shows the interaction of culture-specific knowledge and general cognitive principles as resources for semantic innovation. A case in point is his analysis of the development of the French word *bureau* from 'coarse brown wool fabric used to cover tables in counting houses' to 'office' in a chain of metonymical and metaphorical links (Blank 1997, 248; for metonymic chains cf. also Nerlich/Clarke 2001). It is, among other points, Blank's insistence on the importance of socio-cultural knowledge within historical traditions of discourse which shows a shift of emphasis in his view of semantic change as compared to the mainstream cognitivist focus on universal cognitive principles. This provides a fruitful tension between the historical and the universalist perspectives and "avoids prematurely treating the findings at the historical level as universal, especially making the characteristics of certain individual languages into the standard of an analysis of linguistic universals" (Koch 2003: 45).

## 5. Theories of grammaticalization

The term *grammaticalization* is generally used to refer to a type of historical change by which lexical items come to serve grammatical functions. In this process, the lexical items are said to become "semantically bleached" and they undergo syntactic restrictions and "phonetic erosion". A classic example is the development of the Old English main verb *willan* 'to want',

which becomes an auxiliary verb used to refer to the future, like in *she'll come*. A similar type of development is the change from post-classical Latin *facere habeo* 'I have to do', 'I will do' to French (*je*) *ferai*, where the original Latin verb *habere* with the meaning 'to have' is grammaticalized into the future tense suffix *-ai*. This type of development was well known to 19<sup>th</sup> century linguists, who already used metaphors like *fading* or *bleaching* (German *Verblasen*) to describe the result of relevant semantic developments. In a much-quoted article, published in 1912, the French linguist Antoine Meillet introduced the term *grammaticalisation* to refer to this type of development and emphasized the "weakening" of both meaning and phonetic form ("l'affaiblissement du sens et l'affaiblissement de la forme"; Meillet 1912/1965: 139) as characteristic of this process. He also put forward the view that innovations like the post-classical Latin *facere habeo* (as opposed to classical *faciam*) had a particular expressive value at the time when they were first used, but lost this value in the course of the further process of grammaticalization. From the 1980s onwards there has been a "veritable flood of ... scholarship on grammaticalization" (Campbell/Janda 2001), including detailed analyses of individual phenomena like the ones mentioned before (e.g. Aijmer 1985) and comprehensive overviews of cross-linguistic research (Bybee/Perkins/Pagliuca 1994, Heine/Kuteva 2002) as well as introductory texts (e.g. Hopper/Traugott 2003).

From the point of view of historical semantics, the interest of grammaticalization research lies mainly in its contribution to the description of paths of semantic change from a given "source", e.g. a lexical unit denoting movement (*to go*), to a "target" expression which is used to signal future events (*to be going to*), some of which seem to have a remarkable breadth of cross-linguistic distribution. It is the richness of data from both genetically related and unrelated languages that makes grammaticalization research such a useful heuristic instrument for questions of regularity in semantic change. On the strength of these cross-linguistic data some quite strong claims have been made concerning the regularity of relevant types of semantic change, including the assumption that there exist quasi-universal "cognitive and communicative patterns underlying the use of language" (Bybee/Perkins/Pagliuca 1994: 15) and "the hypothesis that semantic development is predictable" (Bybee/Perkins/Pagliuca 1994: 18). Other researchers have been somewhat more guarded in their claims, restricting themselves to the assertion that there are interesting cross-linguistic similarities in the recruitment of certain lexical sources for given grammatical targets. A further hypothesis, which has received a great deal of attention in the last few years, is the hypothesis of unidirectionality, i.e. the non-reversibility of the direction of change from less to more grammaticalized (cf. Campbell 2001: 124ff., Hopper/Traugott 2003: Ch. 5).

As for their background of semantic theory, scholars working on grammaticalization are frequently not very explicit as to the kind of semantic theory they embrace. From the fact that some authors at times use the expressions "meaning" and "concept" more or less interchangeably one might infer that they are of a basically cognitivist persuasion (e.g. Heine/Kuteva 2002), whereas others rely on pragmatic (Gricean or Neo-Gricean) concepts (e.g. Traugott/König 1991). Concerning its descriptive methodology, research on grammaticalization, especially in the case of cross-linguistic surveys, often tends to settle for relatively coarse-grained semantic descriptions, which usually serve the purposes of this work quite well, but which can sometimes also give a wrong picture of the actual types of semantic micro-development. This preference for a semantic macro-perspective is not really surprising, as the focus of much of this work is the origin and development of *grammatical* forms.

From a theoretical point of view, some of the semantic concepts used in grammaticalization research are both interesting and, in some respects, problematic. This is true, for instance, of the term *bleaching* mentioned above, which comes in handy as a metaphorical cover-all for various types of semantic development. One such type of change is the loss of expressive meaning of metaphors in the course of routinization. Another type, which is often mentioned in grammaticalization research, is explained as "loss of concrete and literal meanings" and the

acquisition “of more abstract and general meanings” (cf. Bybee/Perkins/Pagliuca 1994: 5, Brinton/Traugott 2005: 100). This explanation presupposes that we know what an “abstract and general meaning” is, but a clarification of this concept, which again goes back at least to Meillet, is generally not attempted. As for the use of the *bleaching* metaphor, it seems that in many cases this may be quite harmless, but if used as a stand-in for more precise semantic descriptions, it might give an inaccurate view of the developments in question. For instance, calling the development of an additional epistemic use of the modal *may* (as in *He may have known*, as opposed to *You may go now*) a case of bleaching is downright misleading, as the epistemic use is in no way more “abstract” or the like and the non-epistemical sense normally remains being used alongside the epistemic one. The use of the term *bleaching* can be particularly problematic in those cases where the diagnosis of *bleaching* is based on a direct comparison of the source and the target use of an expression, leaving out several intermediate steps of development. As some authors have noticed, there is a tendency in grammaticalization research to reduce continuous, chainlike processes to two uses of forms, viz., source and target uses (cf. Heine/Kuteva 2002: 6), without paying attention to the complex development of systems of related uses of the expressions in question. In such cases the diagnosis of bleaching turns out to be an artefact of the descriptive methodology. These observations lead to the conclusion that the description of source-target-relations should be generally supplemented with detailed studies of the individual steps of semantic change in terms of the changing structure of clusters of uses. The importance of this methodological precept has also been acknowledged by scholars from the grammaticalization movement (Heine 2003: 83).

A closely connected conceptual question concerns the relation of “lexical meaning” to “grammatical meaning”. Traditionally, the background for the classification of the meaning of an expression as a case of grammatical meaning is often the following: If what can be expressed by a certain expression (e.g. declaring one’s future intentions by using a sentence with a modal verb) can also be expressed by a grammatical morpheme in the same or another language (e.g. by a future tense morpheme in Latin), then this expression has (a) grammatical meaning. This is somewhat doubtful reasoning, as one could easily turn the argument around and say that if a certain meaning can be expressed by non-grammatical means, then this is a case of non-grammatical meaning, which could be said for the expression of wishes or the expression of admonitions, which in Latin can be expressed by lexical means as well as by the use of the subjunctive mood (“*coniunctivus optativus*” and “*coniunctivus adhortativus*”). So, from the fact that Latin uses the subjunctive to express wishes it does not follow that ‘expressing wishes’ is a case of grammatical meaning. So there is a certain vagueness to the concept of grammatical meaning, which is sometimes acknowledged by the assertion that there is “no clear distinction between lexical and grammatical meaning” (cf. Taylor/Cuyckens/Dirven 2003: 1) or that there is a gradient from lexical to grammatical meaning.

