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Introduction

Regine Eckardt, Klaus von Heusinger

In February 1999, a workshop "Meaning Change - Meaning Variation" took place, as part of the 25th annual meeting of the DGfS (Deutsche Gesellschaft für Sprachwissenschaft), at the university of Konstanz. The present volume, and a second one to follow, collect the papers that were presented at that occasion. First of all, we want to thank all contributors for their interest and committed engagement in the workshop. The quality of their contributions, and their willingness to share ideas, often beyond their "home" paradigm or theoretical framework, turned the workshop into a lifely and inspiring event. By agreeing to put their contributions into writing, they moreover gave us the opportunity to present the workshop topics to a wider audience.

We also want to thank the DGfS, and more specifically the local organizers at Konstanz, for offering the opportunity and the excellent frame for the workshop, and the DFG Deutsche Forschungsgemeinschaft for financial support. Finally, warm thanks are due to Hannelore Turcus who, patiently and efficiently, prepared the final layout.

Meaning change has many facets, and the contributions to the workshop were selected such as to shed light on as many aspects as possible. In preparation for the event to come, we tried to draw a little map of the landscape of topics to be touched, and highlight links between various perspectives. For the sake of brevity, we used "meaning change" to cover all the cases of meaning variability, polysemy, shift and innovation which were under discussion. After some late night sessions which cost us several liters of beer and two entire pencils, not to speak of the paper, we finally came up with the following

Seven Questions about Meaning Change

(1) What are "meanings"?

In order to study movement, one needs the idea of a spatial location. Much in the same way, the study of meaning change requires some idea of static meanings-at-a-time.
There are many different ways to say that "meanings" are basically black boxes: There is the word on one side, and the referents, truth conditions, contextual acceptability conditions, pragmatic effects, undertones, etc. on the other side. What it is that brings it about to evoke the correct reactions in the hearer is left unexplored. One can be formally elaborate in stating that meanings are "functions" that bring about all these things, as is exemplified in truth value semantics and its pragmatic-conversational extensions. One can, however, also represent this view in simple and perspicuous box-and-arrow figures. The latter view allows one to be more lavish in adding further meaning-connected aspects (like undertone, pragmatic implications etc.) which attestedly play a major role in meaning change. Consequently, it is an excellent starting point to make generalizations for large ranges of data. Formal accounts, on the other hand, score better in meaning composition; this aspect makes the paradigm attractive for

cases of meaning change through reanalysis (like in semantic analogy, or "folk compositional semantics").

Cognitive semantics attempts to provide a contentful alternative to the "black box" view of meaning. One tries to peek inside speakers' heads and get an idea of the architecture of basic mental concepts. These seem to be a good cantidate to "be" subjective meanings (in contrast to merely representing them). More interestingly, the setup of the mental "hardware" also could explain why certain meanings are close to each other (such that a word having one of them also catches up the second, like a cold) while others are fairly unrelated. The prize to pay for these insights is that one has to leave the realm of pure philology and enter into the strange world of psycho-biology. One might find that troublesome both from a practical and a philosophical viewpoint.

Intermediate stages between all positions are, of course, possible. What comes as a "coercion function" in the black box approach might find its justification in cognitive linguistics. Even formal purists have to acknowledge more and more that the mere knowledge of extensions is not very interesting in the end. And the search for concepts in brain would perhaps stagnate at the level common to all mammals, say, without the inspiration drawn from extensive studies of language in classical frameworks.

(2) How does the referent participate in "meaning"?

A sentence like "there's a fly in my soup" not only make an existential statement about the world (or, my soup) but also refer to a special object in the world. In the first place, this referent has to conform to the predicate used to introduce it in the sentence (that is, the thing must really be a fly). But, is the referent really a passive object to be predicated over, or has it some influence on predicates in return?

Truth-value semantics represents meanings of predicates as sets of possible referents, but these referents are rather passive. Nothing hinges on whether some object is refered to often, never, only in certain contexts, etc: All flies have the same status with respect to the predicate "fly".

Prototype based semantics has the aim to develop a more differentiated view of natural categories. Categories have an internal structure; we can distinguish core exemplares around which the more and more marginal cases are crowded. Not all referents are created equal! While this result can no longer be ignored in the study of meaning, it does not necessarily give the referent a stronger position than it had in logical semantics. Certain quite powerful versions of prototype structure can be integrated with truth value based semantics without problems.

Only when things and words enter into a two-way interaction, meanings will become referent-dependent in a substantial way. How should referents shape meanings? It is natural to assume that categories (or at least some of them) cluster around core exemplars which are distinct not so much because they are the core of a natural class, but because they are the guys we meet most frequently. Although there is certainly a lot more to be said about the process of human categorization, it is clear that each referent which is agreed upon to fall under the concept denoted by word "X" stabilizes and centers the concept — a process which can be observed most clearly in language acquisition. Consequently, language acquisition is also one of the main fields of exploration for cognitive semantics.

Diachronically, the feedback between referents and words can help to explain the secret shrinks, increases and slight shifts of extensions, due to different core cases of interest and application. Surprisingly enough, the seed for this interaction is also laid in

the most pale and formal approaches to meaning if one is willing to read them that way...

(3) How does world knowledge enter into meaning?

Knowing the meaning of the word "fly" means, at least: to be able to tell flies from non-flies. (In spite of (2), we ignore borderline cases for the moment.) It seems that we can teach someone this ability by giving her a minute description of what flies look like. Having the full encyclopaedic entry for "fly" in her brain, this person will then pass the turing test for "knowing what the word "fly" means". Does this mean that full encyclopaedic descriptions are, or are part of, the meaning of a word?

Lexical semantics has to keep the difficult balance between allowing for too much encyclopaedic knowledge and being too parsimonious. Rich meanings allow for subtle meaning shifts, but this causes a synchronic problem: How can two speakers ever communicate? Certainly, no two speakers ever have equal knowledge about any topic. Lean meanings, on the other hand, are not very useful when it comes to the investigation of generative lexical processes, or in distinguishing plausible from implausible meaning shifts. How much knowledge of the world do we need as part of meaning?

Another way to use world knowledge is chosen in underspecification approaches. Here, meanings are taken to be rather unspecific, and the context of use, and the predication made, will have to fill in the missing bits on the basis of common sense reasoning: "The school wore blue uniforms" - Hm, must mean, the pupils of the school". While the aspect of meaning change is not explicitly adressed here, such accounts can model a good portion of synchronic meaning variability.

World knowledge is used implicitly in cognitive semantics, as all category formation takes place against a certain experiental background. But, world knowledge in the sense of knowledge about the social practice of language use and the set up of utterance situations (including issues like appropriateness or relevance of an utterance) is also of evident influence on meaning.

No semantic paradigm can separate the things that people know about the world from the things that people know about words of their language. The investigation of meaning change can give further hints on the best choreography of all factors in play. Matters start looking puzzlingly recursive, once one takes into account that folk linguistic reasoning (like the correct semantic decomposition of sentences, complex words, words, inflexions, etc.) might also be part of world knowledge. A closer look will be taken in (6).

(4) What are Metaphors?

Metaphors are, first of all, a rich source to create new meanings for old words. Looking at the data, it is easy to recognize that metaphor is one of the corner stones of lexical creativity. Although the concept is fairly stable on intuitive grounds, it turns out to be not so very easy to make it explicit why we feel that something is a metaphorical use of a word.

In order for "metaphor" to start working, some things have to be similar to some other things. However, as even quite non-metaphorical classification works on the basis of things being similar to other things (see (2)), there should be something special about metaphorical cases. The things which are metaphorically called by some name are

somewhat less similar to the old core cases than the things which belong to the same category proper.

The mathematical concept of an "isomorphism" might be helpful here. Constating an isomorphism between two domains, one has to explicate the structural properties with respect to which the domains have to be viewed. (Are bulls and cows "isomorphic"? Looking at their shape: certainly. But if we also take into account their sex - no.) Metaphor seems to require that we look at old things but focus on new structural properties of them. This allows us to see that other things, which are rather different according to the normal way of seeing objects, nevertheless can be likened to the old things in a certain sense. In cognitive terms, we change the frame of conceptualization, or transport structure from one cognitive space into another one.

Another very simple answer to the above question is implicit in other traditions of semantic research: Metaphors are something one should leave one's fingers away from. Such sanitary considerations confirm the impression that issues are quite intricate.

(5) What are Metonymies?

Another term in the literature of meaning change which is as useful as it is poorly understood is metonymy. Basically, it looks as if words which refer to objects A can acquire a new meaning, where they denote new objects B, provided that A's and B's occur close to each other.

In this abstract form, the characterization reads as if almost any word could mean anything. (Looking at the typical restaurant table, would not one predict that "salt" should come to mean "pepper"?) However, an impressive range of actual cases of meaning shifts is indeed described, if not explained, in terms of contiguities.

Subclasses of such examples turn out to be more homogenous in nature: Event descriptions can also cover the "nearby" product of the event, terms for institutions also cover the "nearby" people constituting these, or the location where the institution resides. Such classes of examples also suggest that the notion of "nearby" is more than mere local closeness, although the leading idea, of course, is that contiguities are different from the conceptual neighbourhoods which lead to metaphor.

Sortal subdivisions of the underlying ontology provide the basis for the claim that many words can have very unspecific meanings, with an appropriate spellout in each ontological subdomain. Perception-based approaches, on the other hand, offer an explanation of the notion "nearby" in situational terms.

All in all, it seems that the gap between concise analyses of few cases and more open-boundary characterizations of many cases has still to be bridged.

(6) What is the role of semantic composition in meaning change?

If a hearer parses and understands an utterance in a given context, she will have received a complete lump of information in the end. Yet, it is part of the nature of language that such lumps of information are composed from smaller lumps and bits in a systematic fashion. The ideal speaker/hearer is in possession of both the smallest of these bits, and the rules how to compose them. In addition, she can take advantage of certain contextual factors, understand conversational implicatures and the like — but such lumps of information are usually beyond the command of words themselves, i.e. not part of the "literal meaning".

In reality, things are not so simple. Sometimes we understand lumps of information in part due to nonlinguistic contextual factors (someone with a mouthful of nails uttering a helpless "hmhmmm" might be clearly understood as asking for a hammer), and sometimes there might be redundancies. We seem to be animals extremely well disposed to "make sense of" something.

This is also the basis for our ability to learn a language at all. Starting from situations where the intended lump of information is quite clear, we can form hypotheses about how the linguistic parts of the message uttered contribute to the overall lump, and can thus go down to the smallest words, inflections and derivations. Importantly, this process of systematic guessing does not end once we master our mother language.

Some of the most interesting case studies in meaning change seem to work on the basis of re-estimating the division of labour between parts of the sentence, the pragmatic context, the speech act, etc. Auxiliaries are tentatively filled with or emptied of meaning. Optional deictic markers become compulsory definites once there is a gricean implicature that "if the speaker had meant it to be definite, he would have used that deictic thing". Cases of classical grammaticalization look as if words simply are bleached until they remain as pale tense or aspect markers. Yet, there are also tendencies of words and constructions to become semantically richer or more precise, when other (mostly analytic) constructions take over part of the former range of application of the construction.

While many case studies exemplify how contextual implicatures become meaning, theories which use underspecified meanings follow an opposite direction. As contexts will provide much of the overall lump of information, why pack that burden into word meaning? Again, the correct middle position between lexical minimalism and expliciteness remains to be found.

All in all, every speaker seems to be a little generative linguist on her own, continuously taking into question her version of language and willing to replace it with a more refined version. Structural semantics seems to be a framework fit to start investigations of such processes.

(7) How does meaning change?

The choices made in (1) to (6) will shape the possible answers to this final question. In order to get some overview over meaning developments and systematic paths of meaning change, it is a good start to visualize them as formal routes language can take. No meaning shift ever occurs with necessity, tough, and a collection of "can" paths with no further explications of what "will likely be", or what factors might promote or inhibit changes, remains a bit unsatisfactory. One crucial factor will always be the changing world, as well as our changing experiences of this world. These changes will have to be tied up with changes in meaning.

A changed world will offer new ways to categorize things — maybe because more things are known in the first place, maybe because old things are met with different frequencies than before, maybe because we know more about old things and look at them differently. Many of the concepts in flux will be tied to words which, consequently, will change meanings.

A changed world will also offer new ways to make underspecified concepts precise. Looking at things in different ways will give rise to more metaphors and metonymies, while others will be forgotten. New things will call out for names, and if

these new names are coined in a mnemotechnically efficient way, chances are good that the coinage is based on metaphors or metonymies.

The process of speakers looking at and interpreting their language as a structural system can be less systematically related to external events in the world. Close contact to another language might be an initiating factor — a currently ongoing example is offered by the exotic generalizations of German speakers of English genetive – 's.

Meaning change, and language change in general, is moreover only possible due to the fact that natural languages, in contrast to programming languages, are rather robust tools of communication, which are fairly error tolerant in use. If language is viewed as a system of conventions of social verbal interaction, this robustness may be no surprise. A more formal description of language must capture this robustness by making the claim that speakers do not only master one single language, but a whole family of languages which all can serve as a means to convey and receive lumps of information. Such a claim may be plausible when it comes to the description of various registers and group idiolects we master. However, it is less "natural" when used to explain the fact that speakers of English can understand both "John has gone home" and "John is home gone" as conveying roughly the same information (although they'd probably prefer the first version). This robustness of language makes it one of the most democratic tools used in human communities.

Generating Polysemy: Metaphor and Metonymy

RENATE BARTSCH

(bartsch@illc.uva.nl)

The general principle of concept formation consists in ordering growing sets of data, especially satisfaction situations for expressions, according to similarity and contiguity under perspectives into stabilising sequences which are the (quasi)concepts that form the basic experiential conceptual structure. The same principles also give rise to metaphoric or metonymic language use, which result in new concepts expressed by old lexical expressions. The preference of stability within an evolving conceptual structure induces force towards extending these structures by metaphor and metonymy, whenever situations are met which do not fit into the concepts already established salva stability. Including cases of metaphorical and metonymical use of an expression into the already established concepts expressed by the expression would destabilise these concepts.

I shall argue that metaphor and metonymy do not only involve a transfer of a conceptual network from a source domain onto a target domain, as claimed by cognitive approaches, but also involve a shift in perspective which makes possible the transfer from the one domain to the other by selecting suitable aspects of the source network, and also the source domain, which can be satisfied on the target domain. Concept broadening and concept narrowing, on the other hand, do not involve a shift of perspective; rather they happen under the same perspective, which might at most be made less or more specific. A perspective provides a selection of those dimensions or similarity spaces in which the aspects of the concepts that fall under the perspective are determined in contrast to other concepts that fall under the same perspective. A perspective can formally be seen as the set of the possible concepts that fall under it. In concept formation a perspective precedes the several concepts that fall under it. Primarily perspectives are provided as horizons for understanding by activities, desires, dispositions, groups of activated sensors. Secondarily new perspectives are constructed on the basis of culturally established practices, tasks, and processes of theory formation based on previously acquired knowledge and concept formation. There are, for example, basic quality perspectives or dimensions for colour, form, and motion concepts, and there are complex conjunctions of perspectives of characterisation for events and individuals, for example those opened up by the questions "What kind of party was it?", or "What kind of instrument is this?", or "What kind of animal is this?". Metaphoric language use always happens under perspectives. It happens on both, on the experiential and on the linguistically explicated theoretical level of concept formation.

The application of the perspective-dependent similarity operation occurs on different levels, on the experiential level in sorting out identity and opposition of phenomenal properties and identity and opposition of relationships in creating qualitative, quantitative, relational and ontological kind categories, and on the theoretical level in sorting out identity and opposition of features and relationships which are expressed linguistically in coherent sets of general sentences held true

(theories). The role of similarity is not restricted to the identity of internal properties of objects and situations, rather similarity also is due to identity of external contiguity relationships between objects, between situations, and it is due to relationships of objects and situations with emotional attitudes, desires, and behavioural dispositions of people. Thus a cold metal bar can be similar to a cold colour by partly having an identical relationship to the emotional reactions of humans. Both have a same effect in causing a certain emotional reaction. Also causal relationships expressed in theories, and the roles something plays in rules and norms can create similarity which we take into account in concept formation. (For a comprehensive representation of the roles of similarity and theories in concept formation as it is discussed in Cognitive Psychology see Cognition *65: 2,3-*.)

Growing contiguity sets of situations, and growing similarity sets of situations form concepts on the experiential level by stabilisation. Growing sets of satisfaction situations for an expression e under perspective **P** stabilises such that they become an extensional representation of a concept. Stabilisation consists in convergence of the internal similarity measure under the perspective, in opposition or contrast to other concepts under the same perspective. That a set of data stabilises means that new data do not anymore change the internal similarity measure. They create the preconditions for higher level formation of new concepts and features, i.e. concepts that figure in the formal analysis of other concepts on the theoretical level of concept formation. Similarity under perspectives also creates the preconditions for recognising repeated contiguity relationships. In this spiral of interaction between the two principles of concept formation, similarity and contiguity, data get understood on different levels in analysis and re-analysis. The primary data are situations which are understood as situational experiences according to the perspectival selections made from the conceptual structures established so far at a certain point in development.

The similarity principle applied to data on different levels of concept formation gives rise to general concepts on the respective lower or higher levels, for example on the first level of situational impressions, and later on the level of individuals and events. The contiguity principle gives rise to historical concepts, especially particular event concepts and individual concepts. They are partial historical concepts which are understood as such by being seen as embedded or embeddible into larger sets of situations connected by contiguity relationships such that coherence is preserved. This embeddibility of partial concepts into larger similarity and contiguity sets of situations salva stability and coherence means to take the partial concepts as representations of realistic or complete concepts in the world, namely of individuals, and of real situations, and furtheron of total sets of such entities as property extensions.

After historical concepts, i.e. concepts of particular events and concepts of individuals, have been formed they are used in analysing situations. Herewith the experienced situations are analysed or re-analysed with respect to our standard ontology of individuals, where individuals are the participants in basic situations, which are characterised by activities, actions, and generally basic events, processes and states. We then are able to understand situational impressions as realistic situations. Situations and individuals can then be the basis for construing general kind concepts by a new round of application of the similarity principle on this higher level. General kind concepts generalise over individuals in situations and thus contain the possible roles of individuals of a certain kind in situations, and general event and action concepts generalise over situations containing the possible kinds of individuals that participate in certain roles within these situations. Such higher level general

concepts then function in our understanding of situational impressions as real situations. *Understanding* a situation means 1. embedding it into stabilising sequences of growing similarity sets of data salva stablity. This is classification by general concepts. *Understanding* a situation means 2. embedding it into contiguity sets of data salva coherence. This is identification by historical concepts, especially individual concepts.

In this model of *Dynamic Conceptual Semantics,* a theory of concept formation and understanding, metaphor and metonymy are new ways of continuing series of satisfaction situations for an expression on the experiential level, and they are also new selections from available features on the theoretical level, according to contextually introduced perspectives. Both ways, the metaphorical and the metonymical, consist in the same cognitive operations as in all concept formation: similarity relations and contiguity relations are selected under perspectives and are used in structuring the growing sets of data into similarity sets and contiguity sets. Metaphor is based on perspective change and similarity under the new perspective, metonymy is based on perspective change and contiguity relationships, such as part-whole, cause-effect, means-end, action-result, instrument-action. Important is that the concept from where the transfer of the expression originates, the source concept, is already stabilised to a high degree: Integrating the new use of the expression into the old concept, i.e. into the old data under the previous perspective would destabilise the concept. This means that it does not fit into the old concept. Young children have not yet developed conceptual stability and thus cannot experience destabilisation.

For early developmental stages of concept formation, which we find in small children, there is no distinction between normal language use and metaphoric or metonymic use. There is just language use guided by similarity and contiguity under changing perspectives. Only when conceptual stability is almost reached the difference between standard use and creative use of an expression comes about. In metaphoric and metonymic language use the process of concept formation is pushed into a new direction of use of an expression due to the stabilisation principle and by the change of perspective, often from a default or more common perspective under which the expression has been used and is used normally, to a context-dependent, locally introduced perspective. On both levels of thinking and understanding, the experiential and the linguistically explicated theoretical level, fairly subjective and local series of experiences and theories can play a role in devising similarity and contiguity relationships, besides experiences that are generally made and theories or stereotypes that are generally adhered to in a speech community. On these locally or globally established experiential and theoretical concepts the new perspectives are applied and provide by selection the experiential basis or the explicated feature basis of the metaphor which is further enriched by special situational experiences and features derived from additional knowledge. Selection and enrichment together create the new concept arising from the metaphoric use of an expression.

I shall first give a recursive definition of polysemy and show how the assumption of truthfulness of the utterance and general principles of concept formation play a role in understanding and designing a new interpretation of an expression. Then I shall discuss the more cognitive approach to metaphor, exemplified by the theory proposed by Indurkhya. The goal is to show how both approaches together give a fairly detailed theory about the creation and interpretation of metaphor.

1.   Definition and generation of polysemic complexes in interpretation

A <u>perspective</u> can be reconstructed as a second order concept of a certain kind, i.e. a concept of concepts. This is a set of concepts which can be discriminated under the selection of information the perspective provides. A perspective can be formulated by a question, or created by an interest or desire. Then the concepts are expressed by the predicates that are possible answers to the question or are possible fulfilments of the interest or desire. For example: What kind of animal is this? What kind of instrument is this? What is its colour? What is its behaviour? What is its function? What about this applicants health? How does he do economically? etc. To look at something under perspective **P**, for example looking for an activity-property, a health property, a behaviour property of someone means to attend to aspects of an individual or a situation which can be a specification of the kind of activity, the state of health, or the behaviour shown in this case. For example, the metonymy *Get me the liver from the second floor* uttered by a physician, when preparing for a medical examination of a patient, involves a change from the perspective provide by the question "Which kind of organ?", under which *liver* is primarily and normally used, to the perspective provided by the question "What kind of patient?" The contiguity relationship involved is the part-whole relationship. The metaphor *Get this pig into the bath-room* uttered by a desperate father referring to his little son totally under the mud, involves a change in perspectives from "What natural kind?" to "What behaviour-dependent appearance?" under which similarity is imminent between a stereotypical pig and the little boy.

A <u>polysemic complex</u> is of the same logical type as second order concepts are; it is a set of first order concepts. But this set is differently structured than a perspective. The internal structure of a perspective is that the concepts under or within the perspective form oppositions to each other, while the internal structure of a polysemic complex is that the concepts within the complex are related by metaphoric and metonymic relationships. The principles of forming these complexes of concepts are metonymic and metaphoric relationships, which amount to relationships of contiguity and similarity (cf. Jakobson 1960), across different perspectives. The relationships of similarity and contiguity are the same as in concept formation generally. The only difference is that they are not applied under a single perspective but in crossing the delimitations of a perspective and entering into another perspective. We also find such crossing over perspectives in the use of words by small children, for example the famous example from Igelburger, adapted by Vygotsky: The word for dog, let us say *dog*, was transferred by the child from dogs to furl coats and to a toothbrush, and it was transferred from dogs to shining round eyes and then to buttons. For the child this is a normal way of doing; but its gets pushed in language training towards keeping perspectives stable for the use of a word, i.e. not to cross borders between perspectives deliberately. When stabilisation of a concept under a perspective, in opposition to other concepts under the same perspectives, is achieved, crossing the borders of the perspective in word transfer is possible in order to preserve stability of the primary established concept by not integrating into it cases of use of the same word that do not fit salva stabilitate. When that happens the transfer by similarity or contiguity can be called metaphoric or metonymic. Metaphor and metonymy presuppose an already stabilised concept and a conventionalised use of the word for this concept. Starting from there new concepts are formed.

I. <u>Recursive definition of a **POLCOMP(e)**</u>:

1. P $\in$ **POLCOMP(e)**
2. If for all situations s in which P' is realised, the expression e is taken to be satisfied by s, and there is a P with P $\in$ **POLCOMP(e)** such that metonymic(P',P) or metaphoric(P',P), then P' $\in$ **POLCOMP(e)**.

   The expression e used under perspective **P** then expresses the property P' in the intersection of **P** and **POLCOMP(e)**:

$$\mathbf{P} \cap \mathbf{POLCOMP(e)} = \{P'\}$$

This ordering on the realistic level finds a corresponding ordering on the experiential level of concept formation. Let P be a quasi-concept in the process of stabilisation or already stabilised as a concept. From there the polysemic complex of concepts is built one step further by adding a newly created concept P' under condition 2 specified in the definition as follows:

2'. If for all situations s which fall under concept P' under perspective $\mathbf{P}^i$, the expression e is taken to be satisfied by s, and there is a concept P with P $\in$ **POLCOMP(e)** such that metonymic(P',P) or metaphoric(P',P), then P' $\in$ **POLCOMP(e)**.

Of course, there is a starter concept, the first established concept P expressed by e. To it the second concept P' is added if it conforms to condition 2'. Then more can be added, by originating either from the first or the second.

II. <u>Generating polysemy on the experiential level</u>:

Assumptions:

1. Expression e is used with respect to situation s truthfully, i.e. s is referred to as a satisfaction situation of e.
2. e is used under perspective $\mathbf{P}^i$.
3. The concept that has to be assigned as being expressed by e under $\mathbf{P}^i$ with respect to s has to be eligible as a potential member of the polysemic complex of e.

Goal:

Find a concept P' with P' $\in$ $\mathbf{P}^i$ and P' being realised in s such that it fulfills the condition for being a member of the polysemic complex of e.