A final point worth mentioning is the question of how the individual steps of a grammaticalization chain should be described and explained. Some researchers, mainly from the cognitivist camp, assumed that these individual steps were generally cases of metaphorical transfer, e.g. from the spatial to the temporal domain (from *going to* as a motion verb to *going to* as a future tense marker) or from the social to the cognitive domain in the case of the development of epistemic uses of modals from non-epistemic uses (e.g. the *may* of permission to the *may* of possibility, cf. Sweetser 1990: 58ff.). However, recent more data-oriented research has shown that in many cases there is no evidence in the data of metaphorical transfer at all, but rather of the use of contextual and general knowledge for small metonymic steps (cf. Brinton/Traugott 2005: 28, Fritz 1991, 1997b, Traugott/Dasher 2002). Generally speaking, the upshot of these observations on meaning change in grammaticalization is that there is no special type of semantic change characteristic of grammaticalization, but rather that it is generally well-known types of semantic change which contribute to the stepwise development typical of grammaticalization processes: “Grammaticalization is only one subclass of change

based on expressivity” (Detges/Waltereit 2002: 190). To sum up, the contribution of the grammaticalization research programme in its various forms to the study of meaning change consists mainly in the fact that it initiated substantial cross-linguistic research into possible paths of semantic change and the issue of unidirectionality, which has considerable heuristic value for historical semantics.

## 6. Meaning as use and pragmatic semantics

The family of theoretical approaches dealt with in this section goes back mainly to works by Wittgenstein and some of his followers on the one hand (e.g. Strawson 1964, Alston 1964, Heringer 1978) and to Grice and his followers on the other. As is well known, Grice was very doubtful as to the usefulness of the precept that one should be careful to identify meaning and use (Grice 1989: 4), so it seems that there is at least a certain reading of Wittgenstein (and Grice), where the Wittgensteinian and the Gricean views on meaning are not easily reconciled. This has to do with their divergent views on the foundational role of rules and established practices on the one side and intentions on the other, which lead to differing perspectives on the analysis of the relation between *Bedeutung* (*Gebrauch*) and *Meinen* in Wittgenstein’s picture of meaning and *sentence-meaning* (or *word-meaning*) and *utterer’s meaning* in Grice’s theory. It is not possible to review here the relevant discussion (e.g. Black 1975, cf. Gloning 1996: 110ff.). Suffice it to say that it seems possible to bridge the differences of these views by emphasizing the instrumental aspect of Wittgenstein’s view of language and taking into account the fact that Grice in his analysis of “timeless meaning” also accepted not only “established meaning”, but also “conventional meaning” with its element of normativity (“correct and incorrect use”, Grice 1989: 124ff.). Such an integration of views (cf. Meggle 1987, Keller 1998) provides a useful starting point for an empirical theory of meaning and meaning change. For this kind of theory it comes quite naturally to see the historical character of meaning as an essential aspect of meaning and to view uses of linguistic expressions as emerging solutions to communicative and cognitive tasks (cf. Strecker 1987). It is furthermore part of the Gricean heritage to assume that what is meant is often underspecified by what is said.

It is remarkable that both Wittgenstein and Grice at least hinted at the fact that there is an historical dimension to the use of language, Wittgenstein in § 23 of his “Philosophical Investigations”, where he emphasized that new types of language games continually arise and old ones disappear (cf. also “On certainty, § 65), and Grice in a passage in “Logic and conversation”, where he mentioned that “it may not be impossible for what starts life, so to speak, as a conversational implicature to become conventionalized” (Grice 1989: 39). It is of course true, however, that neither Wittgenstein nor Grice developed a theory of meaning change or of polysemy which could be simply applied to empirical work. This has to do with the context in which their theoretical views were developed. Wittgenstein’s insistence on the importance of scrutinizing the multiple uses of words, for example, is not due to a special interest in polysemy as a linguistic phenomenon, but rather as a therapeutical move in conceptual analysis. Therefore, in order to implement the relevant ideas of these philosophers in an empirical theory of meaning change and the methodology of historical semantics one has to spell out in detail many aspects of meaning and meaning change which are only hinted at by these authors.

Such details of theory and methodology include: (i) an explication of the concept of “use” (cf. Heringer 1978, Heringer 1999: 10ff.), including the analysis of types and aspects of contexts of use (cf. Fritz 2005: 17ff.) and an explication of the relationship between “uses” and collocations of expressions (cf. Heringer 1999: 32ff.), (ii) methods for the description of the structures of polysemies (cf. Fritz 1995), (iii) the classification of types of semantic innovations, their functions and resources (cf. Fritz 2006: 36ff., Keller/Kirschbaum 2003: Ch. 4), includ-

ing the minimal changes in collocations which have generally been neglected by historical semanticists, (iv) corpus-based methods for the description of semantic innovation and meaning change (cf. Fritz 1991, 1997b, Heringer 1999).

The instrumental view of meaning provides powerful instruments, guiding principles and assumptions for historical semantics. Such instruments comprise (i) Grice's theory of implicatures as an instrument for analysing meaning innovation, including the role of "conversational maxims" and the structure of reasonings as hermeneutical devices, (that inferences play an important role in meaning change) (ii) the concept of "mutual knowledge" (as a methodological fiction) developed as an extension of Gricean ideas (Schiffer 1972), which is related to such linguistic concepts as "common ground", (iii) Lewis's theory of convention (Lewis 1969), which shows the reasoning involved in a process of conventionalization, a useful instrument for the analysis of the dynamics of conventionalization, (iv) the contextual view of meaning rules embodied in the concept of language games, (v) the assumption that language games and meaning rules are embedded in historical forms of life, (vi) the assumption that in many cases the uses of a word have a family resemblance structure (cf. PI § 66f.), the assumption that among the uses of certain expressions there are more central and more peripheral cases (cf. Wittgenstein 1970: 190), the assumption that the meaning of natural-language expressions is (usually) open-textured (cf. PI §§ 68-71, 84, 99), the assumption that there is no division in principle between knowledge of meaning and knowledge of fact (PI §§ 79, 242, "On certainty" § 63).

Whereas cognitive theories of meaning change tend to concentrate on the processes of conceptualisation which make an individual's innovation cognitively plausible, a functional and dialogical view also takes into account the fact that innovations are often sparked off und facilitated by the dynamics of local communicative context, that speakers aim at "recipient design" in their (innovative) talk and "work" to ensure uptake, that it is socially and culturally distributed knowledge which, in many cases, is both a condition and a consequence of semantic innovation, and that the reasons for which an innovation is attractive in the first place (e.g. functional benefits like expressive value or cognitive value) also facilitate its acceptance by other speakers and thereby advance its diffusion. Generally speaking, a basically functional and dialogic approach to meaning innovation and meaning change favours an integrative perspective on the resources and the functions of semantic innovations and it also helps to focus on problems which are neglected by other approaches, e.g. the processes of routinization and conventionalization and the paths of diffusion of new uses (cf. Fritz 2005: 49ff.). It also shows an affinity to an explanation of meaning change in terms of an invisible hand theory (cf. Keller 1990), in which action-theoretical concepts like intentions and maxims of action loom large.

Examples of the kinds of problems discussed in these frameworks and of the empirical work available include: the historical development of systems of metaphorical and metonymical links (Fritz 1995 on the history of the extreme polysemy of German *scharf*), the complex developments in the semantics of modal verbs (Traugott 1989, Traugott/Dasher 2002, Fritz 1991, 1997a, b, Gloning 1997), developments in the history of speech act verbs (Traugott/Dasher 2002, Hundsnurscher 2003, Fritz 2005: Ch. 16), the development of evaluative uses of adjectives (Keller/Kirschbaum 2003), the development of various types of uses of conjunctions (causal, conditional, concessive) (Traugott/König 1991), the development of discourse markers and modal particles (e.g. Jucker 1997, Günthner 2003, Hansen 2005, Fritz 2005: Ch. 18), the functional explanation of grammaticalization in terms of unintentional results of expressive discourse techniques (Detges/Waltereit 2002), the description and analysis of invisible-hand processes in the conventionalisation and diffusion of lexical items (Keller/Kirschbaum 2003: Ch. 4), the functional explanation of developments in the structure of vocabulary (Gloning 2003).