Procedure of concept construction:

I. Take the set of previous satisfaction situations for e.
II. Delineate a (new) similarity set for e under $\mathbf{P}^i$, named: $S_{e,i}$. Choose $S_{e,i}$ such that $s =_i s'$ for all s' $\in$ $S_{e,i}$.
III. Extend that set with the new satisfaction situation s of e such that this extension obeys $\mathbf{P}^i$-harmony and opposition to other $\mathbf{P}^i$-properties, and that we can construct a sequence of growing subsets up to $S_{e,i} \cup \{s\}$ with a converging decline of the internal similarity degree, keeping intact opposition under $\mathbf{P}^i$. If that is not possible for $S_{e,i}$, then delineate another similarity set for e under $\mathbf{P}^i$ which satisfies these conditions and name it $S_{e,i}$.

*Result***:**

The quasi-concept $S_{e,i} \cup \{s\}$, approximating a concept which is a reconstruction of a property, i.e. a concept, realised in s.

An example on the experiential level of concept formation would be that a child had a series of previous experiences of pig-situations, which built up his pig-concept by contiguity and similarity ordering. In these situations the pigs got themselves often quite dirty by roaming around in the mud. Now the mother scolds the child when coming home dirty by exclaiming *What a pig you are!* The perspective under which the mother sees the child, which also is the one under which the child has to understand his or her mother's exclamation, is the perspective of appearance and possibly also the perspective of behaviour applying to the situation that caused this appearance. These perspectives select the typical behavioural aspects and the related appearance aspects in the experiential concept constituted by pig-situations. They are typical in contrast with the behaviour and appearance properties of horses, dogs and cats with which the child also has become acquainted in his surroundings. The child will understand his mother's exclamation by seeing his own behaviour and appearance as upsetting to his mother and hereby as negatively valued, and it will understand it cognitively by embedding his situation of behaviour and his situation of appearance into the series of pig situations he has experienced previously under the perspectives of behaviour and appearance, but not under the perspective of natural kind. Under the two relevant perspectives he can continue a selection of pig-behaviour and pig-appearance situations by adding to these salva stabilisation the experienced situations in which he himself shows the behaviour and the appearance that fits as a continuation of the respective experiences of pig situations. In this way he creates the new concept of being a pig which is situated under the perspectives of behaviour and appearance, contrasting to other behaviour and appearance concepts. This concept can be truly predicated not only about pigs in the appropriate situations but also about himself, and possibly about other people. The primary, or standard perspective under which the word *pig* is used is the natural kind perspective, the secondary perspectives under which the metaphoric use is created are the perspective of behaviour and the perspective of appearance.

On the theoretical level of concept formation a concept expressed by an expression is explicated linguistically in the semantically characteristic syntagmatic field of the expression. This characteristic field consists of the set of general sentences held true in which the expression appears as a general term. The sentential contexts of this generalised expression in this set of general sentences form the semantically characteristic distribution of the term. It consists of the semantically characteristic predicates, and also conjunctions of these. They form the features of the concept, as far as they are linguistically expressed. A concept so explicated is called a linguistically explicated concept. The characteristic distribution of a term can be restricted to a subset of the general sentences held true which by internal coherence forms a theory. Then the concept is a theoretical concept with respect to that theory. Within a theory those features or predicates can be selected which constitute the semantic difference of this term to other terms in the theory. These form the specific semantic characteristic distribution which distinguishes the concept expressed by this term from the concepts which stand in opposition to this term. For example, there are specific features which distinguish a fox from a wolf under the perspective of natural kind, under the perspective of behaviour, and under the perspective of appearance, especially under the perspective of colour of the furl. In transferring the word *wolf* from the natural kind perspective to the behaviour perspective in the metaphoric use in *John is a wolf* or *this dog is a real wolf*, or even in *this wolf is a real wolf*, when predicated of a very fiercely acting dog or wolf, the perspective of behaviour which is at issue in these examples selects the behaviour features of our wolf concept (within a

certain theory) from which the specific ones that distinguish wolf-behaviour from the behaviour of other comparable animals are selected as being at issue in the metaphorical predication. The behavioural concept of a wolf is furtheron enriched by behavioural characteristics we find in the new situations to which the term is applied metaphorically. In the example *Look at this fox* while pointing to a man with red hair the perspective of appearance, especially the perspective of hair colour selects the fox-specific features which are at issue here.

The examples above serve to illustrate briefly how metaphor works in creating new concepts as part of polysemic complexes on the experiential and on the theoretical level of concept formation. Perspectives play a major role in this process They are constituted by contextually or situationally available information about focus of attention, desires, interests. I shall now discuss briefly Indurkhya's theory of metaphors, which is currently the best and most elaborated treatment of metaphor among the cognitive approaches. I shall show that this approach has to be supplemented by taking into account selection through perspectives. The notions of cognitive schema or conceptual network used in cognitive approaches are equivalent to the notion of concept as it is used above. A cognitive schema is an abstraction from a series of examples; it is a representation of what they have in common. Because we are hardly able to fully express what a schema is of, for example, a dog, I prefer the extensional representation of a concept by a maximal similarity set of a stabilising sequence of similarity sets of examples. A linguistically explicit representation of a cognitive schema or conceptual network is a set of general sentences held true, where the concept-expressing term is used under generalising quantification. Such a linguistically explicit representation is more exact than a graphically represented conceptual network because the linguistic representation not only makes explicit all the relationships between the concepts in the network, but also says whether the concepts are to be read under universal or existential quantification, or under a stereotypical generalisation. The notion of a theoretical concept in the broad sense used above is a precise representation of a conceptual network. Keeping this in mind, the cognitive approaches to metaphor fit into the framework presented above, though they model some aspects in more detail, mostly by way of example, and let other aspects remain in the dark, namely the role of perspectives and context dependence in general.

2.   Indurkhya's theory of metaphors

Cognitive theories on metaphor, such as N. Goodman's, G. Lakoff's or B. Indurkhya's, typically use the notions 'conceptual scheme' or 'conceptual network'. They understand metaphor as a transfer of a conceptual network or scheme from one domain, its primary domain, onto another secondary domain with quite a different ontology than the first domain. How that is possible in an acceptable way usually remains in the dark. Here, I think, the notion of a contextually introduced perspective would be helpful. How can, for example, the local preposition *in* be transferred onto a so-called abstract domain? 'To be in war with another state', or 'to live in poverty', or 'to be in mourning' do not express local inclusion. Rather they express inclusion in a situation or a constellation of situations which we call 'war', or inclusion in constellations of situations which we call 'poverty' or 'mourning'. Here the preposition *in* is used less abstract as one might think in the first place. The situation of war, poverty, or mourning are quite concrete in space and time, and inside such

concrete constellations the situations are placed which make up part of the life history of the individual which is said to be in war, in poverty, or in mourning. What happens is that the perspective of local ordering, in which *in* is primarily used, is replaced by new perspectives, namely the constellational orderings in which situations of a life history are placed in space, time and causal contiguity with situations which make up a war, poverty, or mourning. These perspectives can be expressed by questions such as 'In what kind of political constellation does this state perform?', 'In what social-economical condition does this person live?', 'In what kind of emotionally relevant situation does this individual live?'. These questions already contain the word *in*, which is here specified by the perspective introduced by the respective question. In the answers, in which the above phrases are used, the preposition *in* is used under these contextually introduced or just assumed perspectives. The perspectives select the specifics for the inclusion at issue, namely here the inclusion of situations of a life history of an individual within a constellation of situations, which in our examples is characterised as war, poverty, or mourning.

Indurkhya, in his cognitive theory of metaphor, distinguishes the source domain with its corresponding source network from the target domain with its target network. The network is a semantic network, also called conceptual network, which structures its domain and especially determines the ontology in which the domain is understood. Primarily, independently of a specific conceptual network, the domain is just a sensory-motoric data set. The idea is that the sensory-motoric data set gets interpreted by making use of a suitable conceptual network. I want to stress, that we are not really consciously aware of the sensory-motoric data-set itself, rather what we consciously perceive is already structured by the network at issue. According to Indurkhya, the network is projected onto the respective domain. A metaphoric transfer of a term from one domain to another, i.e. from the source domain to the target domain, involves a transfer of the corresponding source network from the source domain onto the target domain.

He distinguishes similarity based metaphors from similarity creating metaphors. In similarity based metaphors part of the source network is identical with part of the target network. This identity constitutes the similarity and via this identical partial structure the application of the source network to the target domain is mediated. The similarity based metaphor involves a comparative: one thing is as the other as far as the identity goes. Within this class of similarity based metaphors he distinguishes syntactic metaphors from suggestive metaphors.

The syntactic metaphor is closed: the similarity is completely determining what is predicated in the metaphoric sentence. Only the identical part of the two networks is predicated. The syntactic metaphor gives an easier cognitive access to the target realm if the source network is more familiar, it highlights certain aspects and plays down others, and by this it furthermore makes a new abstraction possible of the parts which are highlighted. An example would be to understand an electric current by comparison with a stream of water.

The suggestive metaphor is open-ended. There is an initial correspondence or similarity between source network and target network, but the source network adds more features and relationships to the target realm, which have not yet been expressed in the target network. Suggestive metaphors have played a stimulating role for the growth of science.

In similarity creating metaphors (or projective metaphors) the source network is projected onto the target domain, although there is no similarity between the source network and the target network to begin with. Though the target realm is primarily

referred to by means of the target network, the structuring of the target domain by the target network is then disregarded and the source network is directly projected onto the target domain, reorganising its ontology. A new description of the target realm is provided, based on the metaphor. Examples are revolutionary metaphors in the history of science by which a traditional description of the target domain gets discarded and a new one established. As an example he gives the replacement of Newtonian mechanics by Einstein's relativity theory. Other examples are poetic metaphors, for which Indurkhya gives as example a poem by Eavan Boland in which, among other metaphors, a hillside covered with white flowering bushes of hawthorn is presented as an "ivory, downhill rush", "All I wanted then was to fill my arms with sharp flowers, to seem from a distance, to be a part of the ivory, downhill rush". The poet had always known that one should not touch hawthorn, that it might be dangerous and cause disease, and he concludes with "So I left it stirring on those hills with a fluency only water has, And, like water, able to redefine land." Indurkhya assumes that we hardly ever have thought of these white flowers as water, haven't seen the similarity before it was created by the poet.

3. Criticism and extension of Indurkhya's theory

I want to make three points:

1. In similarity based metaphors perspectives are necessary to single out the relevant similarities. Even for such a simple metaphor as 'John is a wolf' we find as identical parts of the two conceptual networks that John, a human, and a wolf have both two ears, have both two eyes, have a mouth, have teeth, etc. But all these identities are not meant to be predicated of John in the metaphor. We need the perspective of behaviour, and may be more specific the perspective of behaviour in conflicts and fights to select the right aspects that make up the similarity which is relevant here.

2. Not only network comparison or network projection makes metaphors, which means that metaphor is not only achieved on the level of theoretical concept formation. Rather also direct comparison of the target realm with the source realm by which, without the explicitness of a conceptual network, the target item can be placed together with the source items under a perspective which directs us to realise a similarity under the perspective. The target domain is directly seen in the light of the source domain. Hereby the focus of attention is directed by a perspective or context. This has been illustrated above where I sketched how metaphor works on the level of experiential concepts which are not explicated in linguistically expressed semantic network structures.

3. The similarity creating metaphors are similarity creating for someone who has not yet seen directly, in experience, the target realm as belonging to the source realm if seen under a certain perspective or seen in a certain context. For the poet they are not similarity creating. He must have experienced the similarity in perception and imagination. Thus he has found an existing similarity on the experiential level for which he uses the explication by means of the available source network. In the poem only the perspective given by the distance from the hawthorn could make it similar to the ivory rush of water into which the poet would have leapt for a bath if he were not taking into account the dangers of the hawthorn. He keeps in fact the target network intact and confronts it with the source network, even so far that he realises that the reality of the hawthorn makes him leave the imaginary world of the splashing water

that is only for anglers and wanderers astray in "the unmarked lights of a May dusk", where the fluency of water is "the only language spoken in those parts". The target network is not typically discarded in the poem, rather it is made repeatedly use of in the course of the poem as a contrast to the source network, and it finally subjects the source network under it. The decision to avoid close contact with the hawthorn is made against the attraction introduced by the water metaphor. Here again reality wins from the beautiful dream, which is merely an appearance in "the unmarked lights of a May dusk".

In a trivial sense all metaphors are similarity creating, namely for those that have not yet thought of the similarity at issue. It is a matter of degree how probable this situation is for different persons. Strictly speaking, we have to admit that there is not creation of similarity. A similarity that is not there cannot be created. Rather it comes into focus within the direction and selection which a context or a perspective provides. Therefore similarity under a perspective is a precondition for the creation of metaphor and a metaphor is not a pre-condition for the creation of similarity.

Selection and specification of relevant features by means of perspectives is quite different from cancelling features which are not compatible with the new domain, though one might think that selection and cancelling are just the converse formulations of the same process. If we call the man John a wolf we just predicate of him a selection of wolf features under the perspective of social behaviour. According to cancelling, we would predicate of John in saying that he is wolf also that he has a liver, kidneys, a heart, two eyes, etc., what all is not cancelled because man and wolf both have all these features in common. Certainly we don't mean all that when we metaphorically transfer the term *wolf* from the animal to the human. On the other hand a perspective can also add features which are relevant in the metaphoric transfer, as we have seen in the examples of the use of the preposition *in* above. The notion 'perspective' is essential for describing how metaphor works and it is essential for understanding the whole process of concept formation of which metaphor is just a part. In fact metaphor is just a normal part of concept formation which involves for the new cases of use of the linguistic expression a change in perspective. The change of perspective gives rise to a new concept if the use of the expression is continued under the new perspective.

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Polysemy in the Lexicon

ANDREAS BLANK

(blanka@mailer.uni-marburg.de)

> *Cause you know sometimes words have two meanings.'*
> Led Zepppelin, Stairway to Heaven.

1. Introduction

A fundamental problem lexicologists – and indeed all speakers – are concerned with is the fact that the number of words at our disposition is limited but that human imagination is virtually unlimited (Schlieben-Lange 1997: 242) and that the number of things, beings, processes and ideas that can be referred to is endless. There are mainly two strategies to cope with this disproportion: first, we match the concrete referent with a lexicalized meaning of a word and actualize this meaning in the concrete context; second, if the first strategy cannot be applied or risks to fail because there is no lexicalized meaning to cover the actual referent, we must create a lexical innovation as, e.g., a semantic innovation, a new word-formation or idiom or introduce a loan word (cf. Blank, in press a).

In the first case, the actual context meaning is located inside of the range of an existing semantic invariant: a learned semantic rule is applied to a given context. The present paper will try to define the criteria for this contextual variation (or "vagueness") and to distinguish it from different senses of one word, i.e. polysemy, and from different words showing an identical signifier, i.e. homonymy (cf. section 3). When we decide to use a word although we leave the traditional range of its semantic invariants, we create a semantic innovation. If this innovation is successful, it becomes, in turn, lexicalized as a new invariant of the word in question. The types of polysemy resulting from this diachronic process and the possible semantic relations linking them in synchrony will be discussed in section 2. Finally, section 4 accounts for very regular types of polysemy for which the traditional explanation of polysemy is unsatisfactory. This will lead us to a new view of polysemy as a complex multi-level phenomenon right at the crossroads where cognition, discourse, discourse rules and idiosyncratic lexicalization meet.

2. The synchrony of semantic change: types of polysemy

The term "polysemy" first appears in 1897 in Michel Bréals fundamental *Essai de sémantique*:

> Le sens nouveau, quel qu'il soit, ne met pas fin à l'ancien. Ils existent tous les deux l'un à côté de l'autre. Le même terme peut s'employer tour à tour au sens propre ou au sens métaphorique, au sens restreint ou au sens étendu, au sens abstrait ou au sens concret... A mesure qu'une signification nouvelle est donné au mot, il a l'air de se multiplier et de produire des exemplaires nouveaux, semblables de forme, mais différents de valeur. Nous appelons ce phénomène de multiplication la *polysémie.* (Bréal 1899: 154s.)

It is important to note that to Bréal polysemy arises as a consequence of semantic change, it is the "synchronic side" of lexical semantic change and can show different facets according to the kind of semantic relation between the old sense and the new one that derived from this older sense (cf. also Fritz 1998: 57s.). Usually these points are not given the importance they merit (except Sweetser 1990, but only with regard to metaphor) and handbook-definitions keep defining polysemy as the existence of a semantic relation between lexicalized senses of a word without further explanation of the nature of this relation.[1]

To understand the diachronic background of lexical polysemy we thus need, first of all, a typology of semantic change in order to understand how a semantic innovation can be related to a lexicalized sense. Such a typology, which is entirely based on associations between concepts or concepts and linguistic signs, was suggested in Blank (1997) and is displayed in the left column in Table 1. This typology serves as a basis for a detailed description of polysemy as the continuation of these associative relations in synchrony and which is presented in the right column in Table 1:[2]

As you see, there is no complete isomorphy between diachronic processes and synchronic states. Let us now briefly discuss the associative backgrounds of the types of semantic change and of their synchronic counterparts:

The best known type of polysemy is **metaphoric polysemy** deriving in most cases from metaphor as a diachronic process. Both are based on a more or less salient similarity between two concepts that belong to different or even distant conceptual domains. Similarity inside of one and the same conceptual domain or folk-taxonomy is the basis of co-hyponymous transfer, giving rise to **co-hyponymous polysemy**. The reason behind those transfers is probably the fact that speaker's knowledge of the referential limits of the concepts involved is temporarily or permanently blurred. Polysemy in these cases within the same dialect or register is quite unstable and tends to fade away.[3]

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[1] Cf. e.g. Cruse 1986: 80; Taylor 1995: 99; Saeed 1997: 64.

[2] Earlier, more or less preliminary versions of this typology are given in Blank 1993: 35-42; 1996: 116ff.; for further details cf. Blank 1997: ch.s V and VII.1.; cf. also Koch 1998: 132.

[3] This type of relation is often encountered across different dialects of one language as, e.g., EurSp *tigre* 'tiger' vs. AmerSp *tigre* 'jaguar' or EurSp *león* 'lion' vs. AmSp 'puma'. These are however marginal cases of polysemy because they have no reality for speakers in ordinary life situations.

Table 1.

types of lexical semantic change	synchronic relation when conventionalized
1. metaphor E *mouse* 'small rodent' > 'computer device' It *afferrare* 'to grasp' > 'to understand' L *brevis* 'short (spatial)' > 'short (temporal)'	**A. metaphoric polysemy** E *mouse* 'small rodent', 'computer device' It *afferrare* 'to grasp', 'to understand' L *brevis* 'short (spatial)', 'short (temporal)'
2. co-hyponymous transfer ? *ratt-* 'rat' > F (reg.), It (reg.) 'mouse' Pt *aborrecer* 'to annoy s.o.' > 'to bore s.o.'	**B. co-hyponymous polysemy** F (reg.) *rat*, It (reg.) *rat, ratta, ratto* 'rat', 'mouse' Pt *aborrecer* 'to annoy s.o.', 'to bore s.o.'
3. semantic extension MF *pigeon* 'pigeon raised for eating' > 'any kind of pigeon' Sp *tener* 'to hold' > 'to have'	**C. taxonomic polysemy** F *pigeon* 'pigeon raised for eating', 'any kind of pigeon' Sp *tener* 'to hold', 'to have'
4. semantic restriction VulgL *homo* 'human being' > 'man' F *blé* 'corn' > 'wheat'	 F *homme*, It *uomo*, Sp *hombre* etc. 'human being', 'man' F *blé* 'corn', 'wheat'
5. lexical ellipsis (absorption) **a) absorption into the determinatum** Sp *coche* 'coach' > 'car' (< *coche automóvil*) G *Schirm* 'shelter' > 'umbrella' (< *Regenschirm*)	 Sp *coche* 'coach', 'car' G *Schirm* 'shelter', 'umbrella'
b) absorption into the determinans F *diligence* 'velocity' > 'stage-coach' (< *carosse de diligence*) G *Weizen* 'wheat' > 'beer made of wheat' (< *Weizenbier*)	**D. metonymic polysemy** F *diligence* 'velocity', 'stage-coach' G *(der) Weizen* 'wheat', *(das) Weizen* 'beer made of wheat'
6. metonymy L *lingua* 'tongue' > 'language' L *defendere* 'to defend' > F *défendre* 'to forbid' G *während* 'while (temp.)' > 'whereas (advers.)	 L *lingua* 'tongue', 'language' F *défendre* 'to defend', 'to forbid' G *während* 'while (temp.)', 'whereas (advers.)
7. popular etymology F *forain* 'non-resident' > 'belonging to the fair' (< *foire*) Lat *somnium* 'dream' > Sp 'sleep' (< *somnus*)	 F *forain* 'non-resident', 'belonging to the fair' Sp *sueño* 'dream', 'sleep'
8. auto-converse change It *noleggiare* 'to lend' > 'to borrow' L *hospes* 'host' > 'guest'	**E. auto-converse polysemy** It *noleggiare* 'to lend', 'to borrow' F *hôte*, It *ospite*, Cat *hoste*, Occ *oste* 'host', 'guest'
9. antiphrasis F *villa* 'country house' > F (argot) 'prison' It *brava donna* 'honorable lady' > It (gergo) 'prostitute'	**F. antiphrastic polysemy** F *villa* 'country house', F (argot) 'prison' It *brava donna* 'honorable lady', It (gergo) 'prostitute'
10. auto-antonymy E *bad* 'not good' > E (slang) 'excellent' sard. *masetu* 'gentle' > 'irascible'	**G. auto-antonymic polysemy** E *bad* 'not good', (slang) 'excellent' sard. *masetu* 'gentle', 'irascible'
11. analogous semantic change F *polir* 'to polish', 'to steal' _ *fourbir* 'to polish' > 'to steal', *nettoyer* 'to clean' > 'to steal' etc. L *levare* 'to lift up', 'to erect' _ Sp *alzar*, It *alzare* 'to lift up' > 'to erect'	all relations possible, e.g. **metaphoric polysemy:** F *fourbir* 'to polish', 'to steal' **metonymic polysemy:** Sp *alzar*, It *alzare* 'to lift up', 'to erect'

Types 3 and 4 are also based on similarity of concepts within the same domain, as in most cases one of the two concepts involved in the semantic change was conceived as a prototypical instance of the whole category and therefore as a cognitive reference-point. In synchrony however, we tend to focus on the concomitant **taxonomic relation** between the two senses, one being the hyperonym of the other. In this view, the associative relation underlying the semantic change shifts to the background, while the taxonomic inclusion of referential classes becomes dominant.[4]

Type 5, **lexical ellipsis** – or better: **absorption** – shows two subtypes, depending on which part of a given complex word *absorbs* the sense of this complex word. Synchronically however, absorption is identical either with the result of

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[4] For a controverse discussion of this problematic cf. Gévaudan 1997; Blank 1997: 191; Blank 1999a: section 3; Blank: in press b; Koch: in press a.

semantic restriction, i.e. taxonomic polysemy, or with the synchronic effect of metonymy. Thus, absorption as a diachronic process has no proper synchronic reality.

This leads us to **metonymy** (including meronymy) and to its analogous synchronic counterpart. Both are based on conceptual contiguity, i.e. the typical and salient co-occurence or succession of elements in frames or scenarios or of these frames themselves.[5] The same synchronic result is produced by semantic change through **popular etymology** (with very few exceptions). Diachronically however, popular etymology combines necessarily conceptual contiguity with formal similarity.

Type 8 deals with the reciprocal interconnection of participants in a frame, such as the HOST and the GUEST in the frame "RECEIVING GUESTS". When such a converse relation develops within the same word, we call this auto-converse change leading to **auto-converse polysemy**. Although being a classical instance of opposition (cf. Aristoteles, *Categories* 10), this is rather a special case of contiguity which one could also list among metonymy.
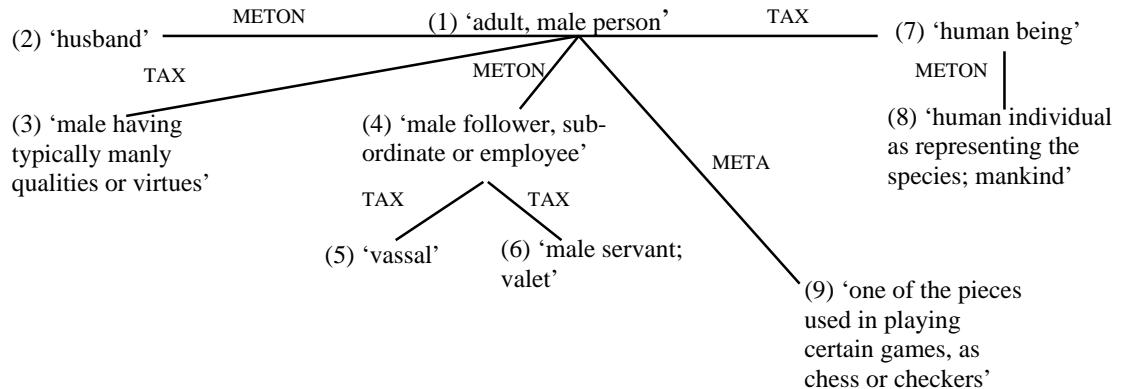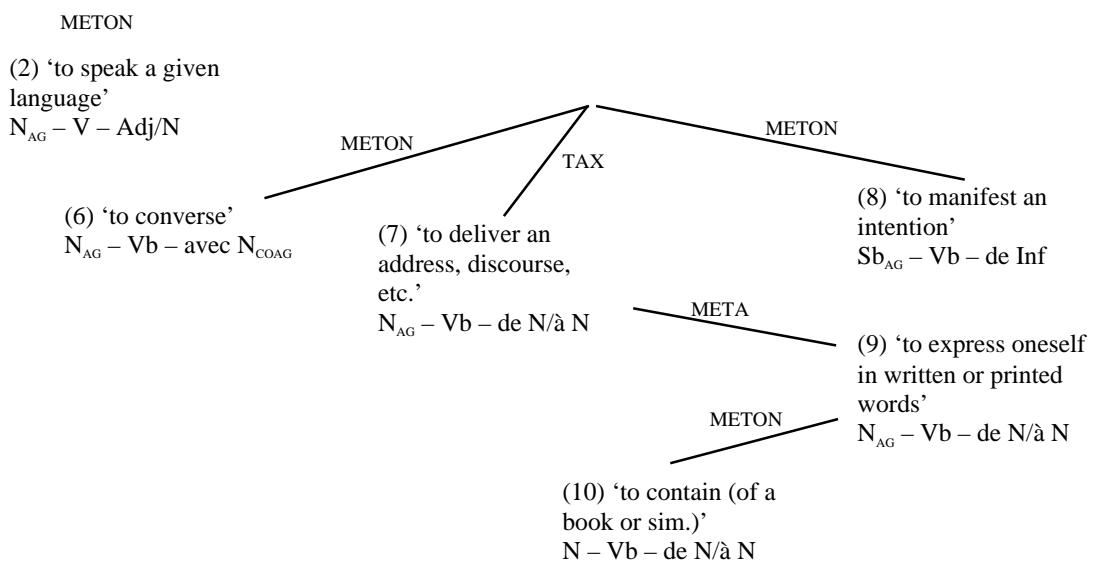
Opposite senses within one word develop in types 9 and 10, too. Here however, the underlying association is *contrast*, either on the connotational level (antiphrasis) or on the core content level yielding a kind of inner antonymy. Both cases do rarely become conventionalized and polysemy is often "asymmetric" as it usually does not function in the same register.

Analogous semantic change is the copy of an already existing polysemy, be it metaphoric, taxonomic or metonymic, to another word, whose older sense is synonymous (or more rarely co-hyponymous or antonymic) to the word that serves as a model: thus, during the history of Romance languages, *altiare* developed almost the same bundle of senses as *levare*, both being synonymous from the beginning (cf. Klein 1997: 134-137). As will be shown in section 4, analogy maybe plays an important role in cases of polysemy that cannot really be consequences of semantic change.

Types A–G in the right column of table 1 are synchronic relations between two senses of a word – and insofar the labels "metaphoric polysemy" etc. are somewhat inexact, as they do not describe the whole polysemy of a word. It is self-evident that each of a pair of two related senses can establish semantic links to other senses of the word in question. When we say that a word is polysemous, this does not mean that all senses of a word are interrelated or have "something in common". Polysemy is rather to be conceived as a chain or a network of senses. An application to lexicography thus inevitably leads to complex representations, but allows precise characterizing of the relations between the senses of one word, as is shown in Fig. 1 with E *man* and in Fig. 2 with F *parler*:[6]

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[5] Cf. Blank 1999b; Koch 1999.

[6] Ex. taken from WEUD and PR. Abbreviations: META = metaphor; METON = metonymy; TAX = taxonomic relation; AG = agent; COAG = counter-agent.

Fig. 1: E *man*_N

Fig. 1: E man_N

Fig. 2: Fr. $parler_{VB}$

3. Contextual variation – polysemy – homonymy

Polysemy as a concept of semantic description interacts with *contextual variation* (also called "vagueness") and *homonymy* (also known as "ambiguity"). Generally, a clear-shaped distinction between these three issues is found difficult, if not impossible (as concludes e.g. Geeraerts 1993: 263). Indeed, in normal-life situations, words only occur in concrete utterances and not in their more abstract and somewhat idealized dictionary definition. Thus, one has to define where contextual variation of one sense ends and where the semantic range of another sense starts – this is the distinction between vagueness and polysemy –, and one also has to find criteria to separate polysemous words, whose senses are, by definition, related, from homonyms, i.e. two lexemes without a proper semantic relation.

3.1. Contextual variation and polysemy

In a paper entiteled "Polysemy and cognition", Paul Deane (1988) adopts the so-called "standard-version" (Kleiber 1990) of prototype-theory – which about the same time was abandoned by mainstream Cognitive Linguistics.[7] According to Deane, the prototypical structure of categories allows speakers to utter sentences like (3a – c):

(3)   a. My *arm* hurts.
      b. Look at the *arm* of the statue.
      c. My mother was overdosed on LSD, so my *arm* is this little thing on my stomach.
      d. A robotic *arm* reached out and grabbed me.
         (all ex. cf. Deane 1988: 347)

In (3a) we have something like the prototypical instance of an *arm*, while in the other examples typical, but not necessary features of an *arm* are lacking: (3d) shares the essential functions of a human arm, but like (3b) is inanimate; (3c) has an improper position and maybe does not function as it should. Nevertheless, all three peripheral instances can be classified as "human arms". The corresponding core sense comprises a bundle of properties, some of which can be suppressed and produce the variation found in (3). Deane calls this phenomenon *allosemy* and differentiates this "on-distinct variation in the meaning of a word" (1988: 345) from polysemy by a couple of tests that cannot be referred to detailedly here (cf. Deane 1988: 347-350).

In my understanding of the problem, it is important to make a clear distinction between the referential or extensional level and the level of semantic description: in a referential view, *vagueness* can only mean that a given referent is classified as a peripheral instance of a category, but still as a member of this category. If we want to approach *vagueness* or better: *contextual variation* semantically, it can only mean that in a given utterance the contextual meaning of a word is recognised as an actualization of a lexicalized sense of this word, although not all defining features are appliable to this context, as e.g. [animate] or [human] to ex. (3b) and (3d). This more or less individual intuition is submittable to a test of *intersubjective relevance*: if two contextual meanings show a clear semantic overlapping, like e.g. the *arms* in (3), but nevertheless cannot be related properly by one of the seven semantic relations A–G, as defined in section 1, then we have contextual variation of one sense.

If, on the other hand, two referents have to be considered as instances of two different extensional classes, we are beyond the limits of referential vagueness. If these two context meanings are instances of two lexicalized senses which are related by one of the seven synchronic semantic relations stated above, then we have *polysemy*, as in (4):

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[7]   Polysemy is a core concept in newer studies in Cognitive Linguistics. According to Lakoff (1987), the different senses of a word correspond to the members of one single extensional cognitive category which, instead of having one prototypical member, shows a certain number of "prototype effects". This rather naive equation "one word – one concept" not only reveals to be a typical monosemous view of semantics, but leads to the puzzling interpretation of cases of clear homonymy, such as F *louer*$_1$ 'to rent' – *louer*$_2$ 'to praise', as a kind of monosemously conceived polysemy (e.g. in Geeraerts 1993, 234)! Cognitive semantics thus simply misses the main task of lexical semantics, i.e. to describe the senses of a word and the relations between them. Cf. detailedly Blank (in press c: section 11).

(4)   a. The *arm* of a coat.
       b. The *arm* of a record player.
       c. An *arm* of the sea.
       (all ex. cf. WEUD, s.v. "arm₁")

The *arm* in (4a) is an instance of a CONTAINER–CONTENT–metonymy; (4b) and (4c) are different types of metaphors, (4b) sharing clearly formal aspects with the human arm, (4c) being a kind of "landscape extremity". By contrast to (3), none of these referents shows a positioning in the upper part of the human body or of a body built after the human model: they are no arms but can be *conceptualized* as such.[8] In this view, it is clear that different extensional classes correspond to different concepts and senses which all can be related to one signifier. Metaphors, metonymies etc. do *not* extend an extensional or conceptual category but relate a new extensional category and its concept to a given word.[9] If this metaphor or metonymy remains a singular contextual effect, i.e. an innovation, nothing happens, but if it is picked up by other speakers and thus becomes conventionalized, a new sense is created within the lexical range of one word.

3.2. Polysemy and homonymy

The combination of the referential and the semantic criterion now enables us to distinguish polysemy from homonymy. Consider ex. (5):

(5)   a. The *arm* on that statue looks better than yours. (cf. Deane 1988: 347)
       b. A special *arm* of the government is to investigate the matter. (cf. WEUD, s.v. "arm₂")
       c. His religious convictions kept him from bearing *arms*, but he served as an ambulance driver with the Red Cross. (cf. WEUD, s.v. "arm₂")
       d. Three lions passant gardant ... the Royal *Arms* of England. (Porny, Heraldry [1787], cf. OED, s.v. "arm₂, IV014")

Referentially, all four examples belong to different extensional classes. Now, while (5b) is another lexicalized metaphor related to (5a), there is no proper reading of (5c) that allows a semantic relation to (5a) or (5b); here *arm* means 'weapon'. (5d) is metonymically linked to (5c), as indeed, a noble's family crest was painted on a shield, i.e. on an arm (cf. G *Waffen – Wappen*). We can thus conclude that (5a) and (5b) can be assigned to one polysemous word, and (5c) and (5d) to another, while there is no link between the first pair and the latter: this is homonymy.

    Polysemy results from the lexicalization of an associative process and therefore is semantic in nature, while homonymy, in by far the most cases, arises from

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[8] This is probably the difference between (4b) and the robotic arm in (3d), which in fact *is* the arm of the robot, as it functions (and maybe looks) like a human arm, while the arm of the record player is not an arm but an artefact that can be perceived *as* an arm.

[9] It is important not to equate *word*, *concept* and *extensional category* as is done in some directions of cognitive linguistics (esp. Lakoff 1987; cf. the critique in Brown 1990: 23; Kleiber 1990: 147; Koch 1995: 37).

phonetic clash, as was the case in our example E *arm₁* 'upper limb of the human body' and the like vs. *arm₂* 'weapon':

(6)   a. OE *earm* 'upper limb of the body' > ModE *arm₁*
         b. OF *arme* 'weapon' > ME *arme* > ModE *arm₂*

Divergent etymology is an important hint to the lexicographer and helps to understand synchrony, but etymology should not be taken to *describe* synchrony. This is not only a question of methodological integrity, a description based on this criterion would not even succeed to explain the following cases:[10]

(7)   a. OF *voler* 'to fly (itr.)' [>METON> 'to hunt with falcons (tr.)' >METON> 'to catch the prey' >META>] 'to steal' (hence ModFr. *voler₁* 'to fly' – *voler₂* 'to steal')
         b. MHG *sloz* 'lock' [>META> 'castle locking a valley or a pass' >EXTENSION>] 'castle, palace' (hence ModG *Schloss₁* 'lock' – *Schloss₂* 'castle')
(8)   a. Lat *somnus* 'sleep' > Sp *sueño* – *somnium* 'dream' > Sp *sueño* (hence > Sp *sueño* 'sleep' –METON– 'dream')
         b. OE *corn* 'grain' > ModE *corn* – OF *corn* 'horny induration on the foot' > ModE *corn* (hence ModE *corn* 'grain' –META– 'corn on the foot')

In (7), we should have, diachronically, polysemy, but the senses that linked the first and the last acceptation disappeared from usage (put into square brackets), so that there is no semantic relation between the remaining senses: this is *secondary homonymy.* In (8), original homonymy is reinterpretated as polysemy by speakers who feel a semantic relation between the two senses in question: this is *secondary polysemy.*

3.3. Referential class and semantic relation: A double test for polysemy

The last four examples have emphasized that we need criteria that work exclusively in synchrony. A typology based on the features of referential class and semantic relation fulfills this claim and separates homonymy from polysemy and the latter from mere contextual variation:

Table 2.

	word form	**referential class**	**semantic relation A – G**
contextual variation ("vagueness")	identical	identical	no (below the level of semantic relation)
polysemy	identical	different	yes
homonymy ("ambiguity")	identical	different	no (beyond the level of semantic relation)

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[10] Cf. for further examples Ullmann 1962: 164-179; Widlak 1992; Blank 1997: 430-433; Fritz 1998: 58.

Contextual variation describes the semantic range of one lexicalized sense; thus, if there is a semantic difference, it is below the level of the semantic relations introduced in section 2. Polysemy is a property of the semantic status of a word and describes a network of related senses of this word, as exemplified above with E *man* and F *parler*. Homonymy means that two words are identical only phonetically; we are beyond the level of semantic relation.[11] The decision whether there exists a semantic link or not, is by no means fortuitous – as it sometimes may appear – but can be, in most cases, defined in terms of the semantic relations we have elaborated above. This typology may in fact result from diachronic processes but it is essentially a description of synchronic relations.

Considering finally the terms "vagueness" and "ambiguity", I'd like to insist on the point that not the senses of a word are vague, but that sometimes contexts are vague, when they allow different readings, and that often referents are vague insofar as they are difficult to attribute to an extensional category. Once, however, we decide to attribute the "poor little thing on one's stomach" to the class of human arms, the word becomes fully linked to the corresponding concept and linguistic content. Prototypicality thus is a property of extensional classes and not of concepts or senses.

4. Discourse rules, idiosyncrasy and lexicalization: levels of polysemy

4.1. Typical recurrent polysemies

Until now, we kept Bréal's dogma that polysemy is the synchronic side of semantic change. A great number of lexicalized semantic changes supports this view. It is, however, challenged by typically recurrent polysemies in different languages, as e.g. E *school* which, according to the context in which it is used, means 'building' (9a), 'a period of education' (9b), 'the body of pupils and of teachers' (9c), 'a course or a couple of courses' (9d) and 'department of a university' (9e):

> (9)   a. The children are now at the *school*.
>   b. *School* starts at the age of six.
>   c. The entire *school* rose when the headmaster entered the auditorium.
>   d. After *school* the children rush home.
>   e. John now teaches at Harvard Medical *School*.

Even more universally anchored are the CONTAINER-CONTENT- and the CAUSE-RESULT-metonymies in (10) and (11):

> (10) a. I just bought Chomsky's latest *book*. (= CONTAINER)
>   b. Chomsky's latest *book* is awful. (= CONTENT)
> (11) a. Mary is *sad*. (= STATE [AS RESULTING FROM STH.])
>   d. Mary brings *sad* news. (= CAUSE)

Polysemy of this kind is a quite common phenomenon: the CONTAINER-CONTENT-metonymy can be applied to all sorts of containers (cf. the semantic description in

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[11] The same set of criteria can be used to define other lexical relations such as *paronymy* (word form: similar; referential class: different; semantic relation: no), *synonymy* (word form: different; referential class: identical; semantic relation: no, but senses differ only on the connotational level), *hyponymy* (word form: different; referential class: indifferent; semantic relation: yes).

Copestake/Briscoe 1996: 30s.), the CAUSE-RESULT-relation is generally found with emotional adjectives and the different metonymies in (9) are common to a couple of words referring to institutions with members in a building or similar (e.g. *parliament*, *police-station*, *church*, *country club* etc.) and are therefore highly predictable (cf. Bierwisch 1983: 82). To explain this kind of somehow "regular" relation, two ways are open: monosemy (cf. secrtion 4.2.) or a special type of polysemy which I will call "rule-based polysemy" (cf. section 4.3.)

4.2. Two-level-semantics and polysemy

Let us first investigate the best-known monosemous approach to (9) and (10): In his "two-level-semantics", Bierwisch treats examples as E *school* as conceptual shifts from an abstract semantic representation, as a kind of world-knowledge guided semantic expansion of a core-sense in specific contexts (Bierwisch 1983: 85-88).[12] Bierwisch's basically monosemous interpretation leads to very complex or very abstract lexical entries (cf. his formalized notation): this is a problem at the level of metalanguage, but does not contradict monosemy as such. The "hard" problem with monosemy is that if we really had a core-sense that is expanded by conceptual information, the expansion should function in all similar cases in one language and it should even function universally. This is not the case, as e.g. (9e) would not be possible in German, and (9d) would not allow insertion of E *police-station* meaning 'duty hours':

> (12) a. G *Hans lehrt jetzt an der Medizinischen *Schule* der Harvard-Universität.
> b. *After *police-station* the policemen rushed home.

A case where universality does not work at all is transitivation:[13]

> (13) a. E John *sleeps* in this hotel. – This hotel *sleeps* 100 guests.
> b. F Jean *dort* dans cet hôtel. – *Cet hôtel *dort* 100 clients.
> c. G Hans *schläft* in diesem Hotel.– *Dieses Hotel *schläft* 100 Gäste.
> (14) a. F Marie *sort* de la maison. – Marie *sort* un pistolet de son sac.
> b. E Mary *comes* out of the house. – *Mary *comes* a pistol out of her hand-bag.
> c. G Maria *kommt* aus dem Haus.– [???]Maria *kommt* eine Pistole aus der Handtasche.

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[12]   More details to (newer) issues on monosemy in Koch (1998: 126-130). Other possibilities used in structural approaches are maximizing homonymy, which would override the semantic relations between the sense, or the shift of polysemy from the level of the "system" to the level of the "norm", as defined by Coseriu (cf. Coseriu 1967). This direction is chosen by Dietrich (1997). In this case however, the language's semantic system degrades from a network of lexicalized word meanings to a mere "semantic potential". This systematic semantic potential would not really contain language-specific semantic knowledge but encyclopedic knowledge, conceptual frames, rules of presuppositions etc. which allow to deploy this semantic potential on the level of lexicalized meanings. Such a "minimalist program of semantics" is suggested by Schlieben-Lange 1997: 244ff. (cf. the critique in Koch 1998). To a general critique of the monosemous view of word meaning in structural semantics as developed by Eugenio Coseriu and his disciples cf. Taylor: in press.

[13]   For further examples cf. Schwarze/Schepping 1995.

(13) and (14) show that transitivation is a general conceptual process, but nevertheless it is highly idiosyncratic: e.g., in French, intransitive verbs for DIRECTION OF MOVEMENT (*sortir*, *entrer*, *monter*, *descendre* etc.) generally have developed a causative sense (less commonly used with *entrer* however), which is not the case in English and German. And even within one and the same language, a rule is not always transferrable but is submitted to idiosyncrasy, as show the following examples taken from Pustejovsky/Boguraev (1996: 3s.):[14]

> (15) a. Sam enjoyed the *lamb*.
>   b. The *lamb* is running out in the field.
> (16) a. *We ordered *cow* for dinner.
>   b. *The *frog* here is excellent.

While E *lamb* admits the polysemy of 'animal' and 'meat prepared for cooking/eating', this is not allowed with *cow/beef*, whereas in (16b) a reference to the whole animal is excluded, since usually only hind legs of frogs are eaten. If all these words had, on the intralinguistic level, a rather abstract core-sense which allowed semantic expansion induced by encyclopedic, extralinguistic knowledge, the different idiosyncrasies would be very hard, if not impossible to explain. Monosemy, thus, rises severe methodological problems and is to be excluded.

    We can conclude that, first of all, the types of polysemy described in (9) – (15) result from the profiling against a cognitive background, which is transferable to similarly construed domains, but that, nevertheless, these culture-specific rules are realized on the level of one language and thus have to be learned one by one (Schwarze/Schepping 1995) or, rather, their specific restrictions and, so to speak, their individual "areas of non-application".

4.3. Discourse rules and polysemy

Against this background, it becomes evident why polysemy in Bréal's sense does not provide a satisfying explanation to this kind of polysemy, as it is indeed difficult to explain the apparent regularities with a great number of parallel semantic changes. Here again, an interesting distinction is found in Deane (1988): Deane calls the non-predictable, idiosyncratic polysemy (the "Bréal-type") "lexical polysemy", while typical semantic relations, as discussed throughout the present section, are labelled "regular polysemy" (1988: 349s.). Deane's distinction in itself is ingenious, his terminology however is problematic, as all polysemies treated here are "lexical" by nature.

    Despite of this imprecision, Deane was going into the right direction, as indeed his "lexical polysemy" is, as defined above in section 2, a synchronic

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[14] Examples of this kind do not only challenge monosemous approaches to word meaning but also the decidedly polysemous approach of Pustejovsky (1995) itself: He has developed a complex semantic theory whose core is built by four types of semantic features called qualia, which are designed according to the four types of causes as defined by Aristoteles (cf. *Organon* IV, 2: ch. 11). These qualia do in fact explain very well regular metonymic and taxonomic polysemy, but they do not account for exceptions as in (15), and they seem not to offer at all an explanation for metaphoric polysemy, as this type would require qualia or argument-structure mapping. Indeed, as Pustejovsky/Boguraev (1996, 4) admit, "the polysemy [in the case of *cow* or *frog*; A. B.] is the result of lexical rules rather than of alternations within the qualia of a single lexical item, such as with *door* [...]." An interpretation of these cases as "semi-productive polysemy" is given by Copestake/Briscoe (1996).

consequence of *lexicalized semantic change*, while "regular polysemy" is obviously different. The first type is characterized by examples as E *mouse* 'small rodent', 'computer mouse' or G *Schirm* 'shelter', 'umbrella' and will henceforth be called *idiosyncratic polysemy*. The second type is characterized, e.g., by E *book* 'printed work', 'contents of this work' and will be called *rule-based polysemy*, as the polysemy of *book* arises from the rule that metonymic transfers from the CONTAINER to the CONTENT are widely admitted in discourse. According to the term "conceptual metaphor" introduced two decades ago by Lakoff/Johnson (1980), we can call the CONTAINER–CONTENT–relation a "conceptual metonymy" or a "contiguity-schema" (cf. Blank 1999b). In fact, all examples cited in this section, are instances of different conceptual metonymies as, e.g., BUILDING – FUNCTION/GOAL (9b), BUILDING – AFFECTED PERSONS (9c), CAUSE – RESULT (11), CONTAINER – CONTENT (10; 13a), OBJECT – ACTOR (14a), ANIMAL – MEAT OF THIS ANIMAL (15).

Insofar, we can insert our typology of polysemy in the greater context of cognitive semantics and we can state immediately that not only conceptual metonymies lead to rule-based polysemy but that, of course, conceptual metaphors as well constitute such as shows the "extension" of the BUILDING–THEORY–metaphor in (17b):

(17)   a. Is that the *foundation* of your theory?
       b. His theory has thousands of little rooms and long, winding corridors.
           (ex. cf. Lakoff/Johnson 1980: 46, 53)

The central tenet of *Metaphors we live by*, viz. that "our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature" (Lakoff/Johnson 1980: 3), does not lose its charm when extended to metonymy. Conceptual metaphors are one way of structuring the world via language; conceptual metonymies represent another, maybe even more important way. Less often, so it seems, do we use taxonomic relations deriving from the relation between a prototypical instance of a category and the category itself.[15] It is fully convincing that our reflecting upon the world uses all major strategies, metaphor, metoynmy and hyponymy. On the level of discourse, this fact is mirrored by the use of conventional metaphors, metonymies (and taxonomies) as well as by innovations based on conventional conceptual metaphors and metonymies and on prototype-category-relations. It is also rather uncontroversial that metonymies rely on fundamental contiguities – often anchored in frames and scenarios – and that metaphors result from perceptual or functional similarities between not directly related concepts or domains (cf. Croft 1993; Koch 1995; Blank 1997).

What remains unclear however is the question on which level of knowledge these conceptual metaphors and metonymies are stored in our mind and why there are language-specific restrictions for the use of some words, while others don't have these restrictions, although showing the same conceptual background (see the examples cited above). It obviously not suffices to say that the former is encyclopedic knowledge and that the latter is somehow idiosyncratic. At this point, it is necessary to add two further levels of linguistically relevant rules, i.e. the level of rules of so-called "discourse types" or "discourse traditions" and the level of language rules that are specific for one language. Discourse traditions are sets of rules for the correct

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[15] Cf. Nerlich/Clarke (in press) who describe typical discourse types where taxonomic strategies are exploited.

production of a specific discourse as, e.g., the set of metaphors and clichés of Renaissance poetry or the typical phrases and strategies used when buying a used car or presenting a paper at a conference (cf. for details Koch 1997). Although realized, of course, in a concrete language, a discourse rule is not language-specific: it characterizes a type of discourse and thus is common to speakers of all languages who use a discourse type in a determined way (e.g., the typical Petrarchian metaphors were known all over Europe during the 16th century, but only within a small group of connoisseurs). Language rules, on the other hand, are idiosyncratic to a whole speech community or to a geographically or socially defined group.

These two levels interact with the encyclopedic or conceptual knowledge, on one side, and with the actual discourse, on the other side, as is represented in Fig. 3:

Fig. 3: Interaction of conceptual rules, language-specific rules, discourse rules and discourse
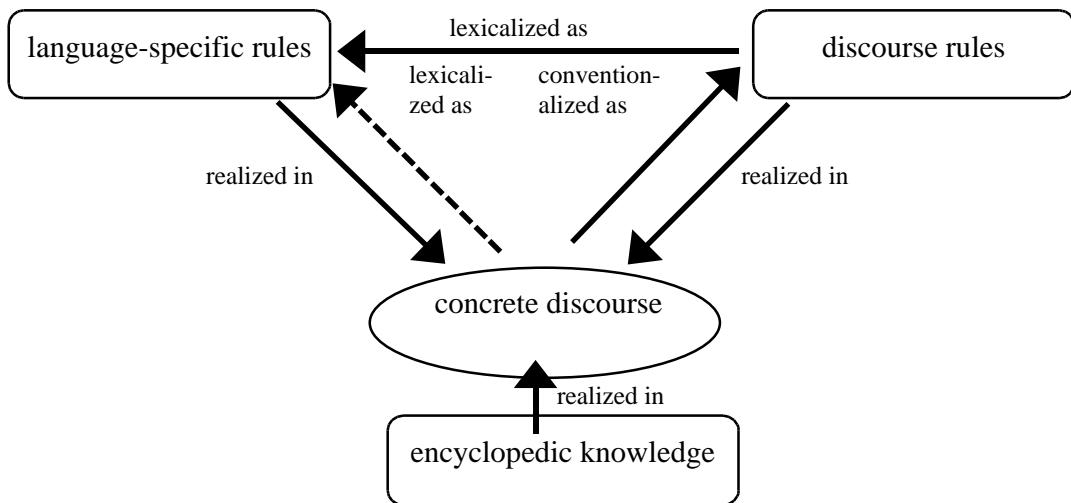
According to this model, innovations are either realized on prominent encyclopedic knowledge with the psychological basis of salient associations (as, e.g., salient similarity, contiguity or contrast), or speakers derive them by analogy to already existing conceptual metaphors, metonymies or taxonomies, which, of course, have themselves cognitively pregnant foundations. Innovations can be lexicalized directly as a specific language rule – an idiosyncratic metaphor, metonymy etc. (represented by the broken arrow) – or, and this seems to be more common, as a rule of the specific discourse type in which the innovation was first used. This innovation later may get lexicalized as a proper language rule.