A classical example of the Gricean approach to the analysis of an innovation is the description of the evolution of causal connectives from earlier purely temporal connectives (e.g. English *since*, German *weil*) given by various authors (e.g. Traugott/König 1991). This type of development was well known to pre-structuralist linguists and also described in ways broadly similar to modern Griceans (e.g. Paul 1895: 72 on German *weil*). However, the modern analysis achieves a higher degree of explicitness concerning the aspects of communication involved. A connective like *since* (Old English *sippan*) originally meant ‘after’, however in certain contexts it seems to have been used to contextually suggest (in addition) a causal relation. Making use of the shared assumption that an event following another might be caused by the prior event and applying principles of relevance and informativity, the speaker could implicate or invite the inference that there was a causal relation between the two events. This could be described as a case of “pragmatic strengthening” (cf. König/Traugott 1988, Traugott 1989). When such a conversational implicature became conventionalized, a new variant of use arose, leading to polysemy, as in the case of Modern English *since* (temporal and causal uses). The theory of “invited inference” and “pragmatic strengthening” has also been applied to other types of expressions, e.g. speech act verbs (Traugott/Dasher 2002) and the development of epistemic uses of modal verbs (Traugott 1989, Traugott/Dasher 2002: Ch. 3). As Traugott and Dasher noted, the Gricean analysis covers many cases of what was traditionally subsumed under metonymy, which is not surprising, as metonymy uses shared knowledge concerning inferential (“associative”) connections within a given domain. It is also worth noting that the Gricean viewpoint in some cases suggests a non-metaphorical inferential analysis where earlier cognitivist work preferred an explanation in terms of metaphorical extension (cf. Sweetser 1990: Ch. 3). This is the case for a much-discussed topic, viz. the rise of epistemic meaning in modals, where detailed corpus analysis seems to speak against an analysis in terms of metaphor (cf. Traugott 1989 for modals in English, Fritz 1991, 1997a: 94ff. for modals in German).

Comparing the approaches presented in this section with the cognitivist approaches mentioned in the last section, one finds deep-going theoretical divergences and also differences in perspective, but also remarkable convergences. A fairly fundamental theoretical difference consist in the fact that cognitivists embrace a representationalist view of meaning (words stand for concepts), whereas functionalists tend to favour an instrumentalist view. Related to this we find another divergence: at least from a purist Wittgensteinian position, the definition of meaning as conceptualization would seem to be an elementary category mistake. As for differences in perspective, the basic difference seems to be: Whereas cognitivists will use the analysis of semantic innovation mainly as a window on cognitive processes, a functionalists will be primarily interested in the linguistic (pragmatic, rhetorical) practices of meaning innovation and their function in the strategic negotiation of speaker-hearer interaction. They will therefore view types of knowledge, connections between knowledge frames etc. as resources used for meaning innovation, usually showing a somewhat agnostic attitude towards the various types of “backstage cognition” (Fauconnier 1999: 96) assumed in cognitive approaches. On the other hand, cognitivists and functionalists join hands in assuming polysemy as a fundamental fact of linguistic practice and cognitive processes, family-resemblance and prototype structures of polysemous meaning, the central role of metaphor and metonymy in meaning innovation, and the indiscernibility of semantic and encyclopedic knowledge. As for the tendencies of convergence, which have been growing in the last few years, I shall add a few remarks in the concluding section of this article.

I should like to conclude this section by drawing attention to a problem which has, to my knowledge, so far not been seriously tackled by historical semanticists, but which is certainly also a problem for historical semantics and not just for philosophers and historians of science. This is the much-debated question of the relationship between theory change, change of meaning, and change of concepts. One of the central problems discussed in this debate, the



problem of “incommensurability of theories”, is basically a problem of meaning. In a recent work on this topic, Kuukkanen states that “incommensurability may be taken as the practical difficulty of achieving translation and reaching comprehension in a situation where the same expressions imply radically different assumptions” (Kuukkanen 2006: 10). As Dascal has shown in various writings, there is at the moment an impasse in the philosophy and history of science (cf. Dascal 2000), which has to do with a lack of attention to the actual communicative processes (often) involved in the growth of scientific knowledge. At least partly, the questions if and how communication between opposing parties in a foundational controversy is possible and if in the course of such debates there is a change of meaning of relevant expressions are empirical questions that cannot be answered in the philosopher’s armchair, but only by empirical studies, to which historical semantics could certainly contribute. In the case of the famous Phlogiston controversy one could, for instance, show how critical expressions like *air* (*Luft*) or *combustion* (*Verbrennung*) are used by the opposing parties and in which way they are connected to the use of other expressions like *phlogiston* or *oxygen* and to descriptions of the experimental praxis involved in the development of this theoretical field. A case in point is the debate between the German chemist Gren and his opponents in the “*Journal der Physik*”, which ended by Gren’s conversion to (a version of) Lavoisier’s theory of oxidation. To my mind, the type of semantic theory that would be most adequate to this analytical task is a version of pragmatic semantics.

## 7. Formal semantics and pragmatics

Trying to write the present section some twenty years ago, one would have probably come to the conclusion that there was nothing to write about. Formal semantics was concerned with rules of inference, matters of compositionality and the proper treatment of quantifiers and logical connectives, but rarely with lexical semantics and certainly not with matters relating to the change of meaning. Now this is in fact not quite true. As far back as Frege’s writings from the 1890s onwards we find an awareness that ordinary language is flexible in a way that influences the reliability of formal reasoning or at least implies aspects that might be relevant to logical consequence. Frege noticed that there are individual differences in the use of expressions (e.g. proper names with a different sense (“*Sinn*”) for different Persons, Frege 1892/1969: 42), that the denotation of certain expressions is determined by context, that we sometimes make certain presuppositions in using referring expressions, that natural language words are sometimes ambiguous, and that some natural language connectives (like *if – then*, *but* or *although*) have properties which their truth-functional counterparts do not have. In addition to their truth-functional properties the latter connectives serve to give extra hints (“*Winke*”) as to the kind of connection involved or to produce certain “lighting effects” (“*Beleuchtung*”) on a complex proposition, as Frege metaphorically put it (Frege 1923/1966: 84). As Frege also noted, the use of the conditional connective often suggests an additional causal connection, which is however not part of the truth-functional meaning of this connective. In Gricean terms it is a conversational implicature, but conversational implicatures may in time become conventional, as can be shown for many connectives in different languages. So what we find in Frege’s writings is a certain amount of attention to problems relating to semantic and pragmatic aspects of natural language, which are in turn related to questions of historical semantics, i.e. ambiguity, context-dependence, individual differences of use, and implicatures. But, of course, Frege mentioned these things mainly to get them out of the way of his project of producing a well-behaved language for scientific uses. Therefore, for him and for many later logicians and formal semanticists the standard solution to these problems was to suggest that one should “purify ordinary language in various ways” (Montague 1974: 84). Another strategy was to delegate these aspects of natural language use to an additional prag-

matic theory, where they could be dealt with, for instance, with the help of Grice's theory of implicatures.

In recent times, this picture of how formal semantics relates to matters of semantic variation and semantic change has obviously changed. Generally speaking, there has been a development towards the integration of dynamic, pragmatic and lexical aspects of meaning into formal semantic or formal pragmatic theories which are relevant to questions of meaning change. Although attempts to capture the dynamics of language change with formal theories have received sceptical comments in the past (cf. Eckardt 2006: 28), recent developments in formal semantics seem to give hope for a fruitful rapprochement. If the use of formal theories in historical semantics should in future contribute to an increase in explicitness, precision and systematicity of semantic analyses, this would certainly be a good thing. Of course, using a formal apparatus does not guarantee rigour in semantics, as Geach ably showed in his criticism of Carnap (Geach 1972).