In the case of metonymy, for instance, several conceptual contiguities are permanently highlighted and allow analogous metonymies to words that access the same or a parallel construed frame or the same discourse type. As we probably have not learned all these potential metonymies before, we must have learned the *rules* that underlie them and their specific restrictions. Waltereit (1998: 14-19, 26ff.) has clearly pointed out that these rules are mainly *discourse rules*: every discourse type activates a set of "conceptual metonymies" that can be filled with concrete lexical metonymies. This explains why, e.g., (10) and (11) are very wide-spread types of contiguity corresponding to a rule in a large number of discourse types. The range of a conceptual metonymy thus is limited by the range of its discourse type(s), as shows (18):

(18) a. The *ham sandwich* is waiting for his check.
      (ORDERED DISH – CUSTOMER in waiters' discourse)
    b. G *Ich* werde verlängert
      (EMPLOYEE – CONTRACT in discourses concerning work)

In this new perspective, we can now understand why (12b) was odd: the contiguity-schema PLACE OF WORK – TIME OF WORK is not a usual discourse-rule, although being fully understandable. The conceptual metonymy can be used creatively to produce analogous metonymies, but only on the grounds of the activated discourse type. The same holds true for typical conceptual metaphors: once a similarity scheme is anchored in the mind as a rule of discourse-types it can be productively filled with analogous metaphors, as exemplified in (19).[16]

(19) a. E The trigger word opens a *mental space.*
      (CONCEPTS – CONTAINERS in linguistics)
    b. F Je paragonne à ta jeune beaulté, Qui toujours dure en son printemps
      nouvelle, Ce moys *d'Avril*, qui ses fleurs renouvelle [...]
      (Ronsard, *Les amours* CIII [1552])
    c. Thou art thy mother's glass and she in thee
      Calls back the lovely *April* of her prime.
      (Shakespeare, *Sonnets* III)

The use of F *avril*, E *april* in the sense of 'youth' is a metaphor restricted to Renaissance poetry, but here again, analogous transfers were possible:

(19) d. For since mad *March* great promise made of me; If now the *May* of my
      years much decline, What can be hoped my harvest time will be?
      (Sidney, *Astrophel and Stella* [~ 1580]; cited after: Shakespeare,
      Sonnets, ed. by C. Knox, London: Methuen 1918: 6fn.)

Restrictions based on a specific discourse type work also for typical taxonomies, but here the situation remains less marked than in the case of metaphor or metoynymy and needed further investigation:

(20) I apprehended a *vehicle* on the *premises.*
    (BASIC LEVEL CONCEPT – SUPERORDINATE LEVEL CONCEPT in "police-speak"; ex. cf. Nerlich/Clarke, in press)

Concrete metaphors, metonymies or taxonomies are rules of specific discourses and exactly the same holds true for the conceptual metaphors, metonymies and taxonomies that stand behind them. They can be very narrowly restricted to a "small" discourse type or may function as a rule in a larger set of discourse types. The specifity of the discourse type to which a conceptual metaphor or metonymy is submitted determines also the transferability of this conceptual metaphor or metonymy to other words: one cannot extend a conceptual metaphor or metonymy to a word that would not be used in discourses where this rule is operative. The range of

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[16]   There is however a greater number of very open conceptual metaphors (as e.g. "orientational metaphors"; cf. Lakoff/Johnson 1980: 14ss.).

these metonymies and metaphors is specifically limited by culturally induced frames and the discourse rules themselves and can therefore vary from society to society.

Furthermore, it is possible for a metonymy, metaphor or a new hyponymous or hyperonymous sense to become lexicalized as a specific language rule on the level of a determined language.[17] At this point, we have an idiosyncratic lexicalization of a discourse rule (itself originally profiled against a cognitive background). Parallel *lexicalized* metaphors and metonymies deriving from such rules can then be interpreted as instances of *analogous semantic change* (see section 1).

4.4. Four levels of polysemy

To sum up, we can now revisit our examples for polysemy (9) to (20) and, according to the model we have developed, determine their specific character. This leads to a fourfold typology of *different levels of polysemy*:

1. Rule-based, non-lexicalized polysemy:
   Ham sandwich 'customer who has ordered a ham sandwich' follows a discourse rule which is restricted to a very specific discourse type and which is only appliable to a limited number of contexts (Fauconnier 1984 speaks of a "closed connector"). Within the framework of this discourse type however, it is fully transferrable to other dishes. There seems to be no further lexicalization of this discourse rule or of one single instance of this metonymy on the level of a specific language. It is nothing more or less than a discourse rule in waiter's discourse, probably all over the world. Roughly the same holds true for (18b) and (19a) - (19d).

2. Rule based and lexicalized polysemy with no or few idiosyncratic restrictions.
   The polysemies of E *book* and *sad* derive from an encyclopedic (maybe universal) cognitive background and are instances of rather unspecific discourse rules, as referring to the content via the container or to the cause via the effect is allowed in many contexts. The examples are also lexicalized as language rules in their specific languages but, in contrast with the following types, they show almost no idiosyncratic restrictions of use and of transferability to analogous concepts.

3. Rule-based and lexicalized polysemy with idiosyncratic restrictions:
   a. The different polysemies of E *school*, *to sleep*, *lamb*, *to operate* as well as F *sortir* all derive from from a rather universal cognitive background and, just as the examples in 2, they are instances of very wide discourse rules and are lexicalized as rules of the English lexicon. Furthermore however, they are submitted to more or less strong idiosyncratic restrictions. This inhibits full transfer to analogous cases, which, in case, would be considered by native speakers as a violation of the language's norm, although being completely systematic and understandable.
   b. E *mental space*, *vehicle* and maybe also *school* in (9e) belong to the same type as described in 3a, but show furthermore a restriction to a specific stylistic or socio-linguistic level.

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[17]   According to Schwarze/Schepping (1995) this is even a necessary development.

4. Idiosyncratic lexicalized polysemy:

The last type covers cases of polysemy which have developed without the overt application of a conventional pattern, i.e. a conceptual metaphor, metonymy or taxonomy. Instances of this type cited in section 1 are It *rat* 'mouse', 'rat'; Sp *coche* 'coach', 'car'; Sp *sueño* 'dream', 'sleep'; F *hôte* 'host', 'guest' or Sard *masetu* 'gentle', 'irascible'. An intermediate stage of conventionalization as a discourse rule however cannot be excluded. Idiosyncratic polysemy of this type seems to occur especially as a consequence of absorption, semantic extension, popular etymology, auto-converse change and contrast-based semantic change, i.e. types of semantic change that are due to general language-relevant rules (as, e.g., expressivity or efficiency; cf. Blank, in press d), but which usually do not apply conceptual patterns as do metaphor, metonymy and – less marked – semantic restriction.

These different levels of conventionalization and idiosyncratic restrictions mark, to a certain extent, the speaker's awareness of a polysemy: Type 1 is completely normal in its context, but is easy to amuse or scandalize people when used in a non-appropriate discourse situation.[18] Type 3b is applicable to many discourse types but may be the inappropriate register. Type 3a is usually "inconspicuous", but can give rise to astonishment or reproval when transferred productively to non-lexicalized items. In this effect relies the innovating speakers' chances for conveying a communicative effect. The chances for a communicative effect are less good in case of type 2 which is open to transfers. There is also evidence that with type 2 speakers actually seem to have difficulties in distinguishing polysemous senses.[19] Type 4 is too heterogenous for generalizations: here everything depends on the individual instance of polysemy.

5. Conclusion

As has been demonstrated in the last section, polysemy is not fully derivable from semantic change. In this point, we had to modify Bréal's view. Polysemy as the *directly* lexicalized consequence of semantic innovation has revealed to be merely one way in a set of possibilities. Indeed, speakers obviously prefer to apply conceptual patterns anchored in discourse traditions and thus innovations are often created on the basis of these patterns. Innovations can become conventional on the level of a discourse type and can further be submitted to lexicalization as a language rule with or without specific idiosyncratic restrictions of both use and transferability.

While even laymen can decide whether there is a semantic relation or not, polysemy for a long time has been puzzling the specialists. This paper has developed a referential and semantic test for distinguishing polysemy from contextual variation and homonymy and has laid bare seven types of semantic relations between lexicalized senses of a word. As a theoretical concept of semantics, lexical polysemy

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[18]   Imagine someone talking about a restaurant where he/she has been for dinner saying: "And then this ham sandwich sitting next to us went off without paying."

[19]   This can at least be drawn from the results of the empirical approach of Soares da Silva (1992): his Portuguese subjects had to classify the semantic relation of marked words in pairs of sentences from "0" (no relation) to "4" (identical). The highest score in his test actually was given to Pg *livro* 'book (CONTAINER-CONTENT)' (3,92) and *triste* 'sad (RESULT-CAUSE)' (3,62), which means that many test persons weren't fully aware of the polysemy, i.e. of the semantic difference. Instances of type 3 were usually better classified as being polysemous (score between 1,5 and 3,5). Cf. also Blank 1997: 418s.

has now become defined in positive terms and, as a tool of semantic and lexicographic description, we can now use it with much more precision. Both, the seven types of semantic relations and the distinction from vagueness and ambiguity are submitted to intersubjective judgment, and it is therefore self-evident that they will not succeed to explain unanimously all concrete cases. This is, in fact, due to the "interpretative nature of linguistic semantics" (Geeraerts 1993: 263).

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Formale Analyse von Metonymie und Metapher*

JOHANNES DÖLLING

(doelling@rz.uni-leipzig.de)

Einführung

Metonymie und Metapher werden in der traditionellen Rhetorik als verwandte, dennoch klar zu unterscheidende Formen des nicht-wörtlichen Sprachgebrauchs behandelt. Nach gängiger Vorstellung dienen Metonymien dazu, um mit Ausdrücken auf Gegenstände zu referieren, die nicht zu ihrem eigentlichen Referenzbereich gehören, aber auf bestimmte Weise mit diesem verbunden sind ('Teil für Ganzes', 'Behälter für Inhalt', 'Objekt für Nutzer', 'Ort für Ereignis', 'Ort für Person', 'Institution für Angehörige' etc.). Die Funktion von sprachlichen Metaphern sieht man dagegen vor allem darin, Gegenstände unter dem Blickwinkel von Gegenständen zu verstehen, die ursprünglich mit dem betreffenden Ausdruck erfasst werden und denen erstere irgendwie ähneln ('Person als Tier', 'Person als unbelebtes Objekt', 'Geist als Körper', 'Mentales Objekt als Gebäude', 'Mentales Objekt als Behälter' etc.).

Mit dem vorliegenden Beitrag teste ich Möglichkeiten, Metonymie und Metapher sowie die mit ihnen verbundenen Formen von Polysemie im Rahmen einer formalen Auffassung von konzeptueller Semantik zu rekonstruieren.[1] Dabei soll meine Analyse unter anderem folgendes zeigen:

1. Metonymien und Metaphern bedienen sich desselben Typs semantischer Operationen, die in Gestalt von noch zu fixierenden Parametern Ansatzmöglichkeiten für die Realisierung von pragmatisch bzw. kognitiv gesteuerten metonymischen und metaphorischen Interpretationen zur Verfügung stellen. Beide Arten der kontextuellen Uminterpretation von Ausdrücken sind auf diese Weise mit einem kompositionellen Verständnis von Semantik vereinbar.

2. Metonymien und Metaphern resultieren aus konzeptuellen Verschiebungen unterschiedlichen Typs. Metonymische Interpretationen bestehen in einer vom Kontext unterstützten systematischen Transformation einer wörtlichen Bedeutungsvariante des betreffenden Ausdrucks; metaphorische Interpretationen sind Bedeutungsverschiebungen, die zugleich eine Veränderung im vorausgesetzten Konzeptualisierungsraster einschließen.

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[1] Durch die sich als *kognitive Linguistik* verstehende Forschungsrichtung - siehe beispielsweise Lakoff & Johnson (1980), Fauconnier (1985), Lakoff (1987) und Taylor (1995) - sind Metapher und Metonymie in das Zentrum von semantischen Untersuchungen gerückt worden, die sich allerdings gewöhnlich einer logisch orientierten Sichtweise entziehen. Im Unterschied dazu existiert gegenwärtig auf Seiten der formalen Semantik insgesamt noch ein merkliches Defizit bei der Bearbeitung von Problemen, die mit diesen Operationen der kontextuellen Bedeutungsvariation verknüpft sind.

3. Metonymien und Metaphern beinhalten konzeptuelle Beziehungen unterschiedlichen Typs. Während bei der ersteren die Beziehung zur wörtlichen Bedeutung eine ontologische Relation zwischen Elementen der jeweiligen Bezugsdomänen widerspiegelt, liegen bei der letzteren Ähnlichkeitsbeziehungen zwischen den involvierten Arten zugrunde, die ihrerseits mit der in der Metaphernbildung realisierten konzeptuellen Projektion verbunden sind.

4. Metonymien und Metaphern führen bei lexikalischer Konventionalisierung zu konzeptuellen Effekten unterschiedlichen Typs, und zwar insofern als die dadurch hervorgehenden Lexeme zum einen durch systematische Polysemie und zum anderen durch Polysemie mit Bedeutungsähnlichkeit gekennzeichnet sind.

Zu den Grundannahmen des hier vertretenen Verständnisses der konzeptuellen Semantik gehört, dass Bedeutungen sprachlicher Ausdrücke generell als konzeptuelle Strukturen aufzufassen sind, mit denen auf mehr oder weniger vermittelte Art und Weise Strukturen der Welt mental repräsentiert werden. Konzeptuelle Strukturen, darunter insbesondere die in ihnen vorkommenden konzeptuellen Einheiten reflektieren nicht einfach eine vorgegebene 'Welt an sich', sondern stellen das Ergebnis einer Interaktion von kognitivem Apparat und umgebender Realität dar. Ich sehe mich damit in Übereinstimmung mit dem Bemühen von Forschern zum Teil sehr unterschiedlicher Orientierung, dem Zusammenhang von Bedeutung und Kognition die ihm gebührende Aufmerksamkeit zu schenken (siehe beispielsweise Jackendoff 1983, 1997, Bierwisch 1983, 1996, Fauconnier 1985, Partee 1987, 1995, Lang 1990, Gärdenfors 1999). Einen entscheidenden Aspekt meines Herangehens bildet die Auffassung, daß zumindest für die sprachbezogenen Bereiche der konzeptuellen Strukturbildung von logischen Repräsentationsformaten auszugehen ist.

Die weiteren Ausführungen gliedern sich wie folgt: In Abschnitt 1 wird für ein Erklärungsmodell plädiert, bei dem metonymische Interpretationen aus dem Zusammenwirken von Operationen der kompositionellen Bedeutungsberechnung und der kontextuellen Bedeutungsspezifizierung hervorgehen. In Abschnitt 2 wird die Umsetzung des Modells in Gestalt von möglichen semantischen Operatoren und dem Gewinnen parameterfixierter Strukturen diskutiert. Abschnitt 3 liefert eine detailliertere Analyse von Metonymien als konzeptuellen Verschiebungen und deren Verhältnis zu systematischen Polysemien. In Abschnitt 4 wird der Versuch unternommen, das Erklärungsmodell auf die Untersuchung von Metaphern auszudehnen und dabei deren Spezifik gegenüber Metonymien herauszuarbeiten.

1. Ein mehrstufiges Modell der metonymischen Interpretation

Metonymien erscheinen als weit weniger problematisch als Metaphern und sind sicher auch deshalb im Vergleich zu diesen insgesamt in einem viel geringeren Maße Gegenstand von Erörterungen gewesen. Dass dieser Eindruck täuscht, zeigen bisherige Vorschläge, für den Terminus *Metonymie* eine Explikation zu finden, bei der einerseits an die sich mit ihm verbindende Tradition angeknüpft wird, andererseits jedoch die generalisierenden Möglichkeiten einer formalen Betrachtungsweise ausgeschöpft werden können.

Einigkeit besteht weitgehend darüber, dass Metonymien als Instanzen einer systematischen Bedeutungsverschiebung zu charakterisieren sind, mit denen es möglich wird, sich mit ein und demselben Ausdruck auf Gegenstände aus sehr unterschiedlichen, zugleich auf

inhärente Weise miteinander verbundenen Sorten zu beziehen.[2] Den größten Teil dieser Uminterpretationen kann man aus der Absicht der Äußernden erklären, beim Ausdruck des zu übermittelnden konzeptuellen Gehalts möglichst sparsam mit sprachlichen Mitteln umzugehen. Den betreffenden Prozessen können nominale Ausdrücke des lexikalischen und eines beliebig komplexen syntaktischen Typs, aber auch Ausdrücke einer beliebigen Projektionsstufe der Verbkategorie unterzogen werden. Dabei ist von der Existenz bestimmter sprachlicher Operationen auszugehen, die auf diese oder jene Weise an den Verschiebungen der Bedeutung beteiligt sind. Obwohl die Anwendung der zugrundeliegenden Operatoren mit dem Auftreten von morpho-syntaktischen Merkmalen korrelliert sein kann[3], stellen sie rein semantische Instrumentarien der Strukturumformung dar.

Zu den bisher nur unzureichend geklärten Problemen des Verstehens von Metonymien gehören unter anderem folgende beiden Fragen, die die Natur der zuletzt genannten semantischen Operatoren betreffen:

(A)   Auf welche Weise werden solche Operatoren in den Prozeß der semantischen Ableitung eingefügt?

(B)   Inwieweit werden durch die Bestimmungen dieser Operatoren die jeweiligen metonymischen Interpretationen determiniert?

Zwischen den Antworten auf diese Fragen bestehen gewisse Abhängigkeiten. So kann man bezüglich (A) die Auffassung vertreten, dass es sich bei den fraglichen Operatoren unmittelbar um Mittel der Bedeutungsanpassung handelt. Ihr Einfügen ist insofern nur fakultativ als sie zur Auflösung eines akuten Konflikts zwischen den sortalen Anforderungen der zu kombinierenden Ausdrücke dienen (A1). Es ist aber auch möglich, den betreffenden Operatoren eine eher 'prophylaktische' Rolle zuzuweisen. Demnach werden sie in der Bedeutungskomposition unter bestimmten Bedingungen obligatorisch angewandt, um im Bedarfsfall für die Realisierung notwendiger Uminterpretationen zur Verfügung zu stehen (A2). Was dann die Entscheidung mit Bezug auf Problem (B) betrifft, so ist unter Voraussetzung von (A1) die Annahme naheliegend, dass eine metonymische Interpretation entweder einfach mit der Anwendung eines speziellen Anpassungsoperators zusammenfällt oder aber durch einen solchen Operator bis auf einige zusätzliche kontextuelle Spezifizierungen im wesentlichen bestimmt ist (B1). Hat man sich hingegen für (A2) entschieden, so muss nun auch die Haltung eingenommen werden, dass die betreffenden Operatoren lediglich einen Rahmen liefern, mit dem eine Menge möglicher Interpretationen umrissen wird. Welche davon letztendlich ausgewählt und ob dabei überhaupt eine Uminterpretation realisiert wird, ist ausschließlich Sache des jeweils gegebenen Kontextes (B2).

In der Mehrzahl der Untersuchungen zum metonymischen Bedeutungstransfer wird Position (A1) präferiert.[4] Vor allem Ökonomieüberlegungen scheinen dagegen zu spre-

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[2] Siehe beispielsweise Sag (1981), Pustejovsky (1991, 1995), Dölling (1992, 1995, 1997), Hobbs et al. (1993), Nunberg (1995), Copestake & Briscoe (1995), Eckardt (1999), Egg (1999). Ein Verständnis von Metonymie im Sinne eines generellen kognitiven Mechanismus der Wissensstrukturierung wird in Arbeiten wie Lakoff (1987) oder Taylor (1995) propagiert.

[3] Siehe z.B. die Berücksichtigung von Kongruenzbeziehungen in Fauconnier (1985), Pollard & Sag (1994) und Nunberg (1995).

[4] Dies gilt insbesondere etwa für Jackendoff (1991, 1997), Pustejovsky (1991, 1995) und Copestake & Briscoe (1995), nach deren Auffassung zudem noch alle oder die meisten der Operationen als intrinsisch lexikalisch gesteuerte Prozesse zu behandeln sind. Aber auch in Nunberg (1995) wird - im Unterschied zur

chen, im Sinne von (A2) eine gegebenenfalls größere Anzahl von Operatoren rein mechanisch in die semantische Repräsentation von Ausdrücken einzuführen, von denen sich später die meisten oder vielleicht sogar alle als für den konzeptuellen Gehalt der Äußerung überflüssig erweisen. Dennoch gibt es mehrere Gründe, eine Analysestrategie zu bevorzugen, die eine Kombination von Position (A2) und (B2) in sich schließt.[5] Zwei Argumente, wobei sich das eine von ihnen aus theoretischen Erwägungen, das andere aus empirischen Befunden ergibt, sollen nachfolgend angeführt werden.

Erstens ist es lediglich unter dieser Bedingung möglich, die Erzeugung der semantischen Repräsentationen von syntaktisch komplexen Ausdrücken als autonom organisierten Prozeß sprachlicher Strukturbildung zu verstehen. Denn nur so bleibt die Kalkulierbarkeit der kontext-unabhängigen Bedeutung eines Ausdrucks aus den Bedeutungen seiner Teile und deren syntaktischer Verknüpfung gewahrt. Umgekehrt wird gegen das semantische Kompositionalitätsprinzip verstoßen, wenn - wie bei Position (A1) - Defekte in der Bedeutungsableitung direkt durch den vom Kontext geforderten Einschub von speziellen Operatoren beseitigt werden sollen.[6]

Zweitens läßt sich nur so die einer Vielzahl von Sätzen eigene Variabilität berücksichtigen, die diese bezüglich ihrer metonymischen Verwendung haben. Beispielsweise kann (1) im wörtlichen Sinne verstanden werden.

(1)   Woody Allen wird viel gesehen.

Dies ist wahrscheinlich sogar die bevorzugte Lesart, wenn der Satz mit (2) fortgesetzt wird.

(2)   ...weil er sich oft in der Öffentlichkeit zeigt.

Anders verhält es sich aber bei einem Anschluß von (3a) oder (3b).

(3)   (a)...weil es die Leute amüsiert.
      (b)...weil seine Filme amüsant sind.

In beiden Fällen beinhaltet der Gebrauch von (1) eine Metonymie, bei der sich auf unterschiedliche Art auf das Filmwerk Woody Allens bezogen wird. In der ersteren Verwendung setzt die metonymische Interpretation beim Eigennamen an und es wird ein Prädikat abgeleitet, mit dem man auf vom Künstler Geschaffenes referieren kann. In der zweiten Verwendung wird dagegen die Bedeutung der VP derart verschoben, dass mit ihm nunmehr eine Eigenschaft von Künstlern bezeichnet wird, Schöpfer eines viel gesehenen Werkes zu sein.[7] Den unterschiedlichen Lesarten von Sätzen wie (1) kann bei (A2) da-

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rein pragmatischen Auffassung in Nunberg (1978, 1979) - diese Haltung eingenommen. Bemerkenswert ist, dass in Sag (1981) zwar explizit Position (A1) vertreten, zugleich aber ein mit (A2) zu identifizierendes Vorgehen als geeigneter in Erwägung gezogen wird.

[5] Ein detaillierterer Vorschlag in dieser Richtung wird m.W. erstmals in Dölling (1997) formuliert.

[6] Beispielsweise wird in Jackendoff (1997) gerade unter anderem mit Hinweis auf den notwendigen Vollzug solcher Operationen für eine wesentliche Einschränkung der semantischen Kompositionalität argumentiert.

[7] Unterschiede in der Richtung von metonymischen Interpretationen wie diesen kann man als Konsequenz einer kognitiven Bedingung ansehen, die in Nunberg (1995) formuliert wird. Danach muss die Eigenschaft, die durch das im Bedeutungtransfer abgeleitete Prädikat denotiert wird, 'bemerkenswert' sein, und zwar dadurch, dass sie sich als ein für die jeweiligen kommunikativen Zwecke nützliches Mittel zur Identifikati-

durch entsprochen werden, dass mit obligatorisch ausgeführten Operationen entsprechende Ansatzmöglichkeiten für metonymische Interpretationen geschaffen werden. Für Anhänger von Position (A1) ergibt sich hingegen die Schwierigkeit, dass hier kein sortaler Konflikt auszumachen ist und damit auch kein Anlass besteht, einen entsprechenden Anpassungsoperator einzufügen. Was dann noch bleibt, ist höchstens die Alternative einer nachträglichen, eventuell recht aufwendigen Rekonstruktion der bereits entwickelten semantischen Repräsentation der Äußerung.