There are various recent approaches which could be related to questions of meaning change or which have actually tackled such questions, of which I shall mention three. A first family of such approaches are dynamic theories which could be subsumed under the heading of *update semantics/pragmatics*. The common denominator of such approaches is the view that the utterance of a certain expression changes the context, i.e. the common beliefs of the interlocutors, in a specific way (cf. Stalnaker 1978: 2002), from which one can go on to assume that the meaning of an expression could be modelled in terms of its context change potential. In order to model this dynamic aspect of discourse and meaning one has to assume some kind of score-keeping procedure, e.g. "commitment store operations" as in Hamblin's Formal Dialectic (Hamblin 1970: 253, ff.) or Lewis's "rules specifying the kinematics of conversational score" (Lewis 1979: 346). This basic idea has been spelt out in different versions, e.g. in Kamp's discourse representation theory (cf. Kamp/Reyle 1993) and Heim's file change semantics (cf. Heim 1983). By using these and similar methods, it is possible to produce semantic models of information growth which can, among other things, deal with the phenomenon of an incremental updating of common ground.

This type of approach could be useful for research in historical semantics in several respects. It could, for instance, give us a clearer picture of the processes involved in the emergence of "common ground" in general (e.g. the concept of mutual knowledge specified in Lewis 1969: 56 or Schiffer 1972) and conventions in particular (cf. Lewis 1969). As new uses of words often emerge against the background of common assumptions, the building-up of common ground is an important aspect of semantic innovation. By using this kind of apparatus one could, for example, model a very frequent type of semantic change which consists in the emergence of new evaluative uses of expressions originally used descriptively. Take a noun like (*young*) *servant*, which serves to refer to persons of a certain social status: If in a given speaker community the assumption becomes common knowledge that such persons frequently show criminal tendencies, this expression can be used to accuse someone of being a criminal, which in time may become a conventional use of the word. This kind of development is frequently found in various languages (cf. Middle High German *buobe* and *schalk*, English *knave* and *varlet*, French *gars*). A similar process permits descriptive adjectives to be used in evaluative function, which is also a very frequent type of meaning change.

A second trend in recent formal semantics and pragmatics is the interest in "systematic polysemy", especially in the various uses of words based on metonymic relations, e.g. uses of expressions denoting institutions like *the university* to refer to the buildings housing this institution or to the members of this institution. Recent analyses of this kind of polysemy include Nunberg (1995), Pustejovsky (1995), Copestake/Briscoe (1996), Blutner (1998) and Peters/Kilgariff (2000). In historical semantics, awareness of this type of polysemy and its regular character goes back to its very beginnings in the 19<sup>th</sup> century, so historical semantics has much to offer in terms of historical data for this kind of phenomenon. On the other hand his-

torical semantics could profit from relevant theoretical work and from work on large present-day corpora. Recent work has shown that metonymic sense extension can be considered a productive – or at least semi-productive – process, which is, however, subject to certain restrictions. One can assume that certain groups of words have the same extension potential, which is however not always exhaustively used. It would be very useful to systematically survey the ways in which this extension potential was used in different historical periods and to analyze the factors blocking the productivity of this process, of which some may turn out to be language specific or culture specific.

A third approach, which has fortunately gone beyond the programmatic stage and has produced actual empirical work in the field of historical semantics, is the formal reconstruction of the process of semantic reanalysis (cf. Eckardt 2006). Meaning change under reanalysis is particularly frequent in instances of grammaticalization. Cases in point are the development of the English *going-to* future marker or the development of the German quantifier-like expression *lauter* in the sense of ‘only’ or ‘many’ from the earlier adjective *lauter* ‘pure’. Eckardt’s analyses proceed from the idea that meaning change under reanalysis is essentially a change of the contribution of the respective expressions to the compositional structure of typical sentences. In order to analyze these changes in compositional structure, Eckardt uses techniques of truth-functional semantics, “which is still the semantic paradigm that addresses semantic composition in the most explicit manner” (Eckardt 2006: 235), and combines them with methods of conceptual semantics and pragmatics. This is an ingenious approach which considerably stretches the boundaries of what would traditionally be considered truth-functional semantics. One of the hallmarks of this approach is a high degree of explicitness and precision, which proves extremely useful in the analysis of rather subtle and complicated processes of change. In addition to reaching very interesting empirical results, Eckardt succeeds in demonstrating “that the notions and formalisms in formal semantics can be fruitfully set to work in the investigation of diachronic developments” (Eckardt 2006: 234) and that “the investigation of language change can offer substantial input to synchronic semantic research” (Eckardt 2006: 188).

## 8. Conclusion

As we have seen, historical semantics is a research area where fundamental problems of semantics tend to surface and which can be seen as a testing ground for theories of meaning and for methodologies of semantic description. A case in point is structural semantics with all its strengths and weaknesses, which brought into focus meaning relations between different expressions in a lexical paradigm, but which had no answers to problems like the nature of metaphor, polysemy and evolutionary processes in general, and which therefore fell into dis-favour in the last twenty years. Historical semantics as a field of empirical research always flourished in times when it was a focus of theoretical debate. This is true of the 1890s, of the 1930s, and of the last 25 years. So, with cognitive semantics and pragmatic semantics competing and with formal semantics joining in the recent debate, signs are good for a dynamic development of this field of research.

It is obvious that the direction of interest and the emphasis on certain aspects of meaning change is largely determined by the concept of meaning which individual authors and schools of thought embrace. It is, however, striking to see that in many cases empirical work with corpus data forced researchers to transcend the limitations of scope of their respective theoretical frameworks and take into account aspects of meaning and meaning change which were not really covered by their semantic theory. This is true of most of the schools of historical semantics discussed in this article, and it seems to demonstrate the healthy effect of data-driven work, which potentially also motivates advances in theoretical reflection.

A good example of this effect is the attitude towards semantics and pragmatics as distinct areas of theory. Certain ways of making the demarcation would be completely unplausible for an empirical theory of meaning change from the start, e.g. viewing semantics in terms of truth-conditions and pragmatics as taking charge of the rest. But also the standard demarcation in terms of conventional and conversational aspects of meaning does not fare much better. As most of the dynamic aspects of meaning change, e.g. innovation, selection, and diffusion, are generally considered to fall into the field of pragmatics, historical semantics, as it is practiced today, would have to be seen as a proper subfield of historical pragmatics. The publication policy of a journal like “Historical Pragmatics” bears witness to this view. If, however, semantics is considered to be concerned only with established meanings to the exclusion of contextually determined utterance meaning, we get a somewhat restrictive view of historical semantics, according to which it should concentrate on contrasting the established meanings of certain expressions at time 1 with those at time 2. This is basically the structuralist picture, which leaves out just about everything that is interesting about change of meaning. In view of the fact that routinization and conventionalization are gradual processes one could argue that there is a gradual transition from pragmatic to semantic phenomena. This argument, apart from showing that there is, strictly speaking, no such thing as a semantics-pragmatics interface, would make historical semantics a subject which hovers uneasily between two theoretical fields. So what seems to be needed as a basis for an empirical theory of meaning change is a genuinely dynamic theory of meaning and understanding which encompasses both the rule-based and the inference-based aspects of meaning. From this it does of course not follow that there is no categorial difference between speaker meaning (Meinen) and word/sentence meaning (Bedeutung), as some cognitive semanticists seem to assume.

Looking to the future development of historical semantics there seem to be at least three areas where progress in theory and methodology could be achieved: (i) the detailed comparison of competing theories of meaning as to their contribution to a theory of meaning change, and the clarification of points of convergence of these theories, (ii) further clarification of basic concepts like “explanation of meaning change”, “uses of words”, “metonymy”, and descriptive categories like “bleaching”, “subjectification” etc., (iii) further development of descriptive methodology, especially corpus-methodology, for historical semantics. Of these points I should like to briefly take up the first and the last.

As mentioned in sections 6 and 7 there is a tendency within cognitive linguistics to extend its scope to a “cognitive-functional” view (cf. Tomasello 1998). Within historical semantics this tendency is apparent in publications by Blank and Koch as well as in recent work by Geeraerts and others (e.g. Nerlich/Clarke 2001, Traugott/Dasher 2002), where we find attempts at integration of cognitivist and pragmatic views. Geeraerts explicitly stated that “such a process of convergence – if it will take place at all – could find a focal point in a pragmatic, usage-based perspective to lexical semantics” (Geeraerts 2002: 38f.). This is not a trivial project, as there are still fundamental divergences in theoretical outlook between these approaches, e.g. the big divide between representationalist and instrumentalist (functionalist) theories of meaning and the complex corollaries of this divide concerning the status of conceptualization and linguistic meaning etc. It would be a remarkable development indeed, if the methodological needs of historical semantics should pave the way to bridging this theoretical divide. A similar thing could be said for the divide between cognitivist and realist theories of meaning, the latter of which are the prevailing view in formal semantics. In actual empirical work researchers often practice a certain degree of theoretical and methodological opportunism, which furthers fruitful empirical work while leaving basic theoretical questions untouched. Maybe this is a useful application of Austin’s principle of letting “sleeping dogmatists lie” (Austin 1970: 75). From a more theoretically-minded perspective, however, one would like to see these foundational questions clarified.

Concerning descriptive methodology, it is worth noting that semantic minimalism, which is the methodological preference of many scholars in theoretical semantics as a means for preserving unity of meaning, is as a rule not favoured by researchers doing empirical work in historical semantics. The precept that one should not multiply senses (beyond necessity), advocated both by structuralists (e.g. Bech 1951) and, more recently, by Griceans (cf. Grice 1989: 47-50), is basically a useful principle in that it forces researchers to differentiate between what a word means and what is conversationally implicated in a certain context. But it also fosters the tendency to explain as implicatures what must be seen as established uses of expressions. This tendency is counterproductive in historical semantics, as in many cases the interesting question is exactly how to differentiate between conversational innovations and well-established uses of an expression. In this situation, corpus data often give very good indications as to which uses (or senses) of an expression can be considered firmly established at a given point in time and which are transient or peripheral. Furthermore, from what research in historical semantics has found in the last few years, both within cognitive and pragmatic frameworks, semantic minimalism seems to give a fundamentally wrong picture of what is going on in change of meaning in many cases. Arguably, the most fruitful approach to the description of meaning change from the semasiological perspective consists in treating semantic evolution as the development through time of sets of uses and their respective internal structures (cf. Geeraerts 1997: 23ff., Fritz 2006: 14ff.).

As for corpus methods, corpus-based analysis has traditionally played an important role in historical semantics, because researchers cannot rely on their own linguistic competence in historical studies. Recent developments in corpus technology and corpus methods have strengthened this methodological preference and widened its scope of application. Modern corpus linguistics has, however, not only provided new methods of data generation and data interpretation, but has also inspired reflection on theoretical questions like the relationship between collocations of given expressions and their meaning (cf. Heringer 1999). Large corpora can also help to make visible phenomena which are not easily seen in smaller collections of texts, e.g. gradual changes in the contexts of use of given expressions within a diachronic corpus, which can be interpreted as reflexes of gradual changes of meaning. More sophisticated analyses of gradual change of meaning certainly belong to the desiderata for future empirical research. In semantics, the availability of large amounts of data does, however, not render unnecessary methodological procedures like the contextual interpretation of instances of the use of a word or the inference from distributional facts to semantic descriptions. This is true a fortiori of historical semantics. Such procedures are widely used, but are theoretically not well understood, so here we have another area where further studies are necessary. Generally speaking, the important recent developments in historical semantics have opened new vistas for empirical research, and in so doing have also shown the necessity for further clarification of basic theoretical and methodological issues.

## 9. References

- Aijmer, Karin 1985. The semantic development of “will”. In: J. Fisiak (ed.). *Historical semantics. Historical word-formation*. Berlin, New York: de Gruyter, 11–21.
- Alston, William P. 1964. *Philosophy of language*. Englewood Cliffs, N.J.: Prentice-Hall.
- Austin, John L. 1970. The meaning of a word. In: J.L. Austin, *Philosophical papers*. London, Oxford: Oxford University Press, 55–75.
- Bech, Gunnar 1951. Grundzüge der semantischen Entwicklungsgeschichte der hochdeutschen Modalverba. In: *Historisk-filologiske meddelelser* (Kongelige Danske Videnskabernes Selskab) 32.6: 1–28.
- Behaghel, Otto 1928. *Deutsche Syntax*. Vol. III. Heidelberg: Winter.
- Black, Max 1975. Meaning and intention. In: M. Black. *Caveats and critiques. Philosophical essays in language, logic, and art*. Ithaca, London: Cornell University Press, 109–138.

- Blank, Andreas 1996. Der Beitrag Eugenio Coserius zur Historischen Semantik: „Für eine strukturelle diachrone Semantik“ – 30 Jahre danach. In: E. Weigand, F. Hundsnerscher (eds.). *Lexical structures and language use*. Vol 2. Tübingen: Max Niemeyer, 341-354.
- Blank, Andreas 1997. *Prinzipien des lexikalischen Bedeutungswandels am Beispiel der romanischen Sprachen*. Tübingen: Niemeyer.
- Blank, Andreas 1998. Der ‚Kopf‘ in der Romania und anderswo. Ein metaphorisches (und metonymisches) Attraktionszentrum. In: A. Gil, C. Schmitt (eds.). *Kognitive und kommunikative Dimensionen der Metaphorik in den romanischen Sprachen*. Bonn: Romanistischer Verlag, 11-32.
- Blank, Andreas 1999a. Why do new meanings occur? A cognitive typology of the motivations for lexical semantics. In: A. Blank, P. Koch (eds.). *Historical semantics and cognition*. Berlin, New York: Mouton de Gruyter, 61-89.
- Blank, Andreas 1999b. Co-presence and succession: A cognitive typology of metonymy. In: K. U. Panther, G. Radden (eds.). *Metonymy in Language and Thought*. Amsterdam: Benjamins, 169-191.
- Blank, Andreas 2003. Words and concepts in time: Towards diachronic cognitive lexicology. In: R. Eckardt, K. von Heusinger, C. Schwarze (eds.). *Words in time. Diachronic semantics from different points of view*. Berlin, New York: Mouton de Gruyter, 37-65.
- Blank, Andreas & Koch, Peter 1999. Introduction: historical semantics and cognition. In: A. Blank, P. Koch (eds.). *Historical semantics and cognition*. Berlin, New York: Mouton de Gruyter, 1-14.
- Blutner, Reinhard 1998. Lexical Pragmatics. *Journal of Semantics* 15: 115-162.
- Bréal, Michel 1897/1924. *Essai de sémantique. Science des significations*. Paris. 7th ed. Paris: Hachette 1924.
- Brinton, Laurel J. & Traugott, Elizabeth 2005. *Lexicalization and language change*. Cambridge: Cambridge University Press.
- Brugman, Claudia & Lakoff, George 1988. Cognitive topology and lexical networks. In: S. L. Small et al. (eds.). *Lexical ambiguity resolution: Perspectives from Psycholinguistics, Neuropsychology, and Artificial Intelligence*. San Mateo, CA: Morgan Kaufmann, 477-508.
- Busse, Dietrich 2005. Etymologie und Wortgeschichte II: Semantischer Wandel in traditioneller Sicht. In: D. A. von Cruse, F. Hundsnerscher, M. Job, P. R. Lutzeier (eds.). *Lexikologie. Ein internationales Handbuch zur Natur und Struktur von Wörtern und Wortschätzen*. 2. Halbband. Berlin, New York: de Gruyter, 1306-1324.
- Bybee, Joan & Perkins, Revere & Pagliuca, William 1994. *The evolution of grammar. Tense, aspect, and modality in the languages of the world*. Chicago, London: The University of Chicago Press.
- Campbell, Lyle 2001. What’s wrong with grammaticalization. *Language Sciences* 23: 113-161.
- Campbell, Lyle & Janda, Richard 2001. Introduction: conceptions of grammaticalization and their problems. *Language Sciences* 23: 93-112.
- Copestake, Ann & Briscoe, Ted 1996. Semi-productive polysemy and sense extension. In: J. Pustejowsky, B. Boguraev (eds.). *Lexical semantics. The problem of polysemy*. Oxford: Clarendon Press, 15-68.
- Coseriu, Eugeniu 1964. Pour une sémantique diachronique structurale. *Travaux de linguistique et de littérature* II.1: 139-186.
- Coseriu, Eugeniu 1974. *Synchronie, Diachronie und Geschichte. Das Problem des Sprachwandels*. München: Fink.
- Darmesteter, Arsène 1887. *La vie des mots étudiée dans leurs significations*. Paris: Delagrave.
- de Saussure, Ferdinand 1916/1968. *Cours de linguistique générale*. Paris: Payot. Edition critique par Rudolf Engler. Tome 1. Wiesbaden 1968.
- Dascal, Marcelo 2000. Controversies and epistemology. In: Tian Yu Cao (ed.). *Philosophy of science. Proceedings of the 20<sup>th</sup> World Congress of Philosophy*. Philadelphia: Philosophers Index Inc., 159-192.
- Detges, Ulrich & Waltereit, Richard 2002. Grammaticalization vs. reanalysis: a semantic-pragmatic account of functional change in grammar. *Zeitschrift für Sprachwissenschaft* 21: 151-195.
- Diewald, Gabriele 1999. *Modalverben im Deutschen. Grammatikalisierung und Polyfunktionalität*. Tübingen: Niemeyer.
- Diewald, Gabriele 2002. A model for relevant types of contexts in grammaticalization. In: I. Wischer, G. Diewald, (eds.). *New reflections on grammaticalization*. Amsterdam/Philadelphia: John Benjamins, 103-120.
- Durrell, Martin 1972. *Die semantische Entwicklung der Synonymik für „warten“*. Zur Struktur eines Wortbereichs. Marburg: Elwert.
- Eckardt, Regine 2006. *Meaning change in grammaticalization. An enquiry into semantic reanalysis*. Oxford: Oxford University Press.
- Eckardt, Regine & von Heusinger, Klaus & Schwarze, Christoph (eds.) 2003. *Words in time. Diachronic semantics from different points of view*. Berlin, New York: Mouton de Gruyter.
- Fauconnier, Mark 1999. Methods and generalizations. In: T. Janssen, G. Redeker, (eds.). *Cognitive linguistics: Foundations, scope, and methodology*. Berlin, New York: de Gruyter, 95-128.
- Fauconnier, Gilles/Turner, Mark 2002. *The way we think. Conceptual blending and the mind’s hidden complexities*. New York: Basic Books.
- Firth, J. R. 1957. *Papers in Linguistics 1934-1951*. London: Oxford University Press.