Ich plädiere für ein Herangehen, bei dem der konzeptuelle Gehalt einer Äußerung über mehrere Stufen der Bedeutungsrepräsentation entwickelt wird. Zwei für metonymische Interpretationen entscheidende Stufen stellen die als *semantische Form* und als *parameter-fixierte Struktur* bezeichneten Ebenen dar. Die semantische Form SF[8] eines Ausdrucks repräsentiert dessen kontext-unabhängige und damit rein sprachlich determinierte Bedeutung; sie ist erstens durch streng kompositionellen Aufbau und zweitens durch radikale konzeptuelle Unterspezifikation in Gestalt von noch zu fixierenden Parametern charakterisiert. Jedem dieser SF-Parameter ist eine spezielle Menge von konzeptuellen Werten zugeordnet, die für ihn substituierbar sind. Auf der Ebene der parameter-fixierten Struktur PFS wird dagegen eine kontextuell spezifizierte Variante der Bedeutung des Ausdrucks repräsentiert. Die jeweilige PFS geht aus der SF eines Ausdrucks dadurch hervor, dass man alle vorkommenden SF-Parameter auf der Basis von Welt-, Situations- und Diskurswissen durch passende konzeptuelle Werte ersetzt.

Die auf diese Weise vorgenommene Separierung von kompositionaler Semantik und kontextueller Spezifizierung einer Äußerung bietet die Möglichkeit, metonymische Interpretationen als Resultat des Zusammenwirkens von relativ autonomen Komponenten zu erklären.[9] Das Verstehen einer Metonymie erfordert dann bei der Rezipientin einer entsprechenden Äußerung lediglich die Fähigkeit, ausgehend von der für sie kompositionell abgeleiteten SF jene konzeptuelle Struktur zu erschließen, die die Produzentin der Äußerung mit dem metonymisch gebrauchten Ausdruck verbindet. Etwas vereinfacht ausgedrückt handelt es sich dabei quasi für die Rezipientin darum, den Teil des konzeptuellen Gehalts zu ergänzen, dessen explizites Äußern sich die Produzentin mit der Metonymie 'erspart' hat. Voraussetzung für den Vollzug einer metonymischen Interpretation bilden bestimmte konzeptuelle Verhältnisse, die in Gestalt von unterschiedlichen Wissensformen bei den Kommunikationspartnern präsent sein müssen. Generelle pragmatische Prinzipien sowie einzelsprachlich fixierte pragmatische Regeln schränken konzeptuell mögliche Uminterpretationen ein.

Die oben skizzierten Vorstellungen zur Funktion der den Bedeutungsverschiebungen zugrundeliegenden semantischen Operatoren lassen sich nun im gegebenen Rahmen präzisieren. Hierbei ist zunächst genauer zwischen zwei Subarten von SF, und zwar zwischen einer *primären semantischen Form* und einer *flektierten semantischen Form* in folgendem Sinne zu unterscheiden:

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on ihres Trägers erweist, oder aber dadurch, dass mit ihr überhaupt grundlegende Konsequenzen für den Träger verbunden sind.

[8] Diese Bestimmung schließt sich an Überlegungen an, wie sie unter anderem in Bierwisch (1983, 1996), Bierwisch & Lang (1987), Zimmermann (1992), Lang (1994) und Maienborn (1998) zu finden sind. Ähnliche Konzeptionen einer unterspezifizierten semantischen Repräsentation werden beispielsweise in Alshawi (1992), Hobbs et al. (1993), Pinkal (1996), Van Deemter & Peters (1996) und Egg (1999) vertreten.

[9] Im Kern wird damit den in Sag (1981) entwickelten Vorstellungen gefolgt. Zu den generellen Vorzügen eines solchen Vorgehens bei der Analyse weiterer Phänomenbereiche siehe Partee (1995).

(4)　　(a) Die primäre semantische Form SF_B eines Ausdrucks beinhaltet das elementare Variationspotential der Bedeutung, das dieser als syntaktisch einfacher Ausdruck auf Grund seines Lexikoneintrags oder als syntaktisch komplexer Ausdruck im Ergebnis der unmittelbaren semantischen Komposition hat.

　　(b) Die flektierte semantische Form SF_I eines Ausdrucks beinhaltet das erweiterte Variationspotential seiner Bedeutung und ergibt sich aus dessen SF_B dadurch, dass mit Hilfe von für den betreffenden semantischen Typ obligatorisch auszuführenden Operationen der SF-Flexion weitere SF-Parameter eingeführt werden.

In einem zweiten Schritt sind dann passende Operatoren einer solchen SF-Flexion zu formulieren. Diese Operatoren sollten zum einen hinreichend spezifisch sein, um die erforderlichen Ansatzpunkte für die jeweils zu erschließende konzeptuelle Struktur zu liefern, zum anderen sollten sie aber auch allgemein genug sein, um tatsächlich alle zulässigen metonymischen Interpretationen erfassen zu können.

2. Operationen der SF-Flexion und der Parameterfixierung

Für die im folgenden zu analysierenden Fälle von Bedeutungstransfer scheint es auszureichen, dass man als Mittel der SF-Flexion den in (5) angeführten Operator annimmt, wobei S_n und R_n SF-Parameter sind.

(5)　　$\lambda P\,\lambda x.\,S_n(x)\,\&\,\exists y\,[R_n(y)(x)\,\&\,P(y)]$

Gemäß der in (4b) getroffenen Festlegung ist (5) ein Operator, der in der SF-Ableitung auf ein beliebiges 1-stelliges Prädikat der 1. Stufe angewandt werden muß, soweit dieses eine SF_B-Struktur ist und damit nicht bereits Gegenstand einer derartigen Applikation war. Mit S_n und R_n stehen in der dadurch gewonnenen SF_I-Struktur zusätzliche Leerstellen zur Verfügung, die auf eine näher zu definierende Weise durch bestimmte konzeptuelle Werte ausgefüllt werden können.

　　Zur Illustration greife ich auf Satz (1) zurück. In (6) wird die Ableitung der SF von (1) in den hier relevanten Aspekten angegeben.

(6) SF(1):

viel gesehen SF_B: x. V_G_W(x)

werden: P x. $S_1(x)$ & y $[R_1(y)(x)$ & P(y)] (5)

SB_I: x. $S_1(x)$ & y $[R_1(y)(x)$ & V_G_W(y)]

Woody Allen: SF_B: x. = (woody_allen)(x)

 P x. $S_2(x)$ & y $[R_2(y)(x)$ & P(y)] (5)

SB_I: x. $S_2(x)$ & y $[R_2(y)(x)$

& = (woody_allen)(y)]

Q P. x [Q(x) & P(x)]

P. x $[S_2(x)$ & y $[R_2(y)(x)$ & = (woody_allen)(y)]

& P(x)]

= P. x y $[S_2(x)$ & $R_2(y)(x)$ & = (woody_allen)(y)

& P(x)]

Woody Allen viel   x y $[S_2(x)$ & $R_2(y)(x)$ & = (woody_allen)(y)

gesehen werden: & $S_1(x)$ & y $[R_1(y)(x)$ & V_G_W(y)]]

 x y z $[S_2(x)$ & $R_2(y)(x)$ & = (woody_allen)(y)

& $S_1(x)$ & $R_1(z)(x)$ & V_G_W(z)]]

Die mit (2), (3a) und (3b) erzeugten Lesarten von (1) lassen sich nun entsprechend durch die in (7a) - (7c) angeführten PFSn repräsentieren.

(7) (a) PFS_1(1):

Woody Allen: [Q P. x [Q(x) & P(x)]

(x. ENT(x) & y [= (y)(x) & =(woody_allen)(y)])]

viel gesehen werden:(x. ENT(x) & y [= (y)(x) & V_G_W(y)])

 P. x [ENT(x) & y [= (y)(x) & = (woody_allen)(y)]

& P(x)]

(x. ENT(x) & y [= (y)(x) & V_G_W(y)])

 P. x [= (woody_allen)(x) & P(x)]

(x. V_G_W(x))

V_G_W(woody_allen)

(b) PFS_2(1):

Woody Allen: [Q P. x [Q(x) & P(x)]

(x. KUNST(x) & y [KREATION(y)(x)

& = (woody_allen)(y)])]

viel gesehen werden: $(\lambda x.\ \mathrm{ENT}(x)\ \&\ \exists y\ [\uparrow = (y)(x)\ \&\ \mathrm{V\_G\_W}(y)])$
$\qquad\qquad$ $P.\ \lambda x\ [\mathrm{KUNST}(x)\ \&\ \exists y\ [\mathrm{KREATION}(y)(x)$
$\qquad\qquad\qquad \&\ \uparrow = (\mathrm{woody\_allen})(y)]\ \&\ P(x)]$
$\qquad$ $(\lambda x.\ \mathrm{ENT}(x)\ \&\ \exists y\ [\uparrow = (y)(x)\ \&\ \mathrm{V\_G\_W}(y)])$
$\qquad\qquad$ $P.\ \lambda x\ \exists y\ [\mathrm{KUNST}(x)\ \&\ \mathrm{KREATION}(y)(x)$
$\qquad\qquad\qquad \&\ \uparrow = (\mathrm{woody\_allen})(y)\ \&\ P(x)]$
$\qquad$ $(\lambda x.\ \mathrm{V\_G\_W}(x))$
$\qquad\qquad$ $\lambda x\ [\mathrm{KUNST}(x)\ \&\ \mathrm{KREATION}(\uparrow \mathrm{woody\_allen})(x)$
$\qquad\qquad\qquad \&\ \mathrm{V\_G\_W}(x)]]$

(c)$\quad$ PFS$_3$(1):

Woody Allen:$\qquad\qquad$ $[\ Q\ P.\ \lambda x\ [Q(x)\ \&\ P(x)]$
$\qquad\qquad\qquad$ $(\lambda x.\ \mathrm{ENT}(x)\ \&\ \exists y\ [\uparrow = (y)(x)\ \&\ \uparrow = (\mathrm{woody\_allen})(y)])]$

viel gesehen werden: $(\lambda x.\ \mathrm{K\ddot{U}NSTL}(x)\ \&\ \exists y\ [\mathrm{KREATOR}(y)(x)\ \&\ \mathrm{V\_G\_W}(y)])$
$\qquad\qquad$ $P.\ \lambda x\ [\mathrm{ENT}(x)\ \&\ \exists y\ [\uparrow = (y)(x)\ \&\ \uparrow = (\mathrm{woody\_allen})(y)]$
$\qquad\qquad\qquad \&\ P(x)]$
$\qquad$ $(\lambda x.\ \mathrm{K\ddot{U}NSTL}(x)\ \&\ \exists y\ [\mathrm{KREATOR}(y)(x)\ \&\ \mathrm{V\_G\_W}(y)])$
$\qquad\qquad$ $P.\ \lambda x\ [\uparrow = (\mathrm{woody\_allen})(x)\ \&\ P(x)]$
$\qquad$ $(\lambda x.\ \mathrm{K\ddot{U}NSTL}(x)\ \&\ \exists y\ [\mathrm{KREATOR}(y)(x)\ \&\ \mathrm{V\_G\_W}(y)])$
$\qquad\qquad$ $\lambda x\ [\mathrm{K\ddot{U}NSTL}(\mathrm{woody\_allen})$
$\qquad\qquad\qquad \&\ \mathrm{KREATOR}(x)(\mathrm{woody\_allen})\ \&\ \mathrm{V\_G\_W}(x)]]$

Zwei erläuternde Kommentare seien angefügt:

Erstens machen die Strukturen kenntlich, dass die möglichen PFSn jeweils durch Ersetzung der in SF vorkommenden Parameter entstehen. Als Repräsentation der wörtlichen Bedeutungsvariante von (1) wird PFS$_1$ dadurch erhalten, dass man für S_1 und S_2 das Prädikat ENT ('Entität'), d.h. das Prädikat für beliebige Individuen, und für R_1 und R_2 das Identitätsprädikat substituiert. Die Beiträge des in (5) angegebenen Operators zur kontext-abhängigen Bedeutung werden damit sozusagen auf null reduziert. Dagegen repräsentieren PFS$_2$ und PFS$_3$ metonymische Bedeutungsvarianten von (1); sie werden etwa dann abgeleitet, wenn der Satz im Kontext von (3a) bzw. (3b) geäußert wird. Demgemäß wird auf von (5) zur Verfügung gestellte Strukturen zurückgegriffen, um erforderliche kontextuelle Spezifizierungen vorzunehmen. Insbesondere weist dann im Ergebnis der Parameterfixierung PFS$_2$ an den Stellen von S_2 und R_2 entsprechend die Prädikate KUNST bzw. KREATION ('Kreation von') auf, und in PFS$_3$ stehen an den Stellen von S_1 und R_1 entsprechend die Prädikate KÜNSTL ('Künstler') und KREATOR ('Schöpfer von').

Zweitens geht aus PFS$_2$ und PFS$_3$ hervor, dass die oben angenommenen gegensätzlichen Richtungen der beiden metonymischen Interpretationen von (1) tatsächlich zu unterschiedlichen Bedeutungsvarianten führen. So zeigt PFS$_2$, dass man durch Bedeutungsverschiebung beim nominalen Kern der DP ein Prädikat erhält, mit dem sich auf eine 'Masse' von Kunst, die Woody Allen geschaffen hat, bezogen werden kann. Eine Konsequenz dessen ist, dass nun nicht mehr der Künstler, sondern von ihm Geschaffenes als 'logisches' Subjekt (oder Topik) der Satzäußerung auftritt. Dagegen wird aus PFS$_3$ deutlich, daß nach Bedeutungsverschiebung der VP mit ihr jetzt eine Eigenschaft von Künst-

Um auch metonymische Interpretationen wie im Fall von (9) erfassen zu können, ist also eine weitere Verallgemeinerung der in (8) angenommenen Struktur erforderlich. Da vermutlich die Anzahl möglicher Glieder von Metonymieketten nicht größer als 3 ist, schlage ich vor, das in (11) angegebene Schema *met* als Operator der SF-Flexion zu wählen.[13]

(11)   *met*: P x. $S^3_n(x)$ &   y $[R^3_n(y)(x)$ & $S^2_n(y)$
&   z $[R^2_n(z)(y)$ & $S^1_n(z)$ & $Q_n v$ $[R^1_n(v)(x)][P(v)]]]$

Folgende Applikations- und Fixierungsbedingungen werden für *met* vorausgesetzt:

(12)   Applikationsbedingung von *met*
SF$_B$( ) vom Typ <e, t> geht über in SF$_I$( ) derart, dass gilt:
SF$_I$( ) = *met*(SF$_B$( )).

(13)   Fixierungsbedingungen von *met*
met(SF$_B$( )) geht über in PFS( ) derart, dass gilt:
(i) Q_n in *met*(SF$_B$( )) wird durch   als Defaultwert oder durch einen anderen Quantor fixiert;
(ii) S^1_n, S^2_n und S^3_n in *met*(SF$_B$( )) werden durch ENT als Defaultwert oder durch ein Prädikat für Sorten von Entitäten fixiert;
(iii) R^1_n, R^2_n und R^3_n in *met*(SF$_B$( )) werden durch = als Defaultwert oder durch ein Prädikat für Relationen zwischen Elementen zweier Entitätssorten fixiert.

3. Metonymie und systematische Polysemie

Betrachten wir zunächst etwas detaillierter die mit (14) - (17) exemplifizierten Fälle von Metonymie.

(14)(a)   Hans möchte heute Lamm essen.
(b)   Maria trägt seit gestern Lamm.
(c)   Anna weigert sich, Lamm zu essen oder zu tragen.

(15)   Das Lamm hat die Zeche geprellt.

Als Basis der beim Verstehen der Sätze zu rekonstruierenden metonymischen Interpretationen von *Lamm* fungiert jeweils die flektierte semantische Form des Nomens, die schematisch in (16) angegeben wird.

(16)   SF$_I$(*Lamm*):   *met*(x. LAMM(x))

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[13] Die Bezeichnung *met* geht auf einen Vorschlag von Barbara Partee (p.c.) zurück und soll im Sinne eines verallgemeinernden Hinweises auf Metonymie und Metapher als Bedeutungsverschiebungen verstanden werden. Zur Einordnung von Operationen der Typenverschiebung in den Bereich des Bedeutungstransfers siehe Partee (1987, 1995) (vgl. auch Dölling 1997).

Bei (14a) - (14c) einerseits und bei (15) andererseits handelt es sich jedoch um Metonymien unterschiedlichen Typs.

Mit Fällen von konventioneller Metonymie hat man es bei den ersten drei Sätzen zu tun. Bereits aus der artikellosen Verwendung des Lexems geht hervor, dass *Lamm* hier nicht in seiner gewöhnlichen Bedeutung gebraucht wird. Im Sinne des bekannten 'Grinders' könnte man deshalb geneigt sein, für die Vorkommen von *Lamm* eine gemeinsame PFS anzunehmen. Unter Voraussetzung einer entsprechenden 'Bereinigung' auf Grund von Defaultwerten und unter Verwendung der Standardnotation für λ-Formeln wäre dies dann die in (17) aufgeführte Struktur, wobei MAT die Relation 'Material von' denotiert.

$$(17) \quad \text{PFS}(\textit{Lamm}; 14a/b/c): \quad \lambda x. \text{STOFF}(x) \,\&\, \exists y\, [\text{MAT}(y)(x) \,\&\, \text{LAMM}(y)]$$

Demnach steht das Nomen in (14a) - (14c) ganz allgemein für Stoffquanta, aus denen ein oder mehrere Lämmer bestehen. Zur Wissensbasis, auf die beim Erschließen dieser Struktur zurückgegriffen wird, gehören unter anderem konzeptuelle Axiome wie (18a) und (18b), mit denen die Beziehungen der in (17) vorkommenden Prädikate geregelt werden.

$$(18) \ (a) \quad \forall x\, [\text{DING}(x) \rightarrow \exists y\, [\text{STOFF}(y) \,\&\, \text{MAT}(x)(y)]]$$
$$ \ (b) \quad \forall x\, [\text{LAMM}(x) \rightarrow \text{DING}(x)]$$

Es ist offensichtlich, daß ein solches Vorgehen nicht ausreicht, um die mit (14a) - (14c) verbundenen Metonymien zu realisieren. Durch (18a) werden zwar die involvierten ontologischen Domänen und die zwischen ihren Elementen bestehende charakteristische Relation erfasst[14], für die Bestimmung der konzeptuellen Verhältnisse, die den metonymischen Interpretationen zugrundeliegen, müssen aber jeweils bestimmte ihrer Subdomänen berücksichtigt werden.

Aus der Bedeutung der vorkommenden VPn ergibt sich, daß *Lamm* in (14a) an Stelle des längeren Ausdrucks *Lammfleisch* und in (14b) an Stelle des gleichfalls längeren Ausdrucks *Lammfell* gebraucht wird. Im Falle von (14c), wo kein direktes Ausdruckspendant existiert, wird *Lamm* verwendet, um sich auf Lammfleisch oder Lammfell zu beziehen. Der konzeptuelle Rahmen für die damit erforderlichen Uminterpretationen wird durch Axiome geliefert, zu denen in erster Näherung auch solche wie (19a) - (19c) gehören.

$$(19)(a) \quad \forall x\, [\text{TIER*}(x) \rightarrow \exists y\, [\text{FLEISCH}(y) \,\&\, \text{MAT}(x)(y) \,\&\, \text{TYP\_ESSBAR}(x)]]$$
$$ (b) \quad \forall x\, [\text{TIER**}(x) \rightarrow \exists y\, [\text{FELL}(y) \,\&\, \text{MAT}(x)(y) \,\&\, \text{TYP\_PELZ\_BAR}]]$$
$$ \forall x\, [\text{LAMM}(x) \rightarrow \text{TIER*}(x) \,\&\, \text{TIER**}(x)]$$

Dabei sind TIER* und TIER** Prädikate, die passend eingeschränkte Mengen von Tieren bezeichnen; TYP_ESSBAR und TYP_PELZ_BAR stehen entsprechend für die Eigenschaften, typischerweise eßbar bzw. typischerweise als Pelz verwendbar zu sein. Zur Grundlage von Bedeutungsverschiebungen werden diese konzeptuellen Bedingungen allerdings erst dadurch, dass die betreffenden metonymischen Interpretationen durch

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[14] Siehe Dölling (1992, 1995)

einzelsprachlich fixierte pragmatische Regeln lizensiert werden.[15] So kann angenommen werden, dass für das Deutsche eine Lizensierungsregel existiert, wonach Nomen für Tiere im Sinne von (19a) - beispielsweise *Lamm*, *Rind* oder *Huhn*, nicht aber *Maus*, *Säugetier* oder *Vogel* - benutzt werden können, um sich auf Fleisch der jeweiligen Tiere zu beziehen. Wird zusätzlich eine analoge Lizensierungsregel für den Gebrauch von Tiernomen zum Bezug auf Fell vorausgesetzt, dann lässt sich erklären, warum als PFSn der Vorkommen von *Lamm* in (14a) - (14c) entsprechend die in (14a') - (14c') angegebenen Strukturen abgeleitet werden können.[16]

(14)(a') PFS(*Lamm*; 14a): λx. FLEISCH(x) & $\exists$y [MAT(y)(x) & LAMM(y)]

(b') PFS(*Lamm*; 14b): λx. FELL(x) & $\exists$y [MAT (y)(x) & LAMM(y)]

(c') PFS(*Lamm*; 14c): λx. FELL FLEISCH(x) & $\exists$y [MAT(y)(x) & LAMM(y)]

Im Unterschied zu den vorangehend behandelten Fällen gründet sich die metonymische Interpretation von *Lamm* in (15) auf eine pragmatische Regel, die den betreffenden Gebrauch relativ zu einem situationsbezogenen Repräsentationssystem lizensiert.[17] Analog zum in Nunberg (1978, 1979) diskutierten *ham-sandwich*-Fall wird hier das Nomen normalerweise dazu verwendet, um in einer Restaurantsituation auf eine Person zu referieren, die allgemein als Nutzer einer entsprechenden Speise auftritt. Das dabei zugrundegelegte Axiom mit NUTZER als Prädikat für 'Nutzer von' ist (20).

(20) $\forall$x [SPEISE(x) $\rightarrow$ $\exists$y [PERSON(y) & NUTZER(x)(y)]]

Anders als bei Nunbergs Beispiel[18] muss allerdings zusätzlich eine Verbindung mit der lexikalischen Bedeutung von *Lamm* hergestellt werden. Neben (19a) und (19c) wird dazu auch Axiom (21) benötigt, wobei PROD für die Relation 'produziert aus' steht.

(21) $\forall$x [FLEISCH(x) & TYP_ESSBAR(x) $\rightarrow$ $\exists$y [SPEISE(y) & PROD(x)(y)]]

Die für *Lamm* anzunehmende Metonymiekette wird unter den gegebenen Bedingungen durch die Struktur in (15') repräsentiert.

(15')   PFS(*Lamm*; 15): λx. PERSON(x) & $\exists$y [NUTZER(y)(x) & SPEISE(y)
  & $\exists$z [PROD(z)(y) & FLEISCH(z)
  & $\exists$v [MAT(v)(z) & LAMM(v)]]]

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[15] Nur dadurch lassen sich die von Sprache zu Sprache teilweise sehr unterschiedlichen Möglichkeiten der metonymischen Interpretation von Ausdrücken und dabei insbesondere von Lexemen erklären (siehe Nunberg & Zaenen 1992).

[16] Generell kann ich hier nicht auf Inferenzmechanismen eingehen, die verwendet werden, um die betreffenden kontextuellen Spezifizierungen auf dem Hintergrund pragmatischer Bedingungen aus einer passenden konzeptuellen Wissensbasis zu gewinnen. Die in Hobbs et al. (1993) entwickelte Konzeption der abduktiven Interpretation scheint dafür insgesamt ein geeignetes Mittel zu sein. Siehe hierzu Dölling (1997) und Maienborn (1998).

[17] Wie in Eckardt (1999) erklärt wird, bedarf es allgemein für die Erzeugung von 'kreativen' Metonymien wie bei (15) oder etwa bei *Das Magengeschwür von Zimmer 8 hat geraucht* vor allem eines Repräsentationssystems, in dem mindestens zwei Repräsentanten für mindestens zwei repräsentierte Gegenstände zur Verfügung stehen.

[18] Siehe die Behandlung als Fall von Bedeutungstransfer in Sag (1981) und Nunberg (1995).

Etwas vereinfacht ausgedrückt bezeichnet das Nomen damit die Eigenschaft, eine oder mehrere Personen zu sein, die Nutzer von aus Lammfleisch gefertigten Speisen sind.

Wie die Beispiele zeigen, bieten metonymische Interpretationen die Möglichkeit, mit einem Ausdruck auch teilweise recht vermittelte konzeptuelle Zusammenhänge zu erfassen. Grundlage für entsprechende Verschiebungen in der Bedeutung von Ausdrücken bilden dabei die in den Axiomen reflektierten ontologischen Beziehungen zwischen Elementen ihrer neuen und ihrer alten Bezugsdomäne sowie bestimmte pragmatische Bedingungen.

Wenden wir uns nun Sätzen wie (22a) und (22b) zu, in denen sich mit der DP *die Kirche* zum einen auf eine religiöse Gemeinschaft, zum anderen aber auf ein Gebäude bezogen wird, in denen typischerweise eine solche Organisation oder Institution auf eine näher zu bestimmende Weise lokalisiert ist.

(22)(a)   Die Kirche verliert an Mitgliedern.
   (b)   Die Kirche hat einen hohen Turm.

Sollten auch solche Fälle einer Bedeutungsvariation als Instanzen von Metonymie aufgefasst werden? Diese Frage wird in Nunberg (1995) mit Hinweis auf Sätze wie (23) bejaht.

(23)   Die Kirche, die an Mitgliedern verliert, hat einen hohen Turm.