- Frege, Gottlob 1892/1969. Über Sinn und Bedeutung. *Zeitschrift für Philosophie und philosophische Kritik*, 100, 25-50. Reprinted in: G. Patzig (ed.). Gottlob Frege: *Funktion, Begriff, Bedeutung. Fünf logische Studien*. 3. Aufl. Göttingen: Vandenhoeck, 40-65.
- Frege, Gottlob 1918/1966. Der Gedanke. Eine Logische Untersuchung. *Beiträge zur Philosophie des deutschen Idealismus* 1, Heft 1, 1918, 36-51. Reprinted in: G. Patzig (ed.): *Gottlob Frege. Logische Untersuchungen*. Göttingen 1966, 30-53.
- Friedrich, Paul 1966. *The linguistic reflex of social change*. *Sociological Inquiry* 36: 159-185.
- Fritz, Gerd 1991. Deutsche Modalverben 1609: Epistemische Verwendungsweisen. Ein Beitrag zur Bedeutungsgeschichte der Modalverben im Deutschen. *Beiträge zur Geschichte der deutschen Sprache und Literatur* 113: 28-52.
- Fritz, Gerd 1995. Metonymische Muster und Metaphernfamilien. Bemerkungen zur Struktur und Geschichte der Verwendungsweisen von *scharf*. In: G. Hindelang, E. Rolf, W. Zillig (eds.). *Der Gebrauch der Sprache*. Festschrift für Franz Hundsniß zum 60. Geburtstag. Münster: Lit, 77-107.
- Fritz, Gerd 1997a. Historische Semantik der Modalverben. Problemskizze – exemplarische Analysen – Forschungsüberblick. In: G. Fritz, T. Gloning (eds.). *Untersuchungen zur semantischen Entwicklungsgeschichte der Modalverben im Deutschen*. Tübingen: Niemeyer, 1-157.
- Fritz, Gerd 1997b. Deutsche Modalverben 1609. Nicht-epistemische Verwendungsweisen. In: G. Fritz, T. Gloning (eds.). *Untersuchungen zur semantischen Entwicklungsgeschichte der Modalverben im Deutschen*. Tübingen: Niemeyer, 249-306.
- Fritz, Gerd 1998. Sprachwandel auf der lexikalischen Ebene. In: W. von Besch, A. Betten, O. Reichmann, S. Sonderegger (eds.). *Sprachgeschichte. Ein Handbuch zur Geschichte der deutschen Sprache und ihrer Erforschung*. 2. Aufl. 1. Teilband. Berlin, New York: de Gruyter, 860-874.
- Fritz, Gerd 2005. *Einführung in die historische Semantik*. Tübingen: Niemeyer.
- Fritz, Gerd 2006. *Historische Semantik*. 2., aktualisierte Auflage. Stuttgart, Weimar: Metzler.
- Geach, Peter Thomas 1972. On rigour in semantics. In: P.T. Geach. *Logic matters*. Oxford: Blackwell, 198-201.
- Geckeler, Horst 1971. *Strukturelle Semantik und Wortfeldtheorie*. München: Fink.
- Geeraerts, Dirk 1983. Prototype theory and diachronic semantics. A case study. *Indogermanische Forschungen* 88: 1-32.
- Geeraerts, Dirk 1988. Cognitive grammar and the history of lexical semantics. In: B. Rudzka-Ostyn, (ed.): *Topics in cognitive linguistics*. Amsterdam, Philadelphia: John Benjamins, 647-677.
- Geeraerts, Dirk 1997. *Diachronic prototype semantics. A contribution to historical lexicology*. Oxford: Clarendon Press.
- Geeraerts, Dirk 2002. The theoretical and descriptive development of lexical semantics. In: L. Behrens, D. Zaefferer (eds.). *The lexicon in focus: competition and convergence in current lexicology*. Frankfurt am Main etc.: Peter Lang, 23-42.
- Gibbs, Raymond W. 1994. *The poetics of mind. Figurative thought, language and understanding*. Cambridge: Cambridge University Press.
- Gloning, Thomas 1996. *Bedeutung, Gebrauch und sprachliche Handlung. Ansätze und Probleme einer handlungstheoretischen Semantik aus linguistischer Sicht*. Tübingen: Niemeyer.
- Gloning, Thomas 1997. Modalisierte Sprechakte mit Modalverben. Semantische, pragmatische und sprachgeschichtliche Untersuchungen. In: G. Fritz, T. Gloning (eds.). *Untersuchungen zur semantischen Entwicklungsgeschichte der Modalverben im Deutschen*. Tübingen: Niemeyer, 307-437.
- Gloning, Thomas 2002. Ausprägungen der Wortfeldtheorie. In: D.A. Cruse, F. Hundsniß, M. Job, P.R. Lutzeier (eds.). *Lexikologie – Lexicology. Ein internationales Handbuch zur Natur und Struktur von Wörtern und Wortschätzen*. An international handbook (...). Berlin, New York: de Gruyter, 728-737.
- Gloning, Thomas 2003. *Organisation und Entwicklung historischer Wortschätze. Lexikologische Konzeption und exemplarische Untersuchungen zum deutschen Wortschatz um 1600*. Tübingen: Niemeyer.
- Grice, Paul 1957. Meaning. *The Philosophical Review* 66, 377-388.
- Grice, Paul 1989. *Studies in the way of words*. Cambridge, Mass.: Harvard University Press.
- Grondelaers, Stefan & Geeraerts, Dirk 2003. Towards a pragmatic model of cognitive onomasiology. In: H. Cuyckens, R. Dirven, J. Taylor, (eds.). *Cognitive approaches to lexical semantics*. Berlin: Mouton de Gruyter, 67-92.
- Günthner, Susanne 2003. Lexical-grammatical variation and development: The use of conjunctions as discourse markers in everyday spoken German. In: R. Eckardt, K. von Heusinger, C. Schwarze (eds.). *Words in time. Diachronic semantics from different points of view*. Berlin, New York: de Gruyter, 375-403.
- Hamblin, C.L. 1970. *Fallacies*. London: Methuen.
- Hansen, Maj-Britt Mosegaard 2005. From prepositional phrase to hesitation marker: The semantic and pragmatic evolution of French *enfin*. *Journal of Historical Pragmatics* 6: 37-68.
- Heim, Irene 1983. File change semantics and the familiarity theory of definiteness. In: R. Bäuerle, C. Schwarze, A. von Stechow (eds.). *Meaning, use, and interpretation of language*. Berlin, New York: de Gruyter, 164-190.
- Heine, Bernd 2003. On the role of context in grammaticalization. In: I. Wischer, G. Diewald (eds.). *New reflections on grammaticalization*. Amsterdam: John Benjamins, 83-101.

- Heine, Bernd, Claudi, Ulrike & Hünemeyer, Friederike 1991. *Grammaticalization: a conceptual framework*. Chicago: University of Chicago Press.
- Heine, Bernd & Kuteva, Tania 2002. *World lexicon of grammaticalization*. Cambridge: Cambridge University Press.
- Heringer, Hans Jürgen 1974. *Praktische Semantik*. Stuttgart: Klett.
- Heringer, Hans Jürgen 1978. *Practical semantics. A study in the rules of speech and action*. The Hague: Mouton.
- Heringer, Hans Jürgen 1999. *Das höchste der Gefühle. Empirische Studien zur distributiven Semantik*. Tübingen: Stauffenburg.
- Hopper, Paul J. & Traugott, Elizabeth Closs 2003. *Grammaticalization*. 2<sup>nd</sup> ed. Cambridge: Cambridge University Press.
- Hundsniß, Franz 2003. Sprechen und sagen im Spätmittelalter und in der frühen Neuzeit. Zum Wechsel der Inquit-Formel er sprach / er sagte. In: N. Miedema, R. Suntrup (eds.). *Literatur – Geschichte – Literaturgeschichte. Beiträge zur mediävistischen Literaturwissenschaft*. Frankfurt am Main etc.: Peter Lang, 31-52.
- Jaberg, Karl 1901. Pejorative Bedeutungsentwicklung im Französischen. *Zeitschrift für Romanische Philologie* 25: 561-601.
- Jucker, Andreas H. 1997. The discourse marker *well* in the history of English. *English Language and Linguistics* 1: 91-110.
- Kamp, Hans & Reyle, Uwe 1993. *From discourse to logic: Introduction to model-theoretic semantics of natural language, formal logic and discourse representation theory*. Dordrecht: Kluwer.
- Keller, Rudi 1990. *Sprachwandel*. Tübingen: Francke Verlag.
- Keller, Rudi 1998. *A theory of linguistic signs*. Oxford: Oxford University Press.
- Keller, Rudi & Kirschbaum, Ilja 2003. *Bedeutungswandel. Eine Einführung*. Berlin, New York: de Gruyter.
- Koch, Peter 1996. Der Beitrag der Prototypentheorie zur Historischen Semantik. Eine kritische Bestandsaufnahme. *Romanistisches Jahrbuch* 46, 1995: 27-46.
- Koch, Peter 1999. Frame and contiguity: On the cognitive bases of metonymy and certain types of word formation. In: K. U. Panther, G. Radden (eds.). *Metonymy in Language and Thought*. Amsterdam: Benjamins, 139-167.
- Koch, Peter 2000. Pour une approche cognitive du changement sémantique lexical: aspect onomasiologique. In: *Mémoires de la Société de Linguistique de Paris*. Nouvelle Série. Tome IX. Paris: Peeters, 75-95.
- Koch, Peter 2001. Metonymy: Unity in diversity. *Journal of Historical Pragmatics* 2: 201-244.
- Koch, Peter 2003. Historical Romance linguistics and the Cognitive Turn. *La corónica. A Journal of medieval Spanish language and literature* 31: 41-55.
- König, Ekkehard & Traugott, Elizabeth Closs 1988. Pragmatic strengthening and semantic change: The conventionalization of conversational implicature. In: W. Hülsen, R. Schulze (eds.). *Understanding the lexicon. Meaning, sense and world knowledge in lexical semantics*. Tübingen: Niemeyer, 110-124.
- Kronasser, Heinz 1952. *Handbuch der Semasiologie. Kurze Einführung in die Geschichte, Probleme und Terminologie der Bedeutungslehre*. Heidelberg: Winter.
- Kuukkanen, Jouni-Matti 2006. *Meaning change in the context of Thomas S. Kuhn's philosophy*. Ph.D. Dissertation. The University of Edinburgh.
- Lakoff, George 1987. *Women, fire, and dangerous things. What categories reveal about the mind*. Chicago, London: The University of Chicago Press.
- Lakoff, George & Johnson, Mark 1980. *Metaphors we live by*. Chicago, London: The University of Chicago Press.
- Langacker, Ronald W. 1988. A view of linguistic semantics. In: B. Rudzka-Ostyn (ed.). *Topics in cognitive linguistics*. Amsterdam, Philadelphia: John Benjamins, 49-90.
- Langacker, Ronald W. 1999. Assessing the cognitive linguistic enterprise. In: T. Janssen, G. Redeker (eds.). *Cognitive linguistics: Foundations, scope, and methodology*. Berlin, New York: de Gruyter, 13-60.
- Lehrer, Adrienne 1985. The influence of semantic fields on semantic change. In: J. Fisiak (ed.). *Historical semantics. Historical word-formation*. Berlin, New York: de Gruyter, 283-296.
- Leumann, Manu 1927. Zum Mechanismus des Bedeutungswandels. *Indogermanische Forschungen* 45: 105-118.
- Lewis, David 1972. General semantics. In: D. Davidson, G. Harman, (eds.). *Semantics of natural language*. Dordrecht, Boston: Reidel, 169-218.
- Lewis, David 1979. Scorekeeping in a language game. *Journal of Philosophical Logic* 8: 339-359.
- Lewis, David 1969. *Convention: A philosophical study*. Cambridge, Mass.: Harvard University Press.
- Locke, John 1689/1975. An essay concerning human understanding. London. Ed. by Peter H. Niddich. Oxford: Oxford University Press 1975.
- Lötscher, Andreas 1973. *Semantische Strukturen im Bereich der alt- und mittelhochdeutschen Schallwörter*. Berlin, New York: de Gruyter.
- Lyons, John 1963. *Structural semantics. An analysis of part of the vocabulary of Plato*. Oxford: Blackwell.
- Lyons, John 1977. *Semantics*. 2 vols. Cambridge: Cambridge University Press.