Offensichtlich nur dadurch, dass man bestimmte der hier verwendeten Ausdrücke in die eine oder andere Richtung uminterpretiert, kann eine Äußerung von (23) als sinnvoll betrachtet werden.[19] Die Möglichkeit eines solchen metonymischen Bedeutungstransfers seinerseits erklärt Nunberg damit, dass lexikalische Einheiten wie *Kirche, Zeitung* oder *Buch* entsprechend unterschiedliche und miteinander verknüpfte Bedeutungsvarianten haben. Da man dabei aber jeweils keine dieser möglichen Varianten als primär gegenüber den anderen ansehen kann, hält er es für angebracht, derartigen Lexemen die Eigenschaft einer sogenannten dichten Metonymie ('dense metonymy') zuzusprechen.

Nach meiner Auffassung muß klar zwischen systematischer Polysemie (oder Versatilität) und Metonymie differenziert werden.[20] Dass damit eine für die Systematisierung wichtige Unterscheidung getroffen wird, lässt sich bereits bei einem Nomen wie *Lamm* verdeutlichen, das - wie etwa aus (24a) - (24c) ersichtlich - ebenfalls ein systematisch polysemes Lexem ist.

(24)(a)   Das Lamm ist ein Tier.
   (b)   Das Lamm springt über den Zaun.
   (c)   Das Jungtier eines Hausschafes ist ein Lamm.

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[19] Die in Pustejovsky (1995) und Copestake & Briscoe (1995) verfolgte Alternative, bei der die VPn des Relativsatzes und des Hauptsatzes einfach auf jeweils verschiedene Komponenten in der lexikalischen Bedeutung von *Kirche* zurückgreifen können, erscheint dagegen als fragwürdig.

[20] Die terminologische Unbestimmtheit nimmt noch dadurch zu, daß in Nunberg & Zaenen (1992) und Nunberg (1995) umgekehrt auch Bedeutungsverschiebungen wie bei *Lamm* in (14a) - (14c) als Fälle von systematischer Polysemie gekennzeichnet werden, um sie von situationsabhängigen metonymischen Interpretationen wie bei *Lamm* in (15) abzugrenzen.

In (24a) ist *Lamm* ein Prädikat, mit dem man auf die Art selbst referieren kann, in (24b) und (24c) handelt es um ein Prädikat für beliebige Exemplare bzw. für beliebige Unterarten dieser Art. Diese verschiedenen Interpretationen werden entsprechend durch die in (24a') - (24c') aufgeführten Strukturen erfaßt, wobei INST für die Relation 'Instanz von', SUB für die Relation 'Subart von' und lamm für die Art der Lämmer steht.

(24)(a') PFS_1(*Lamm*; 24a): x. =(lamm)(x)

(b') PFS_2(*Lamm*; 24b): x. INST(lamm)(x)

(c') PFS_3(*Lamm*; 24c): x. SUB(lamm)(x)

Als Repräsentationen der verschiedenen wörtlichen Bedeutungsvarianten von *Lamm* werden die PFSn aus der in (25) angegebenen primären SF des Lexems erhalten, und zwar indem der dort vorkommende SF-Parameter K_n passend durch =, INST oder SUB fixiert wird.

(25) SF_B(*Lamm*): x. K_n(lamm)(x)

PFSn wie in (24a) - (24c) können dementsprechend als Resultat einer Bedeutungsvariation durch konzeptuelle Spezialisierung des Nomens verstanden werden.

Anders verhält es sich aber bei metonymischen Interpretationen von *Lamm* wie etwa im Falle seiner Verwendung in (14a). Ausgangsbasis ist hier die - nunmehr gegenüber (16) präzisierte - flektierte SF des Lexems in (26).

(26) SF_I(*Lamm*): ***met***(x. K_n(lamm)(x))

Eine entsprechende konzeptuelle Spezialisierung von *Lamm* vorausgesetzt besteht dann die im Ergebnis von SF-Flexion und Parameterfixierung realisierte Metonymie in der mit (27) angegebenen konzeptuellen Verschiebung des Lexems.

(27) x. INST(lamm)(x)

$\downarrow$

x. FLEISCH(x) & y [MAT(y)(x) & INST(lamm)(y)]

Quelle der Metonymie ist dabei die Domäne der Instanzen von Lamm, ihr Ziel die Domäne jener Fleischquanta, die von Lämmern stammen. Eine Illustration der konzeptuellen Verhältnisse erfolgt in Abb. 1.

$$\text{Arten}$$

```
         tier*                    fleisch
          ↑                          ↑
          |                          |
        SUB
          |                          |
        lamm                    lammfleisch
- - - - - ↑ - - - - - - - - - - - - -↑- - - - - -
        INST
    ┌──────────────┐         ┌──────────────┐
    │ ┌──────────┐ │         │ ┌──────────┐ │
    │ │  LAMM    │─┼────────▶│ │          │ │
    │ └──────────┘ │         │ └──────────┘ │
    │    TIER*     │   MAT   │   FLEISCH    │
    └──────────────┘         └──────────────┘
```

Gegenstände
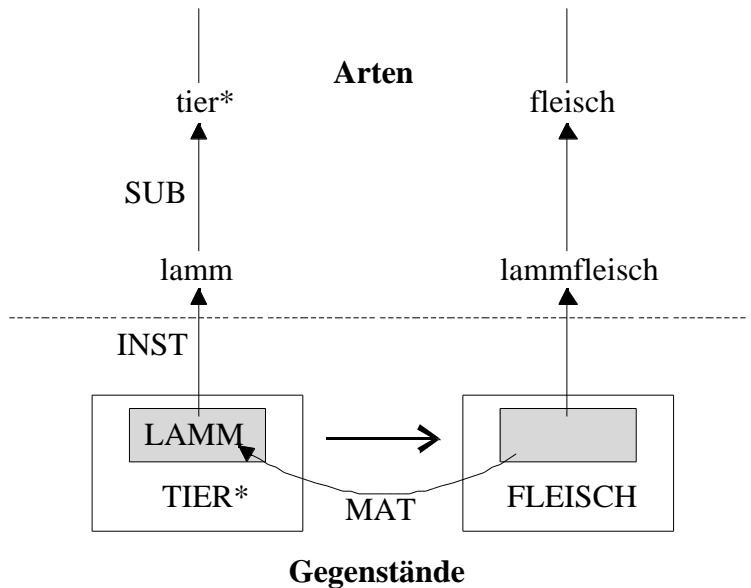
Abb. 1

Kehren wir auf diesem Hintergrund zu Satz (22a) und (22b) zurück. Anders als *Lamm* ist *Kirche* in einer weiteren Hinsicht systematisch polysem. Dies geht auch aus der dem Lexem zugeordneten SF_B hervor, in der *kirche* als zusätzlicher SF-Parameter auftritt.[21]

(28) SF_B(*Kirche*):   x. K_n(*kirche*)(x)

Konzeptuelle Spezialisierungen von *Kirche* führen zu verschiedenen PFSn, zu denen auch die in (29a) und (29b) angeführten Strukturen gehören, die ihrerseits entsprechende wörtliche Bedeutungsvarianten repräsentieren.[22]

(29)(a)PFS_1(*Kirche*; 22a):   x. INST($kirche_1$)(x)
     (b)PFS_2(*Kirche*; 22b):   x. INST($kirche_2$)(x)

Dabei handelt es sich bei $kirche_1$ und $kirche_2$ um Konzepte, die entsprechend die Kirche als eine Art von Institution bzw. als eine Art von Gebäude identifizieren. Ihr Gebrauch wird unter anderem durch Axiom (30a) und (30b) geregelt, wobei G als Operator der Generizität benutzt wird.

(30)(a)   Gx [INST($kirche_1$)(x)][y [INST($kirche_2$)(y) & LOKAL(y)(x)]]
     (b)   Gx [INST($kirche_2$)(x)][y [INST($kirche_1$)(y) & LOKAL(x)(y)]]

Die damit vorliegenden Verhältnisse werden in Abb. 2 illustriert.

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[21] Eine Darstellung von systematischer Polysemie mit Hilfe von unterspezifizierten semantischen Repräsentationen erfolgt m.W. erstmalig in Bierwisch (1983). Sowohl bezüglich der gewählten Repräsentationsformate als auch mit Blick auf die angenommene Form der kontextuellen Spezifizierung gibt es aber wesentliche Unterschiede zu den hier formulierten Vorschlägen.
[22] Ich lasse insbesondere unberücksichtigt, daß *Kirche* im Sinne eines bestimmten Ereignisses verstanden werden kann, als dessen Träger eine Kirche als Institution auftritt und das typischerweise in einer Kirche als Gebäude stattfindet.
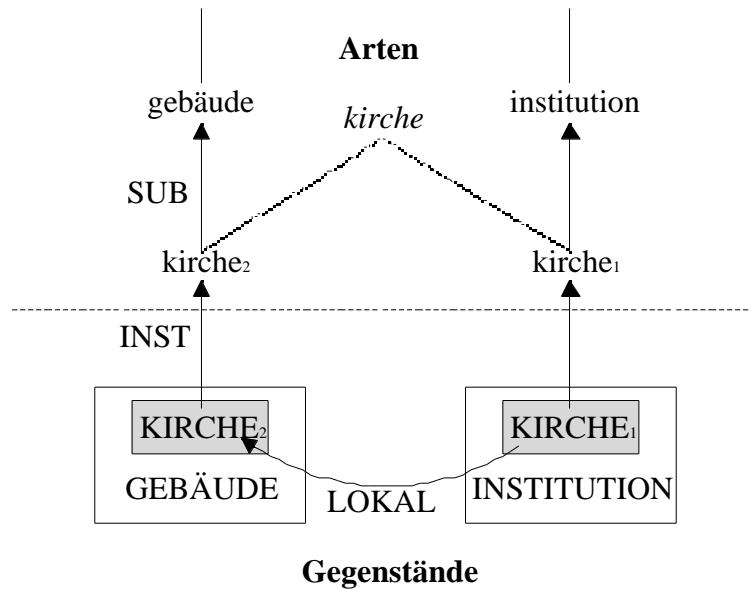
Abb. 2

Nachdem soweit beide Typen der Bedeutungsvariation voneinander ausreichend abgegrenzt sind, sehe ich jetzt allerdings auch die Möglichkeit, zumindest bestimmte Fälle der systematischen Polysemie, darunter den soeben betrachteten Fall als historisch aus einer Metonymie entstanden zu rekonstruieren. So ergibt sich aus etymologischen Befunden, dass *Kirche* ursprünglich nur zur Benennung von entsprechenden Gebäuden diente, relativ früh dann aber auch auf die christliche Gemeinschaft übertragen wurde. Man kann nun vermuten, dass das Nomen zunächst erst einmal in diesem Sinne metonymisch verwendet wurde, bevor es mit seinem erweiterten Variationspotential der Bedeutung im Lexikon Aufnahme fand. Unter der Voraussetzung, daß (31) als SF_I für *Kirche* gewählt wird und kirche dabei als Konzept der entsprechenden Gebäudeart auftritt, könnte demnach für diese Sprachperiode die in (32) aufgeführte konzeptuelle Verschiebung des Lexems üblich sein.

(31) SF_I(*Kirche*): ***met***(x. K_n(kirche)(x))

(32)   x. INST(kirche)(x)

      ↓

     x. INSITUTION(x) & y [LOKAL(y)(x) & INST(kirche)(y)]
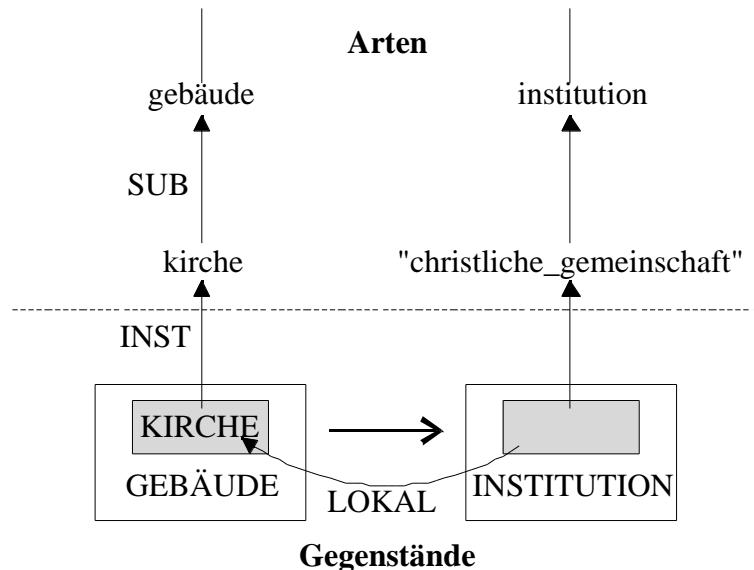
Abb. 3

Wie auch aus Abb. 3 hervorgeht, ist damit jedoch die bereits als christliche Gemeinschaft konzeptualisierte Organisation nur unter dem Aspekt ihrer Lokalisierung erfaßt. Dies mag - sei es wegen des Fehlens eines passenden anderen Ausdrucks oder aber um den Zusammenhang mit den konkreten Orten ihres Wirkens deutlicher werden zu lassen - für eine gewisse Zeit angemessen sein. Das Konzept der christlichen Gemeinschaft ist aber offensichtlich im allgemeinen kognitiv relevanter als das jener Gebäude, die von ihr genutzt werden. Möglicherweise gibt es ein generelles Prinzip des Bedeutungswandels, nach dem ein derart metonymisch gebrauchtes Nomen wie *Kirche* in seinem Gehalt so erweitert und zugleich reorganisiert wird, dass mit ihm schließlich eine Familie von Konzepten ausgedrückt werden kann, unter denen das relativ abstrakte Institutionskonzept die zentrale Rolle spielt.[23]

4. Metaphern im mehrstufigen Interpretationsmodell

Anders als die meisten Metonymien werden sprachliche Metaphern nicht vorrangig deshalb verwendet, um mit den Äußerungen bestimmten Ökomomieerwägungen zu folgen. Vielmehr wird hier in der Regel auf Ausdrücke mit verschobener Bedeutung deshalb zurückgegriffen, weil einfach keine andere Möglichkeit existiert, den zu übermittelnden konzeptuellen Gehalt in eine adäquate sprachliche Form zu kleiden. So werden in (33) und (34) die Lexeme *Wolf* und *fließen* abweichend von ihrer wörtlichen Bedeutung dazu benutzt, um auf kognitiv prononcierte Weise entsprechend einem typischen Menschen bzw. der Zeit Eigenschaften zuzusprechen, die ansonsten nur recht unvollkommen umschrieben werden könnten.

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[23] Siehe hierzu die detaillierten Untersuchungen zum Verhältnis von Synchronie und Diachronie bei Institutionsnomen in Eckardt (1999). Wie Eckardts Überlegungen nahelegen, können die meisten Nomen, die heute sowohl eine Institutionslesart als auch eine Ortslesart zulassen, als Ergebnis eines solchen Bedeutungswandels verstanden werden. Mit Bezug auf die oben anhand von (14a) - (14c) diskutierten Fälle von Metonymie ist nicht auszuschließen, daß ein Lexem wie *Lamm* gegenwärtig einer analogen Entwicklung hin zur systematischen Polysemie unterliegt.

(33)   Der Mensch ist ein Wolf.

(34)   Die Zeit fließt.

In (33) dient *Wolf* letztendlich zum Ausdruck eines Konzepts, das Merkmale wie 'gefährlich', 'räuberisch', 'unberechenbar' oder 'egoistisch' enthält; in (34) verwendet man *fließen* dazu, um ein Konzept mit Merkmalen wie 'dynamisch', 'stetig', 'unumkehrbar' oder 'unaufhalt-sam' auszudrücken. Im Unterschied zu Metonymien existieren keine Relationen, die Elemente der neuen und der alten Bezugsdomänen dieser Ausdrücke miteinander verbinden. Wie bereits in traditionellen Überlegungen festgestellt, spielen stattdessen noch genauer zu charakterisierende Ähnlichkeitsverhältnisse eine Rolle.

Welche Möglichkeiten gibt es nun, um auch für diese komplexere und in vielfältigen Formen auftretende Art von Uminterpretation den Weg einer generalisierenden formalen Analyse einzuschlagen? Wie insbesondere läßt sich eine Erklärung für das Verstehen von metaphorischen Interpretationen finden, bei der das Prinzip der Kompositionalität semantischer Repräsentationen gewahrt bleibt? Es bietet sich an, trotz der zwischen Metonymie und Metapher bestehenden wesentlichen Differenz ein im Grundsatz einheitliches Herangehen bei der Untersuchung dieser Bedeutungsverschiebungen zu wählen.[24]

Betrachten wir das relativ einfache Beispiel einer Metapher, das mit (35) geliefert wird.

(35)   Annas Mann ist ein Lamm.

Ausgangspunkt für die PFS, die beim Verstehen der mit *Lamm* verbundenen metaphorischen Interpretation abgeleitet wird, ist wiederum die oben in (26) angegebene SF_I des Lexems.

(36) SF_I(*Lamm*): **met**(x. K_n(lamm)(x))

Bei der Suche nach der dem Vorkommen von *Lamm* zuzuordnenden PFS muss zunächst beachtet werden, dass die oben erwähnten Ähnlichkeitsbeziehungen nicht als Beziehungen zwischen den Elementen der jeweiligen Bezugsdomänen aufgefasst werden können. Beispielsweise ist mit (35) sicher nicht gemeint, daß Annas Mann irgendeinem konkreten Lamm ähnelt. Die hier zu berücksichtigende Ähnlichkeit besteht dagegen zwischen den dabei involvierten Arten, und zwar zum einen jener Art, die durch das Konzept lamm identifiziert wird und dessen Instanzen Lämmer sind, und zum anderen einer Art, zu deren Instanzen mit (35) Annas Mann gerechnet wird. Als PFS von *Lamm* kann dann die in (37) aufgeführte Struktur angenommen werden, wobei ART und $ÄHNL_M$ entsprechend Prädikate für die Domäne der Arten bzw. für die auf M relativierte Ähnlichkeitsrelation sind.

(37)   PFS(*Lamm*; 35):   x. PERSON(x) &   y [INST(y)(x) & ART(y)
&   z [$ÄHNL_M$(z)(y) & = (lamm)(z)]]

---

[24] Vorschläge in dieser Richtung finden sich unter anderem in Hobbs (1991) und Nunberg (1995). Hobbes sieht dabei einen Unterschied zwischen Metonymie und Metapher fälschlicherweise darin, daß bei ersteren das Argument eines Prädikats und bei letzteren ein Prädikat verschoben wird. Im folgenden stütze ich mich auf eine Grundidee von Nunberg, dessen Ausführungen zu Metaphern allerdings nur sehr fragmentarisch sind.

Etwas vereinfacht ausgedrückt denotiert demnach das fragliche Vorkommen von *Lamm* die Eigenschaft, als Person Instanz einer Art zu sein, die der Art der Lämmer ähnlich ist.

Man könnte damit in erster Näherung die bei (35) vollzogene metaphorische Interpretation als die in (38) angegebene konzeptuelle Verschiebung des Lexems *Lamm* betrachten.

(38) $x. =(lamm)(x)$

$x. PERSON(x) \&\ y [INST(y)(x) \& ART(y)$
$\&\ z [ÄHNL_M(z)(y) \& =(lamm)(z)]]$

Quelle der Metapher ist entsprechend die Domäne, die als einziges Element die Art der Lämmer enthält; ihr Ziel ist die Domäne jener Personen, die Instanzen einer zu dieser Art ähnlichen Art sind. Was bei einer Darstellung mit (38) jedoch verborgen bleibt, ist der Umstand, daß aktuale Metaphern insofern eine kognitive Funktion erfüllen als sie zugleich eine Projektion von konzeptuellen Strukturen und davon ausgehend eine Veränderung des Rasters der Artkonzepte beinhalten.[25] Eine Illustration der sich daraus für *Lamm* ergebenden Verhältnisse liefert Abb. 4.
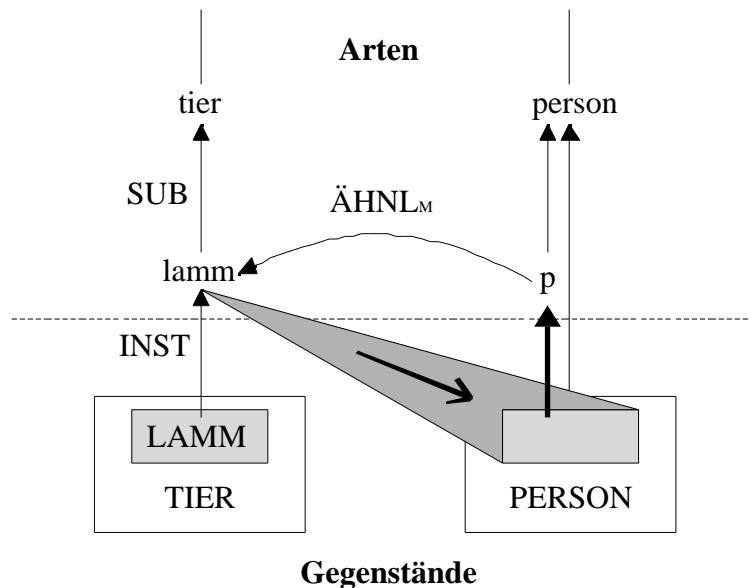
Abb. 4

Wie die Abbildung verdeutlichen soll, wird beim Vollzug der metaphorischen Interpretation von *Lamm* mit der Prädikatverschiebung auch das die Art identifizierende Konzept lamm auf einen Teilbereich von Personen projiziert. Der bisher nicht (oder nur vorläufig) konzeptualisierte Bereich wird durch diese Projektion so strukturiert, dass die damit etablierte Subart von Personen der Art der Lämmer ähnelt. Voraussetzung dafür ist selbstverständlich, dass die Menge der Merkmale M festgelegt ist, in Bezug auf die diese

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[25] Ich stütze mich im folgenden auf das in Indurkhya (1992) entwickelte Konstruktionsschema ähnlichkeitsschaffender Metaphern, das seinerseits unter anderem an Überlegungen in Black (1979) anknüpft. Vgl. auch Way (1991).

Ähnlichkeit hergestellt bzw. expliziert wird. Es ist naheliegend, für den hier betrachteten Fall Merkmale wie 'folgsam', 'naiv' oder 'empfindsam' anzunehmen, d.h. Eigenschaften, die man im Alltagsbewusstsein als für Lämmer typisch ansieht und mit (35) auch Annas Mann zuschreibt. Die kognitiven bzw. pragmatischen Bedingungen, die zum einen die Festlegung der jeweiligen Merkmale und zum anderen die Auswahl des metaphorisch verwendeten Ausdrucks bestimmen, gilt es zu untersuchen.

Analog zur früher getroffenen Differenzierung zwischen Metonymie und systematischer Polysemie muss von der metaphorischen Bedeutungsverschiebung jene Art von Polysemie unterschieden werden, wie sie etwa durch *Hals* in (39a) und (39b) exemplifiziert wird.

(39)(a)   Peter hat einen schmutzigen Hals.
         Die Flasche hat einen kurzen Hals.

Wenn man für das Lexem die in (40) angegebene SF_B - mit *hals* als SF-Parameter - voraussetzt, besteht die Möglichkeit, die beiden Bedeutungsvarianten als Ergebnis einer konzeptuellen Spezialisierung von *Hals* zu verstehen. Die PFSn der betrachteten Vorkommen werden durch die Strukturen in (41a) und (41b) geliefert.

(40) $SF_B(Hals)$:   x. $K_n(hals)(x)$
(41)(a) $PFS_1(Hals)$:   x. $INST(hals_1)(x)$
    (b) $PFS_2(Hals)$:   x. $INST(hals_2)(x)$

Dabei gelten die in (42a) - (42c) aufgeführten konzeptuellen Bedingungen.