- Lyons, John 1991. Bedeutungstheorien. In: A. von Stechow, D. Wunderlich (eds.). *Semantik. Ein internationales Handbuch der zeitgenössischen Forschung*. Berlin, New York: de Gruyter, 1-24.
- Meggle, Georg 1987. Pragmatische Semantik im Ausgang von Ludwig Wittgensteins Sprachspielkonzept. In: H. Stachowiak (ed.). *Pragmatik. Handbuch pragmatischen Denkens*. Vol. 2. Hamburg; Meiner, 279-301.
- Meillet, Antoine 1905/1965. Comment les mots changent des sens. *Année Sociologique* 9, 1905/1906: 1-38. Reprinted in: Meillet, Antoine: *Linguistique historique et linguistique générale*. Paris: Champion 1965, 230-271.
- Meillet, Antoine 1912/1965. *L'évolution des formes grammaticales*. *Scientia (Rivista di scienza)* vol. X11 (1912), no. XXVI, 6. Reprinted in: Meillet, Antoine (1965): *Linguistique historique et linguistique générale*. Paris: Champion, 130-148.
- Montague, Richard 1974. *Formal philosophy. Selected papers of Richard Montague*. Ed. and with an introduction by Richard H. Thomason. New Haven, London: Yale University Press.
- Nerlich, Brigitte 1992. *Semantic theories in Europe 1830-1930. From etymology to contextuality*. Amsterdam, Philadelphia: John Benjamins.
- Nerlich, Brigitte & Clark, David D. 2001. Serial metonymy: A study of reference-based polysemisation. *Journal of Historical Pragmatics* 2: 245-272.
- Nunberg, G. 1995. Transfers of meaning. *Journal of Semantics* 12, 109-132.
- Nyrop, Kristoffer 1903. *Das Leben der Wörter*. Autorisierte Übersetzung aus dem Dänischen von Robert Vogt. Leipzig 1903.
- Oksaar, Els 1958. *Semantische Studien im Sinnbereich der Schnelligkeit. plötzlich, schnell und ihre Synonymik im Deutsch der Gegenwart und des Früh-, Hoch- und Spätmittelalters*. Stockholm: Almqvist & Wiksell.
- Paul, Hermann 1886. *Principien der Sprachgeschichte*. 2. Aufl. Halle: Niemeyer.
- Paul, Hermann 1895. Über die Aufgaben der wissenschaftlichen Lexikographie mit besonderer Rücksicht auf das deutsche Wörterbuch. *Sitzungsberichte der philosophisch-philologischen und der historischen Classe der Königlich-Bayrischen Akademie der Wissenschaften*. Jahrgang 1894. München, 53-91.
- Peirsman, Yves & Geeraerts, Dirk 2006. Metonymy as a prototypical category. *Cognitive Linguistics* 17, 269-316.
- Peters, Wim & Kilgarriff, Adam 2000. Discovering semantic regularity in lexical resources. *International Journal of Lexicography* 13: 287-312.
- Porzig, Walter 1934. Wesenhafte Bedeutungsbeziehungen. *Beiträge zur Geschichte der deutschen Sprache und Literatur* 58: 70-97.
- Pustejovsky, James 1995. *The generative lexicon*. Cambridge, MA: MIT Press.
- Rosch, Eleanor & Mervis, Carolyn B. 1975. Family resemblances: Studies in the internal structure of categories. *Cognitive Psychology* 7: 573-605.
- Schiffer, Stephen 1972. *Meaning*. Oxford: Oxford University Press.
- Seiffert, Leslie 1968. *Wortfeldtheorie und Strukturalismus. Studien zum Sprachgebrauch Freidanks*. Stuttgart, Berlin, Köln: Kohlhammer.
- Sinha, Chris 1999. Grounding, mapping, and acts of meaning. In: T. Janssen, Theo, G. Redeker (eds.): *Cognitive linguistics: Foundations, scope, and methodology*. Berlin, New York: de Gruyter, 223-255.
- Sperber, Hans 1923. *Einführung in die Bedeutungslehre*. Bonn, Leipzig. Reprint Bonn: Dümmler 1965.
- Stalnaker, Robert 2002. Common ground. *Linguistics and Philosophy* 25: 701-721.
- Stalnaker, Robert C. 1978. Assertion. In: P. Cole (ed.): *Syntax and Semantics Vol. 9: Pragmatics*. New York, San Francisco, London: Academic Press, 315-332.
- Stanforth, Anthony 1967. *Die Bezeichnungen für „groß“, „klein“, „viel“ und „wenig“ im Bereich der Germania*. Marburg: Elwert.
- Stern, Gustaf 1931. *Meaning and change of meaning. With special reference to the English language*. Göteborg: Elander.
- Stöcklein, Johannes 1898. *Bedeutungswandel der Wörter. Seine Entstehung und Entwicklung*. München: Lindauersche Buchhandlung.
- Strawson, Peter F. 1964. Identifying reference and truth-values. *Theoria* 30: 96-118.
- Strecker, Bruno 1987. *Strategien des kommunikativen Handelns. Zur Grundlegung einer Grammatik der Kommunikation*. Düsseldorf: Schwann.
- Sweetser, Eve E. 1990. *From etymology to pragmatics. Metaphorical and cultural aspects of semantic structure*. Cambridge: Cambridge University Press.
- Taylor, John R. 1999. Cognitive semantics and structural semantics. In: A. Blank, P. Koch (eds.). *Historical semantics and cognition*. Berlin, New York: Mouton de Gruyter, 17-49.
- Taylor, John R. 2002. *Cognitive grammar*. Oxford: Oxford University Press.
- Taylor, John R. 2003. Cognitive models of polysemy. In: B. Nerlich et al. (eds.). *Polysemy: Flexible Patterns of Meaning in Mind and Language*. Berlin: Mouton de Gruyter, 31-47.
- Taylor, John, Cuyckens, Hubert & Dirven, René 2003. Introduction: New directions in cognitive lexical semantic research. In: H. Cuyckens, R. Dirven (eds.). *Cognitive approaches to lexical semantics*. Berlin, New York: de Gruyter, 1-27.

- Tellier, André 1962. *Les verbes perfecto-présents et les auxiliaires de mode en Anglais ancien* (VIIIe S.–XVIe S.). Paris: Klincksieck.
- Tomasello, Michael 1998. Introduction: A cognitive-functional perspective on language structure. In: M. Tomasello (ed.). *The new psychology of language. Cognitive and functional approaches to language structure*. Mahwah, N.J.: Lawrence Erlbaum, vii-xxiii.
- Traugott, Elizabeth Closs 1989. On the rise of epistemic meanings in English: An example of subjectification in semantic change. *Language* 65: 31-55.
- Traugott, Elizabeth Closs & Dasher, Richard B. 2002. *Regularity in semantic change*. Cambridge: Cambridge University Press.
- Traugott, Elizabeth Closs & König, Ekkehard 1991. The semantics-pragmatics of grammaticalization revisited. In: E. C. Traugott, B. Heine (eds.). *Approaches to grammaticalization*. Vol. I. Focus on theoretical and methodological issues. Amsterdam, Philadelphia: John Benjamins, 189-218.
- Trier, Jost 1931. *Der deutsche Wortschatz im Sinnbezirk des Verstandes. Von den Anfängen bis zum Beginn des 13. Jahrhunderts*. Heidelberg: Winter.
- Ullmann, Stephen 1957. *The principles of semantics*. 2<sup>nd</sup> ed. Oxford: Blackwell.
- Ullmann, Stephen 1964. *Semantics. An introduction to the science of meaning*. 2<sup>nd</sup> ed. Oxford: Blackwell.
- Wegener, Philipp 1885. *Untersuchungen über die Grundfragen des Sprachlebens*. Halle: Niemeyer.
- Weisgerber, Leo 1927. Die Bedeutungslehre: ein Irrweg der Sprachwissenschaft? *Germanisch-Romanische Monatsschrift* 15: 161–183.
- Wellander, Erik 1917. Studien zum Bedeutungswandel im Deutschen. 3 Tle. Uppsala Universitets Årsskrift 1917. 1923. 1928.
- Whitney, William Dwight 1876. *Leben und Wachsthum der Sprache*. Übersetzt von August Leskien. Leipzig: Brockhaus.
- Wittgenstein, Ludwig 1953. *Philosophical investigations*. Transl. by G. E. M. Anscombe.. Oxford: Blackwell.
- Wittgenstein, L. 1970. Eine philosophische Betrachtung. In: *Ludwig Wittgenstein. Schriften* 5. Frankfurt am Main: Suhrkamp.
- Wittgenstein, Ludwig 1975. *On certainty*. Ed. G.E.M.Anscombe and G.H.von Wright. Translated by Denis Paul and G.E.M.Anscombe. Oxford: Blackwell.
- Wundt, Wilhelm 1904. *Völkerpsychologie. Eine Untersuchung der Entwicklungsgesetze von Sprache, Mythos und Sitte*. 2 Bde. 2. Aufl. Leipzig: Engelmann.