(42)(a) $SUB(körperteil)(hals_1)$
    (b) $SUB(flaschenteil)(hals_2)$
    (c) $ÄHNL_M(hals_1)(hals_2)$

Eine Illustration erfolgt entsprechend in Abb. 5.
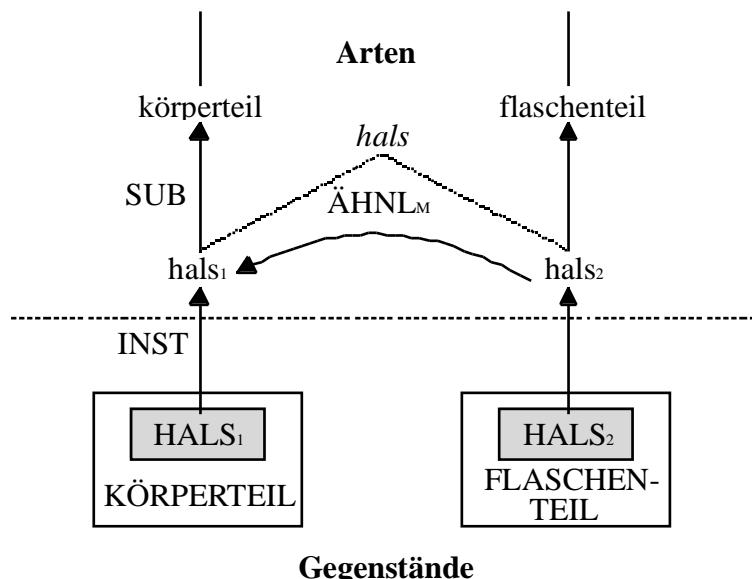
Abb. 5

Ein solcher Fall von Polysemie mit Bedeutungsähnlichkeit läßt sich nun wieder analog zur in Abschnitt 3 formulierten Vermutung als aus einer Metapher historisch hervorgegangen verstehen. Demnach kann vorausgesetzt werden, daß das Lexem *Hals* ursprünglich die in (43a) angegebene SF_B hatte, woraus durch SF-Flexion seine SF_I in (43b) ableitbar ist.

$$(43)(a)SF_B(Hals): \qquad x.\, K_n(hals)(x)$$
$$(b)SF_I(Hals): \qquad \boldsymbol{met}(\; x.\, K_n(hals)(x))$$

Unter Berücksichtigung der oben als notwendig erwiesenen Präzisierungen kann man dann eine metaphorische Interpretation von *Hals* annehmen, wie sie in (44) bzw. in Abb. 6 dargestellt wird.

$$(44) \qquad x. =(hals)(x)$$

$$x.\, \text{FLASCH\_TEIL}(x) \;\&\; y\,[\text{INST}(y)(x) \;\&\; \text{ART}(y)$$
$$\&\; z\,[\text{ÄHNL}_M(z)(y) \;\&\; =(hals)(z)]]$$
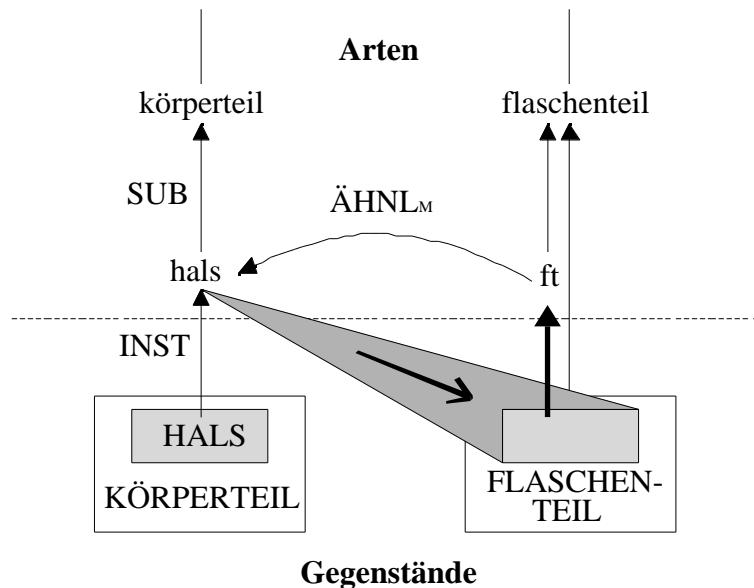
Abb. 6

Die heute lexikalisierte Bedeutungsvariabilität von *Hals* wäre damit als Ergebnis eines Bedeutungswandels rekonstruiert, dessen Voraussetzung ein entsprechender metaphorischer Gebrauch dieses Lexems war.

Schlussbemerkungen

Im Beitrag habe ich Vorschläge formuliert, wie sich Metonymie und Metapher im Rahmen einer formalen Auffassung von konzeptueller Semantik behandeln lassen. Grundlegend für mein Herangehen ist, dass kompositionelle Bedeutungsberechnung und kontextuelle Bedeutungsspezifizierung als zwei autonom organisierte Prozesse beim Verstehen sprachlicher Äußerungen angenommen werden. Dies erlaubt vor allem, beide Arten der Uminterpretation von Ausdrücken unter Wahrung des Prinzips der semantischen Kompositionalität zu erklären; es bildet aber auch die Voraussetzung, um die sich von Kontext zu Kontext verändernden Möglichkeiten des Bedeutungstranfers berücksichtigen zu können. Metonymische und metaphorische Interpretationen stützen sich auf denselben Typ von semantischen Operationen, durch die das Variationspotential der Bedeutung von Ausdrücken erweitert wird. Ihre Spezifik zeigt sich in der unterschiedlichen Art und Weise, wie die durch diese Operationen zur Verfügung gestellten Ansatzmöglichkeiten der kontextuellen Spezifizierung auf dem Hintergrund von konzeptuellem Wissen genutzt werden. Von Metonymie und Metapher als den Ergebnissen konzeptueller Verschiebung sind die jeweils zugeordneten Formen der systematischen Polysemie bzw. Polysemie mit Bedeutungsähnlichkeit zu unterscheiden. Wie gezeigt worden ist, bietet diese Differenzierung die Möglichkeit, neue Aspekte in der Beziehung von Bedeutungsvariation und Bedeutungswandel zu sehen.

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What are the Readings of a Lexical Item: Pragmatic Methods for Lexical Semantics

Kerstin Fischer

fischer@nats.informatik.uni- hamburg.de

1   Introduction

The problem addressed in this paper is what the criteria are for defining the readings of a lexical item; a number of proposals have previously been made with respect to deciding what has to go into the lexical entry of a linguistic lexicon and how to obtain the information wanted. This question involves two different aspects: On the one hand, there are different views on what should constitute lexical information in general; examples are the definition of truth conditions, a conceptual representation, or an account of the compositional features of a lexical item. On the other hand, the sense spectrum of a lexical item has to be devided and structured in some way or other; in particular it can be asked what the readings of the lexical item under consideration are and how they are related to each other.

The starting point in this investigation is the idea that pragmatic methods which allow to determine to what information the language users actually attend may be useful for determining which properties may contribute to a representation of what language users really know and attend to with regard to lexical items. Therefore, by investigating the semantic properties of a particular lexical item, namely the adjective *cognitive*, in particular corpus instances according to those procedures speakers use to display their own understanding of the lexical item, it becomes clear to which types of information speakers orient themselves and therefore also which kinds of information have to be accounted for.

After a short summary of some previous viewpoints on the question, the different contexts in which the adjective *cognitive* may occur will be determined, and its readings will be analysed in its different contextual combinations. As an example for the frequent combination of *cognitive* with the names of certain disciplines, the adjective-noun combination *cognitive linguistics* will then be discussed more deeply. During this analysis it will also be recorded which procedures the language users themselves employ to display to which readings they are referring. The results of this investigation will then be used to discuss the theoretical questions indicated above, namely how pragmatic methods can contribute to determining the kinds of information to be represented in a lexical entry and to drawing distinctions between different types of lexical information.

2   Previous Approaches

The answer to the question which types of information should be included depends on what we expect of such an entry; for instance, in his introduction to formal semantics, Cann (1993) argues that those types of information should be included in the lexicon which are needed to define the denotation of the lexical item and to allow for those inferences that are based on the knowledge of the meanings of a particular lexical item, such as 'it's a tulip, therefore it's a flower' or 'it's a tulip, therefore it's not a rose'; thus Cann defines lexical meaning the following way: "the meaning of a lexeme is the contribution it makes to the truth and falsity of the proposition expressed by any sentence in which it can appear together with the constraints it imposes on the extensions of other expressions in those sentences" (1993: 218). In his view, lexical meaning is therefore constituted by the truth conditions of the lexeme plus a number of semantic relations, which may be represented as meaning postulates and which concern the relationship between the extensions of the classes denoted by the respective lexical item and those of other lexemes. Fodor & Lepore (1998) argue against the position to include information depending on whether it may allow certain inferences, holding that on the basis of this view, semantic and encyclopedic information are indistinguishable; for instance, 'it's a tulip, therefore it has capillary vessels' is a valid inference but it is not normally regarded as semantic, but as world knowledge. Therefore, Fodor & Lepore argue that the lexicon would be unnecessarily blown up by means of what they call 'informational role semantics.'

In contrast to Cann's position, in the structuralist framework it is held that an account of the semantic relations of the respective item to other words provides its complete semantic description; all linguistic aspects are thereby taken to be determined in opposition to those items which constitute other options in the semantic system. Cruse (1986:16), for instance, holds that "we can picture the meaning of a word as a pattern of affinities and disaffinities with all the other words in the language with which it is capable of contrasting semantic relations in grammatical contexts." Lexical analyses are therefore typically carried out in the context of semantic fields, and their results are networks of semantic relations to other parts of the vocabulary. If semantic features are used to describe a lexical item at all, then their task is to distinguish the respective item from its neighbors in the semantic field. In Cruse's terms: "An extremely useful model of the meaning of a word, which can be extracted from the contextual relations, is one in which it is viewed as being made up, at least in part, of the meanings of other words. A particular word-meaning which participates in this way in the meaning of another word will be termed a semantic trait of the second word" (1986: 16). Unlike the approach instanced by Cann (1993), entailment relations are used here to diagnose the traits a particular lexeme displays; thus, it is not the aim of the representation to allow inference relations to be defined, but to provide a complete description of the respective item in opposition to other items. However, both approaches disregard the speakers' actual understanding of the lexical item.

In order to provide a positive account of lexical knowledge, a number of attempts have been made to model what speakers actually know if they know a word, under

the premise that this knowledge is semantic. For instance, Fillmore (1985) argues for a semantics of understanding, that is, for a semantic representation of "the conceptual structures which support and motivate [word meanings, K.F.]" (Lowe, Baker & Fillmore 1997). In Fillmore's view, this also concerns knowledge about stereotypical situations in which the respective concept is embedded. Similarly, for instance Wierzbicka (1985) argues that in a lexical semantic account we need to represent what people have in mind when they think of a word. A suitable method to identify the semantic properties of a lexical item in her approach is therefore introspection which is guided by the use of a restricted semantic metalanguage. Natural Semantic Metalanguage (Wierzbicka 1985, 1986) uses natural language items which have direct correspondents in all of the languages of the world. Furthermore, Wierzbicka argues for semantic features which are anthropocentric, i.e. which do not only describe the objective properties of the relevant lexical item, but which include the relation to the language users. For instance, in order to understand what a good object is one has to know what people expect of it, that is, for artifacts it is the function for which they were designed, with respect to a car, for instance, there are a number of different properties that may make it a good car.

Other approaches which attempt to provide an account of speakers' concepts of the meanings of a lexical item do not try to provide lexical entries with all that speakers know but distinguish between semantic and encyclopedic information. For instance, Bierwisch (1983) distinguishes abstract semantic information and a conceptual structure; only the former is part of the mental lexicon. In order to account for the different readings of a lexical item, conceptual functions are defined which map its abstract semantic meaning onto the actual readings of its contextual occurrences. These functions are regarded as part of the conceptual system and therefore as separate from the semantic information given by its abstract meaning.

In contrast to the latter approaches discussed, Pustejovsky (1995, 1998) argues that it should not be attempted to describe lexical items in their own terms but that the only reason to include semantic information in the lexicon is that it is needed to account for their compositional behaviour (1995: 58); in his view, approaches like the ones described above attempt to "achieve these goals without always applying the proper tools of analysis" (1995: 19). A proper way, in his view, is "looking more at the generative or compositional aspects of lexical semantics" (1995: 58). While he argues that it is impossible to account for the meanings arising in combinations on the basis of lexical entries which just point to classes in the world, he justifies the selection of information which has to go into a lexical entry by the requirement to account for their readings in context.

The position taken in this investigation is not to decide for a particular position in advance on the basis of preferences on theoretical grounds, but to see what phenomena we actually have to deal with as language users attend to them; thus the hypothesis argued for in this paper is that finding out which information the language users are oriented to when they are using a particular lexical item may provide a clue as to which information constitutes their understanding of the lexical item under consideration. Therefore, instead of arguing *a priori* what a lexical entry should contain, for instance, the information for drawing inferences, its distinctive properties,

conceptual information or its compositional features, the procedure followed here will be to analyse the different strategies users employ themselves in order to disambiguate their uses of the lexical item under consideration.

The idea to look for what participants actually do is not entirely new in lexical semantics, however, to my knowledge there are no studies which analyse the consequences of such a view in detail. For instance, Pinkal (1980), in his taxonomy of phenomena of semantic indeterminacy, argues that vagueness can be distinguished from ambiguity by the criterion of whether the indeterminacy causes communicative problems or not. Thus, while vague phenomena cause no problems for communication, in Pinkal's view, ambiguity is something which needs to be attended to since it may (typically) cause such problems. Taking a point of view based on insights from the analysis of conversation now, we can analyse the corpus instances of the item under consideration for the amount of attention the language users devote to avoiding such problems. Consequently, this view allows not only to see to what contents the speakers attend but also to determine which types of information really potentially involve problems for the language users.

3   Procedure

The procedure in this investigation is the following: In a corpus-based study it will be shown which different meanings the adjective *cognitive* may have in the linguistic community. Therefore, it will now be investigated which the contexts are in which the word occurs, what its readings are, and what writers do to convey to their readers to which reading they are referring. The method employed will be an analysis of the occurrences of *cognitive* in a large corpus; corpus linguistics is always useful when we need to "find things that we could not, by imagination, assert were there" (Sacks 1984: 25), that is, when intuition may not suffice to account for the whole range of phenomena involved. The corpus considered is the world-wide web with its large number of abstracts, announcements, calls for papers, as well as papers and discussion lists. The corpus is very heterogeneous; consequently it is probable that all or most senses of the word will be attested, which is not guaranteed if some restricted task-oriented or register-bound corpus is used (cf. Biber et al. 1998).

Regarding the choice of the adjective for the example analysis, one may object that it is not a general language item but a technical term and thus the findings in this paper are restricted to the description of terminology. This objection is supported by statements from authors who argue that *cognitive linguistics*, the adjective-noun combination which will be investigated as an example for the frequent combination of *cognitive* with names of disciplines, has actually become a proper name (cf. Peeters forthcoming). However, there are a number of reasons why *cognitive* is improbable to be a technical term, besides the theoretical problems in distinguishing technical varieties from general language (Nabrings 1981: 150, von Hahn 1998: 378). Firstly, *cognitive* does not belong to a single discipline, but, as the analysis will show, it is often used in combination with very many different disciplines, for instance, linguistics, psychology, neurophysiology, neuroscience, or computer science. Secondly, it is highly

polysemous, and according to, for instance, Sager (1994: 13), terminology is, in contrast to the polysemy of general language items, defined by "permanent forms of reference." Sager (ibid.) goes on "terminological systems can be highly complex and be characterized by many features of artificial languages." Likewise, Abraham (1988: 868) describes a technical term as a lexical unit which refers to a defined concept within a particular discipline. With their evident polysemy, both *cognitive* and *cognitive linguistics* therefore do not seem to be part of a terminological system. Thirdly, *cognitive* occurs in very creative, nonscientific uses, for instance, as the name of a telephone company. These reasons cast doubts on the hypothesis that *cognitive* or *cognitive linguistics* are indeed technical terms; alternatively, one could assume that they are technical terms, but that then technical vocabulary is characterized by similar features as general linguistic items. Self-evidently, especially in the combination with the names of disciplines, a large amount of encyclopedic knowledge, i.e. domain-specific, knowledge is necessary to understand the differences between the readings of the item under consideration, yet there is no obvious dividing line between what may constitute a general language reading and a terminological usage of *cognitive*. Since linguistics uses little standardisation compared to other disciplines, the meanings of lexical items or their combinations are established similarly to those in general language. To conclude, since it is not clear whether *cognitive* is indeed a technical term, and it is finally unclear which consequences this distinction could have on the results of this investigation, in the following we shall focus on the observable properties of *cognitive*, in particular, its polysemy, irrespective of whether some of its uses may be regarded as terminological, and provide ways how to account for its different readings.

In the corpus analysis, the instances of the respective reading of the lexical item under consideration will be investigated by extracting its semantic properties. Now, determining what an utterance and a lexical item means is a matter of interpretation. There are methods to support an analysis; for example, Cruse (1986, 1995) provides a number of test frames by means of which semantic relations can be tested. However, none of these methods for lexical semantics allows to decide for a lexical item in a particular context what it may mean. Here, interpretative methods developed for the analysis of text and conversation may be more useful. Conversational Analysis (henceforth CA), for instance, may teach us to attend to participant categories; that is, for the analysis of conversation, CA holds that speakers display their understanding of the previous turn to their communication partners, and that this understanding displayed is what provides the basis for the interpretation by the analyst: "But while understandings of other turns' talk are displayed to co-participants, they are available as well to professional analysts, who are thereby afforded a proof criterion (and a search procedure) for the analysis of what a turn's talk is occupied with" (Sacks, Schegloff & Jefferson 1974: 729). However, it is not only the understanding of the other person's speech that is interpreted by the respective speaker, but speakers also design their utterances so that the communication partner can understand it; in speech, self-repair, for instance, indicates the speakers' attempts to present an utterance in a most suitable way (Clark & Schaefer 1989: 267). Regarding polysemy, the task also includes avoiding ambiguities, and thus speakers will try to display

their own understanding of the linguistic resources employed as clearly as possible. Correspondingly, as a method for the analysis it will be attempted here to determine which information the writers use to indicate to which reading of *cognitive* they are referring, that is, to display their understanding of the polysemous lexical item under consideration.

Secondly, text analysing methods will be used, since for the most part implicit information has to be taken into account. To get out such information, certain assumptions have to be made; for instance, it is taken here that if there is a conjunction of two elements x and y, x is not meant to be included in y (or the other way around). Likewise I will make use of implications of lexical material; for instance if, in a corpus instance, x and y are combined, it is taken here that they were considered as distinct beforehand. Furthermore, if in a paragraph on the objectives of a research group, for instance, a number of areas are listed, these are taken to be aspects of the general interest described by the group. Consequently, logical, lexical, and textual relations will be used to determine what the meaning of a particular occurrence of a lexical item is. Ultimately, all interpretative methods are subjective, and the only criterion to evaluate judgements such as these is plausibility (cf. Taylor & Cameron 1987).

4 Example Analysis: The Adjective 'cognitive'

The lexeme under consideration turns out to be very frequent: Searching the WWW for *cognitive* results in about 637200 - 639200 hits, depending on the search engine and the number of web pages indexed. To begin with, the contexts in which the adjective occurs are investigated. Since *cognitive* is an adjective, its closest context is constituted by the nouns with which it occurs and which it modifies. For the first 200 hits, an initial statistical analysis reveals the following combinations:

39%	general terms of research (e.g. studies, research, approaches) and the noun *science* (36%)
25%	specific names of disciplines and research directions, e.g. *linguistics, psychology,* etc.
18%	general terms describing states, processes, abilities (e.g. *state, process, disability*) and their representation (e.g. *architecture, levels, models*)
18%	others (for instance, *musings, marketing, creations*)

4.1 A Basic Frame of Cognitive Processes, Abilities, and their Biological Causes

First of all, *cognitive* occurs in combinations such as *cognitive* states, *cognitive* processes, and *cognitive* mechanisms. Here, *cognitive* seems to single out particular states or processes as having to do with activities such as thinking, problem solving, speaking and understanding, i.e. with mental phenomena. For instance, in the introduction to a journal, *language and cognitive processes* become paraphrased as *mental processes and representations involved in language use*:

(1)   *Language and Cognitive Processes* provides an international forum for the publication of theoretical and experimental research into the mental processes and representations involved in language use.

Which processes, however, are described as *cognitive* may vary between the authors; some instances of what counts as a cognitive process are displayed in the following examples:

(2)   Most psychologists today will agree that cognitive (thinking) processes are just as involved in our actions as are behavioral reinforcement schedules. (http://ttacs7.ttu.edu:8902/psy1300/outlines/faq/faq1- 6.html)

While in the previous example, *cognitive* is paraphrased by *thinking*, example (3) also includes language and perception, among other mental phenomena. Example (4) instantiates cognitive processes by 'pictorial and conceptual thinking', example (5) includes also feelings and attitudes:

(3)   Cognitive Processes: This course gives students an overview of research areas in cognitive psychology: language, knowledge representation, memory, perception and attention, computation and problem solving. (http://www.-jwoelfel.com/cognitive_processes.htm)

(4)   The main reason of this research project is the analysis of human thinking. The possibilities of developing a method to measure and classify the change between the cognitive processes "pictorial"- and "conceptual" thinking shall be investigated. (http://www-bmti.tu-ilmenau.de/ebmti/research/mifor_kog_proz.htm)

(5)   Cognitive processes refer to thoughts and feelings. Changes in attitudes, feelings and and beliefs are cognitive processes. Cognitive processes can take place at the individual, group or cultural level. Changes in individual beliefs and in cultural values are both equally "cognitive processes."

Besides denoting mental phenomena such as thinking, perceiving, or feeling, *cognitive* can also refer to biological processes, as the following example shows in which cognitive processes are instantiated by how the brain produces, for instance, speech:

(6)   Connectionism is a way of modeling how the brain uses streams of sensory inputs to understand the world and produce behavior, based on cognitive processes which actually occur. This book describes the principles, and their application to explaining how the brain produces speech, forms memories and recognizes faces, how intellect develops, and how it deteriorates after brain damage. (http://www.oup- usa.org/docs/0198524277.html)

The following example shows that what the journal on *Cognitive Rehabilitation* is actually about is *brain injury rehabilitation*:

(7)   The *Journal of Cognitive Rehabilitation* (JCR) launched its first issue at a
        world wide conference on brain injury rehabilitation in February 1983. ... a
        small newsletter addressing the interest of a small group of professionals who
        were in the beginning stages of organizing themselves for the advancement
        of new and better methods for brain injury rehabilitation.

Likewise, *cognitive brain imaging*, or even *cognitive imaging* in the next example
can be paraphrased as 'brain imaging while mental processes, such as thinking, prob-
lem solving, etc. are going on.' For this combination, the reading 'having to do with
something mental, for instance, with thinking' would not suffice to account for the
emergent interpretation of *cognitive image*; the meaning of *cognitive* seems to include
at least that there are processes related to thinking and possibly other processes that
are going on. That these processes are considered to be neurological is evidenced by
the fact that MRI scans are obviously seen as a suited method to investigate those
processes, which indicates that the relevant interpretation of the processes in the
example are as biological processes:

(8)   By 'Cognitive Brain Imaging' (CBI) I mean any imaging techniques which
        look at structures of and in the brain, with the purpose of understanding the
        mechanisms of the brain. ... The discussion is only about cognitive imaging.
        I consider only PET and MRI studies.

The following example from an introduction to a journal published by Elsevier
summarizes the relationship between mental and biological processes; *cognitive brain
research* is described here as the study of those neural processes which UNDERLY
mental processes. The example furthermore provides another list of such processes:

(9)   *Cognitive Brain Research* publishes original experimental studies of neural
        processes underlying intelligent mental activity and its disturbances. Areas
        of higher nervous functions of particular interest are perception, learning,
        memory, judgement, reasoning, language and emotion.

Besides denoting mental processes, *cognitive* may thus also refer to the biological
processes which are taken to be involved in (or to underly) these mental processes.
        The range of possible readings for the adjective under consideration becomes even
broader when we consider combinations such as *cognitive computer science* and *cog-
nitive engineering*; also in the *cognitive operations* described in the following example,
cognitive denotes neither the thought- and reasoning-related processes of humans nor
their biological basis but a corresponding model of such processes on a computer:

(10)   Parallel Cognitive Processes by Interleaving: In order for an AIS agent
        to perform complex tasks such as integrating new data that it perceives
        and reasoning about data it has already sensed it must be able to per-
        form both reasoning tasks in parallel. The Dynamic Control Architecture
        formulates reasoning as a sequence of discrete cognitive operations that
        incrementally generate and modify explicit solution representations, thus
        it can perform two cognitive tasks at the same time by interleaving ...
        (http://krusty.eecs.umich.edu/cogarch3/AIS/AIS_Parallel.html)

(11)   Cognitive modelling is central to the study of cognitive science. Many cognitive scientists are either actively engaged in creating new models or examining the implications of existing models. A computational model requires specification of every detail of design, forcing the cognitive modeller to face the implementation consequences of their cognitive theories. (http://www.psy.uq.edu.au:8080/CogPsych/ic320/)

In the latter example, those who design computer models are called *cognitive modellers*, that is, a *cognitive modeller* is someone who creates a computational model of his theories of cognitive processes.

Furthermore, *cognitive* is found in combinations with nouns like *architecture, levels, representations*, or *models*. Here, not just mental or biological processes are invoked by the lexical item *cognitive*, but it involves the view that there are complex structures which interact and cause the behaviour observable.

(12)   A cognitive architecture is an integrated system capable of supporting intelligence. (http://ai.eecs.umich.edu/cogarch2/)

(13)   The classical notion of cognitive architecture has served as a framework for studying cognitive activity. (http://www.ucs.usl.edu/ stf0297/draft.html)

The uses of *cognitive* discussed so far, which concern certain mental or biological processes and structures or their models, together make up only 11% of the 200 examples investigated in the initial statistical analysis. In further 7% of the examples investigated, *cognitive* is combined with nouns which describe problems or inabilities: *cognitive disability, decline, disorders*, or *impairment*; *cognitive decline*, as in example (14), can be paraphrased as the decline of the 'usual' mental capabilities. As example (15) shows, the 'normal' capabilities referred to may however also be conceptualised as physical:

(14)   Sudden Cognitive Decline Not Part of Normal Aging: By testing older adults repeatedly for up to 15 years, researchers have shown that a sudden decline in mental ability is not a normal part of aging but can signal the onset of Alzheimer's disease. (http://mentalhelp.net/articles/aging1.htm)

(15)   Smart Life News details the latest scientific research in the rapidly growing field of cognitive enhancement technologies and related topics of physicial health and well-being, including the latest treatment trends for Parkinson's, Alzheimers's, Down's syndrome, and age-associated mental impairment in normal, healthy adults.

To sum up the discussion so far, the adjective *cognitive* may display the following different readings, all of which refer to some varying selection of certain aspects of human behaviour:

- related to mental phenomena, such as thinking, problem solving, speaking, etc.

Figure 1: The Relationships between the Readings of 'cognitive'

- related to biological processes underlying thinking, problem solving, speaking, etc.

- related to a (normal) mental ability to carry out thinking, problem solving, speaking, etc.

- related to a (normal) biological ability underlying thinking, problem solving, speaking, etc.

- related to a model of mental or biological abilities and processes such as thinking, problem solving, etc.[1]

Figure 1 shows the relations between the different readings; their interaction can be described as a linguistic frame, as "certain schemata or frameworks of concepts or terms which link together as a system, which imposes structure and coherence on some aspect of human experience" (Fillmore 1975: 123).

Regarding the procedures writers employ to point out which of these readings constitutes the intended interpretation, it is obvious that they do not spend much effort in distinguishing these readings; the ambiguity is usually resolved by means of procedures such as paraphrasing, for instance, in example (2), *cognitive* is disambiguated by means of adding in brackets the paraphrase *thinking*. Another procedure is the use of coordination constructions, e.g. 'cognitive enhancement technologies and related topics of physical health' in example (15). Furthermore, encyclopedic information can disambiguate the use of *cognitive*, for instance, the proposal to use MRI scans as a method to investigate cognitive processes points to a neurological reading of these processes; thus, world knowledge may help to identify the correct interpretation; finally, writers employ exemplification in order to display the intended reading of *cognitive* to their readers.

However, besides the fact that some disambiguation strategies can be identified, given the close connections between mental and biological processes, abilities, and

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[1]This reading may of course be further disambiguated regarding whether mental or biological processes are modelled, and indeed there are different types of models; for instance, one type only attempts to model mental functions, another type also attempts to provide a model of the biological processes as well (cf. Smolensky 1988, for instance). For the discussion here, disambiguation up to this point may suffice.

their models which are obviously assumed by many writers, it does not seem to be of particular importance to the writers to make sure how exactely they understand *cognitive* in a given context. Thus, it may be asked whether these different readings are sufficiently distinct, since users do not seem to fear communicative problems in case the intended reading is not sufficiently clear; a test for distinctness is provided by Cruse (1995: 36), for instance:

(16)   Mary was wearing a light coat; so was Sue.

This sentence should be "very unusual" if Mary had a coat light in colour while Sue's coat would be light in weight. Similarly, we can construct such an "identity-test" for *cognitive*:

(17)   Theo studies cognitive phenomena; so does Brian.

This sentence should be 'unusual' if Theo is a philosopher and Brian a neurologist. Similarly, if Theo does IQ-tests, studying mental abilities, while Brian builds artificial neural networks, the same 'unusalness' arises. It can be concluded that the different readings identified are indeed sufficiently distinct, that writers however do not attend very much to their disambiguation. The reason for this may lie in the co-operativity of these readings, that is, "in contrast to antagonistic readings are discrete clusters of semantic properties which normally coexist and co-operate within the meaning of a word" Cruse 1995: 35). In antagonistic readings, the readings are in direct conflict with each other; since the readings of *cognitive* are however highly related, for instance a causal relation being supposed to hold between mental and biological processes, they do not constitute a conflict here, but co-operate with each other.

Correspondingly, Cruse's (1995: 37) test for antagonism does not work; he proposes for the homonym *bank* the following test:

(18)   I love the banks of the Thames - Barclays, NatWest...

For *cognitive*, the test could be adapted in the following way, however, with a negative result since there is no zeugmatic effect:

(19)   Theo studies cognitive phenomena: thinking, brain images, enhancement technologies...

Regarding the value of determining how language users themselves treat an instance of polysemy by means of pragmatic methods, it seems in accordance with the methods developed for items in isolation within the structuralist framework and their results (Cruse 1986, 1995). The results furthermore indicate that Pinkal's model according to which vagueness does not cause communicative problems, or, in our terms, does not initiate procedures by the speakers to avoid such problems, yet, ambiguity does cause such a linguistic behaviour, can be refined on the basis of the criteria of distinctness and antagonism proposed by Cruse: Distinct but co-operative readings are

not treated by participants as possible sources of communicative problems. The criterion proposed by Pinkal (1980) thus distinguishes antagonistic versus co-operative readings, not necessarily ambiguity versus vagueness. However, Cruse (1995: 36) also argues that for an item to be FULLY ambiguous, its readings have to be both distinct and antagonistic. While his paradigm example for a lexical item with co-operative readings is *book*, Pustejovsky (1995: 153-156) treats *book*, for instance, as an instance of (logical) polysemy, which is according to Pinkal also a type of ambiguity and thus one of those phenomena which may cause communicative problems and which would make certain avoidance strategies by the language users relevant. While polysemy thus seems to include also co-operative meanings, the discussion supports Cruse's (1995: 36) point that ambiguity is a matter of degree, and that the dimensions of this continuity are discreteness and antagonism.

4.2   The Readings of 'Cognitive' in Combination with Nouns Describing Research Directions

So far, we have found that the adjective *cognitive* can refer to different classes of objects in the world: To mental phenomena, but also to biological causes of these mental processes, to their models in computer systems, and to an ability which is shared by 'normal' people. Which processes are considered to be *cognitive* and which are not, e.g. emotional or visual, may differ as well.

While the uses of *cognitive* discussed so far only make up 18% of the examples, it turns out that the largest part of the nouns which are modified by the adjective are the names of disciplines or research directions. Thus, about 36% occur with the noun *science*, further 3% occur with words which describe research activities in general: *studies, research, approaches*.

While example (20) suggests that cognitive science is the study of mental processes and abilities, example (21) indicates that the whole spectrum of meanings for *cognitive* established above may be involved; thus while the inclusion of linguistics, for instance, may indicate that a mental process such as speaking may be the object of studies in cognitive science, the inclusion of computer science suggests that aspects of computer modelling may be involved. Likewise, that physiology is part of the list suggests that also biological processes underlying the mental phenomena denoted by *cognitive* are the objects of study:

(20)   Cognitive science is a multidisciplinary approach to the study of the human mind.

(21)   Cognitive Science is an interdisciplinary field that has emerged during the past few decades at the intersection of a number of existing disciplines, including psychology, linguistics, computer science, philosophy, anthropology, and physiology.

On the basis of these two examples, it may be concluded that cognitive science is the study of the whole range of those phenomena which can be called *cognitive*;

that is, the combination between *cognitive* and *science* seems to inherit the functional spectrum of *cognitive*. Example (22) supports this observation regarding the readings "mental phenomena", "computer model of these phenomena" and "their biological causes".

(22)   Using psychological experiments, computer simulations of models of the mind, and advanced brain imaging techniques, cognitive scientists try to look at the hidden world of cognition inside the head.

Besides the combination with *science* and lexemes such as *research* or *study*, an additional 25% of the adjective occur with the names of particular disciplines, such as *neuroscience, psychology, behavioural therapy*, or *linguistics*. Consequently, the main portion (64%) of the occurrences of *cognitive* are in combination with terms denoting general or specific research directions. However, contrary to the example above, the adjective *cognitive* in these combinations does not always seem to single out the object of study; while *cognitive psychology*, for instance, is defined in the following example as a study of certain mental phenomena, it is also called a particular *theoretical perspective*:

(23)   Cognitive psychology is a theoretical perspective that focuses on the realms of human perception, thought, and memory.

Cognitive therapy, in example (24), similarly indicates that whatever *cognitive* means provides a certain perspective of how to approach psychological problems in therapy:

(24)   Cognitive therapy teaches you how certain thinking patterns are causing your symptoms by giving you a distorted picture of what's going on in your life, and making you feel anxious, depressed or angry for no good reason, or provoking you into ill-chosen actions.

Likewise in a call for papers for the LAUD workshop 'Ten Years After' Cognitive Linguistics: Second Language Acquisition, Language Pedagogy, and Linguistic Theory, it is clear that whatever *cognitive* means, it is used to distinguish a certain research paradigm within linguistics and does not refer to the objects of study:

(25)   Although cognitive linguistics can certainly be characterized as the most rapidly expanding linguistic paradigm of the last decade, the impact of this linguistic theory on research in language acquisition and foreign language teaching has no more than appeared at the periphery of CL ....

Which properties are involved in the perspective indicated by *cognitive* needs further investigation. One methodological possibility may be to see to which other research directions a particular discipline is contrasted; for instance, *cognitive therapy* is opposed to *behavior therapy* in the next example:

(26)   Cognitive-behavioral therapy, or CBT for short, combines two very effective
         kinds of psychotherapy: cognitive therapy and behavior therapy.

However, in order to be able to discuss what exactely *cognitive* contributes with
respect to a particular discipline, a large amount of knowledge of the discipline is
necessary. For instance, regarding example (26) we would need to know what exactly
the differences between those two approaches are. That is, encyclopedic knowledge
is necessary here. Still, in order to determine the full semantic spectrum of *cognitive*,
it should also be investigated what exactly its role is in combination with particular
nouns which constitute names of disciplines.

The analysis will therefore proceed from here by focussing on a particular example.
The example on which these aspects will be investigated further is *cognitive linguistics*
because linguistics is the discipline to which this article contributes and for which most
background knowledge among its readers can be assumed. Furthermore, because
cognitive linguistics is a rather young research perspective, ubiquitous definitions
and statements of purpose can be found both in the corpus under consideration, the
world-wide web, and in expert texts on the topic. There should be therefore enough
material to determine the semantic range of the expression.

4.3   The Meanings of "Cognitive Linguistics"

In the literature on cognitive linguistics, statements like "Cognitive Linguistics is not
cognitive linguistics" (Peeters 1998: 300) can be found. This sentence plays with the
polysemy of the expression, and our task now will be to determine what the adjective
cognitive contributes to its different readings. That is, what can be expected is that
the adjective-noun combination is as polysemous as its constituents; however, it will
be shown that besides this polysemy the combination includes semantic properties
which are far beyond the meanings to be arrived at compositionally, and that, in
contrast to the polysemy of *cognitive*, writers attend to its ambiguity. Consequently,
it will now be investigated what different uses the expression may have and which
procedures the language users employ themselves in defining the meanings of the
combination *cognitive linguistics.*

The first observation is that while the information about what *cognitive* may mean
was indirect and had to be extracted by analysing the context carefully, for *cognitive
linguistics* there are numerous definitions which allow the semantic analysis much
more directly. The definitions which can be found often contain a general statement
on the relationship between language and cognition, a list of main interests, and
the names of prominent researchers of the respective area. Occasionally, also the
hyperonym is mentioned.

For example, in a call for papers for the 4th International Cognitive Linguistics
Conference July 1995 in Albuquerque, New Mexico, the organisers describe their aims
and the scope of the conference in the following way:

(27)   The International Cognitive Linguistics Conference offers a forum for re-
         search within the perspective of cognitive linguistics. This perspective sub-
         sumes a number of concerns and broadly compatible theoretical approaches

that share a common basis: the idea that language is an integral part of
cognition which reflects the interaction of cultural, psychological, commu-
nicative, and functional considerations, and which can only be understood
in the context of a realistic view of conceptualization and mental processing.
Topics of interest for cognitive linguistics include the structural character-
istics of natural language categorization (such as prototypicality, metaphor,
mental imagery, and cognitive models), the functional principles of linguis-
tic organization (such as iconicity and naturalness), the conceptual interface
between syntax and semantics, the experiential and pragmatic background
of language-in-use, and the relationship between language and thought.

Thus, first of all, cognitive linguistics is called a *perspective*, i.e. *cognitive* does
not specify the objects of linguistic investigation. Then, the common basis of cog-
nitive linguistic approaches is described, namely that language is an integral part of
cognition. Thirdly, typical interests of cognitive linguistics are listed (prototypicality,
metaphor, imagery, etc.).

This view of what cognitive linguistics is about contrasts with what is written on
the Welcome Page of the Cognitive Linguistics Section at the Faculty of Literature
& Social Sciences, Yamagata University, Japan:

(28)   Cognitive Linguistics is a subfield of cognitive science, dealing with old but
         not yet fully answered questions about our linguistic abilities: How can we
         speak and understand our own language, and for that matter, our second
         and third languages? It aims at making explicit the nature and origin of the
         "knowledge of language" every one of us has and the way we put it in use
         in our everyday linguistic environment. ... The theoretical backgrounds for
         these inquiries vary depending on your interest. The Linguistics Course cov-
         ers the so-called Saussurian linguistics and the formal linguistics introduced
         by Noam Chomsky.

This description of cognitive linguistics begins by stating a hyperonym relation.
Next, research interests are listed, these interests however are different from those from
the example above. Furthermore, research perspectives within cognitive linguistics
are identified by the names of Saussure and Chomsky.

Yet another view is stated in an invitation to a workshop by the Australian Lin-
guistics Institute at the University of Queensland July, 1998 in example (29); here,
the hyperonym are the linguistic and behavioural sciences, and as in examples (25)
and (27), it is understood as a particular 'theoretically motivated approach', that is,
the function of *cognitive* seems to be to distinguish a particular research perspective
from possible alternatives (in contrast, the relationship between the discipline and
the modifying adjective in the case of *cognitive science* in examples (20) to (22) was
to define the object of study).

(29)   Cognitive Linguistics, as a theoretically motivated approach to linguistic and
         behavioural science, encompasses research on a wide variety of linguistic and

cognitive phenomena (including: syntax, semantics, discourse, ASL/Auslan
(sign language), gesture, psycholinguistic and neurolinguistic data), and also
has points of research contact with various other linguistics sub-fields – cf.,
socio- (cultural) and applied linguistics research, as well as computation re-
search.

Furthermore, in example (29), linguistic and cognitive phenomena seem to be con-
ceptualized as being distinct from each other, contrary to the claim made in example
(27) that linguistic phenomena are an integral part of cognition. Otherwise, the exam-
ples given for the interests of cognitive linguistics are similar to those listed under the
heading "what is linguistics?" on the webpage http://www.cal.org/ericcll/digest/-
cal00001.html as areas of study of formal, socio- and psycholinguistics.

Concerning the hyperonyms of *cognitive linguistics*, like Yamagata University de
Gruyter classify their journal as a contribution to cognitive science, in contrast to a
description of the aims of cognitive linguistics on a web-page in Leuven where it is
considered a branch of linguistics:

(30)   Cognitive Linguistics. An Interdisciplinary Journal of Cognitive Science.
         (www.degruyter.de/journals/cogling/clnotes.html)

(31)   Cognitive Linguistics happens to be the branch of linguistics which posits
         that there are fundamental links not only between general-purpose cognition
         ("concepts", one might say) and the meaning of words, but also between such
         word meanings and the other aspects of language (e.g. sentence and dialogue
         structure, and the forms of spoken words). (http://onyx.arts.kuleuven.ac.be/-
         ~ezra/ezra/plan- sci.html)

Statements which describe the relationship between language and cognition are
numerous, for example, in de Gruyter's introduction of their journal:

(32)   COGNITIVE LINGUISTICS presents a forum for linguistic research of all
         kinds on the interaction between language and cognition. Cognitive linguis-
         tics focuses on language as an instrument for organizing, processing and
         conveying information...

Here, language is looked at as an instrument for what obviously constitute exam-
ples of cognitive processes, while in the following example, the relation is specified as
being rooted in our conceptual system:

(33)   Cognitive Linguistics is a model of linguistic description which relates lan-
         guage to our conceptual world and our human experience. One of the basic
         tenets of this model is that grammatical categories and grammatical con-
         structions are meaningful. The meanings associated with the grammar of
         a language are rooted in our conceptual system and our basic experiences.
         Consequently, grammar is part of cognition and makes use of the same cog-
         nitive principles that govern all our cognitive processes such as perception
         and thought. (http://www.enl.auth.gr/postling/ling2592.htm)

In an e-mail by Scott Delancey on March 20th 1991, the relation is specified as 'seek explanations for x in terms of y' where x are general linguistic principles and y are general principles of cognition:

(34)   Though I'm sure everybody's (getting?) tired of the argument, I think it's worthwhile to point out that the term "cognitive", in the specific sense of describing approaches to linguistics that seek explanations for general linguistic prinicples in terms of general (= nonspecific) prinicples of cognition, has been in use for quite a while–the first published use that I know of being Lakoff and Thompson's paper in BLS 1 (1975 !!).

In an invitation to a theme session on 'computer models in cognitive linguistics', the organiser, David Powers, writes on July 18th 1997:

(35)   Cognitive Linguistics is built on the hypothesis that language is an outgrowth of general cognition and not primarily a function of modules specific to language/speech. Metaphor is seen as a primary mechanism in Cognitive Linguistic theory, but how does it relate to general cognition and explain language as an emergent property? Since Piaget, Psycholinguists have discovered a tight relationship between child learning of language and ontology, but how concrete are the theories to explain the relationship? (http://www.vu.nl:8000/ICLC97/tspowers.htm)

This paragraph brings cognitive linguistics close to psycholinguistics; furthermore, the relationship between language and cognition is described as *outgrowth*.
Further suggestions include the following:

(36)   I would think Cognitive Linguistics would mean precisely the examination of language in the context of general cognition. (20 Feb 91, David Powers)

(37)   Cognitive linguistics is an approach to language rooted in cognition. That is, this view is that linguistic phenomena are inextricably linked with the rest of the cognitive apparatus and therefore the language system behaves in a similar way to other parts of our cognitive makeup and is influenced by them. There is no separate language facility; language is affected by our apprehension of the world around us. (http://www.dcs.shef.ac.uk/research/groups/nlp/groups/cogling.html)

Taylor (1995) discusses the differences and commonalities of different approaches inside cognitive linguistics. In his comparison of two approaches which claim of themselves to be cognitive linguistic approaches, Langacker's and Bierwisch's, he proposes to interpret *cognitive linguistics* as a commitment to provide an adequate account "of the mental states and processes that cause the behaviour" without directly implying a particular research strategy. This is what he calls "the cognitive commitment" and what all cognitive linguistic approaches share (Taylor 1995: 4).

It can be concluded that cognitive linguistics assumes some kind of relation, for instance, causal, part of, explanatory, instrumental, between language and aspects of human cognition, that is, between linguistic structure and 'general principles of cognition', 'our conceptual world and our human experience', or cognitive processes such as 'organizing, processing and conveying information'. The interpersonal variability of the accounts of this relationship, however, is quite surprising; furthermore, cognitive linguistics is seen as a subdiscipline of linguistics, linguistic and behavioural sciences, or cognitive science.

In 1991, a debate was held on the LinguistList about the appropriateness of the name *cognitive linguistics* for the newly founded Cognitive Linguistics Association and the journal to be published by de Gruyter.[2] It was initiated by Vicki Fromkin with a comment that the term is quite unsuited; while her opinion is that using *cognitive linguistics* for a particular research direction is arrogant since other approaches may also be justifiedly called *cognitive linguistics*, another participant finds it misleading and over-general. Thus, the usage suggested for the new association seems to be more specific than it may be expected by the combination of the items *cognitive* and *linguistics* compositionally:

(38)   I apologize for starting a discussion on 'terminology'. A rose is a rose is a etc.... I say this because not only do I recoil at what I consider an arrogant use of the term 'cognitive linguistics' (arrogant because it defines cognitive linguistics to exclude other views than their own) but at the pejorative connotation attached to the term 'formalisms' and 'formal linguistics' by various colleagues. (Vicki Fromkin, 25.3.1991)

(39)   I agree with Vicki Fromkin that the name 'cognitive linguistics' is confusing in that it seems to encompass all linguists who consider themselves cognitive scientists. But there are plenty of precedents in the linguistic community for choosing misleading or over-general names for theories. (6 Feb 91, <rwojcik@atc.boeing.com>)

Daniel Everett, in a mail from February 13th, 1991, also rejects the term for similar reasons, but he adds that there is already a position which is also, like the new position which is about to be named *cognitive linguistics*, more specific than the study of the relationship between language and cognition in general but which is so well established that he regards the combination to be reserved for it:

(40)   I object, therefore, most strongly to the use of 'Cognitive Linguistics' in such a way as to indicate that any particular group has the inside track on this issue. Historically, of course, the term would 'belong' by rights to Chomsky's work and its offshoots since he is directly responsible for most of what is known as the Cognitive Sciences anyway.

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[2]The URL for this discussion is http://linguistlist.org/issues/master.html#topics, the individual contributions are furthermore identifiable by the date.

Thus, these authors reject the introduction of this name for a new research direction because of a discrepancy between the potential coverage of the term and a more restricted usage by particular research directions, on the one hand, and because the combination seems to be reserved for another research tradition than the one proposed on the other. Likewise, Ungerer & Schmid (1996), in "An Introduction to Cognitive Linguistics", distinguish their view of cognitive linguistics from what they call the logical view of cognitive linguistics in which it is assumed that while "the logical rules and objective semantic features which generate language are stored in our memory, it seems only natural to claim that they are of a mental nature. This approach is therefore also 'cognitive' in the original sense of the word (i.e. 'related to knowledge'). However, it is not the kind of 'cognitive linguistics' the book is about" (1996: x-xi). Thus, while acknowledging that there are other kinds of linguistic approaches which can justifiably, and 'orginally', be called *cognitive linguistics*, they reserve the term for a particular research direction within cognitive linguistic approaches.

However, there are also contributions to the discussion which stress the commonalities between the two perspectives which are referred to by means of their most salient contributors. For instance, Don L.F. Nilsen writes on the 27th of February, 1991:

(41)   It's interesting to note that Lakoff and Chomsky have taken such opposite positions re "Cognitive Linguistics" when they are both trying to do the same thing – use linguistic information to investigate the properties of the human mind.

Nilsen, therefore, takes the view that what *cognitive linguistics* means and what both research directions, the Lakoffian and the Chomskian, actually do, is to use linguistic information to investigate the properties of the human mind. This is, however, not exactly the definition of *cognitive linguistics* found in the examples (32) to (36) above in which, on the contrary, the research perspective was reversed, for instance, to study language in the context of cognition (e-mail from David Powers).

Besides discussing these terminological questions, discussants on the LinguistList have also attempted to find criteria for distinguishing these two research perspectives. One topic which came up during the discussion is the modularity issue, another one is the question of autonomy, which are evidenced in examples (42) and (43) by two mails from Michael Kac on February 6th and 28th, 1991:

(42)   Re Vicki Fromkin's comment on cognitive linguistics: whatever position you (sic!) take on the modularity issue (I suspect that the jury will be out on that one for some time), I think that Vicki is right in objecting to the use of 'cognitive' in the way some are using it. It brings to mind the tendency of linguists to use the word 'natural' in a special, technical sense according to which it means 'my'.

(43)   The debate that's going on in Linguist doesn't seem, in any event, to involve who is right on the issue of whether language is autonomous. It seems,

rather, to involve a battle over turf: the antagonists appear to be arguing over who has the right to occupy the hallowed plot of ground called *cognitive linguistics*. That's not a very worthwhile thing to have a fight over, it seems to me, though I sympathize with those who object to reserving the term 'cognitive linguistics' for the research program of only one group of combatants.

Gibbs, in an e-mail from January 31rst, 1991 (which provoked Vicki Fromkin's challenge and the discussion afterwards) considers autonomy as a criterion to distinguish cognitive linguistics from other approaches, as the following example shows. It furthermore highlights the interdisciplinary nature of cognitive linguistics and its relations to other 'cognitive disciplines':

(44)   This e-mail note describes the International Cognitive Linguistics Association, and presents details about the new journal "Cognitive Linguistics", and this summer's cognitive linguistics conference here at UC Santa Cruz. ... The ICLA has an explicitly interdisciplinary orientation, not only in the sense that cognitive linguistics tries to incorporate relevant research from other cognitive disciplines, but also because it hopes to highlight the contribution of linguistics to Cognitive Science. Within cognitive linguistics, the analysis of the conceptual and experiential basis of linguistic categories and constructs is of primary importance: the formal structures of language are studied not as if they were autonomous, but as reflections of general conceptual organization, categorization principles, and processing mechanisms.

Another distinguishing criterion is whether linguistic knowledge is considered to be innate, as it becomes clear from a mail by Arild Hestvik from February 24th, 1991:

(45)   Another futile arm-chair debate about general intelligence vs. Innate linguistic knowledge is raising its head – let's instead have the real arguments and *research* decide whether there is an innate language faculty or not. In the end that's the important thing and not whether cognitive linguistics is a brand-name reserved for people who a priori have made up their mind one way or the other.

To sum up, the topics mentioned in the discussion are autonomy, modularity, and innateness of language as criteria to distinguish the different research directions; Gibbs (1996: 49) furthermore argues that:

(46)   Cognitive linguistics is especially deserving the term *cognitive* not solely because of its commitment to incorporating a wide range of data from other cognitive disciplines, but because it (a) actively seeks correspondences between conceptual thought, bodily experience, and linguistic structure, and (b) because it seeks to discover the actual contents of human cognition.

Thus, cognitive linguistics in his view is content-oriented, and it focusses on the contents of the interaction between experience and linguistic structure in contrast Chomskian linguistics and to psycholinguistics, which are, according to Gibbs (1996), more interested in the architecture of the human mind than in the content of the linguistic categories.

Like Gibbs (1996), Peeters (1998, forthcoming) is also concerned with the relationship between cognitive linguistics and psycholinguistic findings; he argues: "Cognitive Linguistics has come a long and arduous way, but it has an even more arduous way to go: it must engage with this new form of God's truth, i.e. with psychological and with biological reality, the mind as well as the brain - in a way it has not done hitherto, or else risk being largely ignored, in spite of whatever fascinating facts of language it may be able to unearth." His underlying assumption is that "there is hardly anything more cognitive than an exploration of how language is processed in the brain" (Peeters forthcoming). In his opinion, cognitive linguistics only lives up to its name if it considers not only mental processes and states but also their biological causes.

Furthermore, some mails have been contributed to the discussion on the LinguistList which strongly indicate that cognitive linguistics is not only regarded as a particular perspective on research but that it is looked at as a particular research paradigm in Kuhn's sense, that is, it is considered as a sociological entity. For instance, George Lakoff writes in reply to Prof. Fromkin on February 7th, 1991, that establishing a new association and a new journal is essential for getting papers published which display a particular research perspective; consequently, defining this research direction and organising a relevant association and a forum for publication does not only serve to label a particular view about the relationship between language and cognition, it has also consequences for the work as a scientific community:

(47)   Perhaps this is the only forum where such a discussion could take place across the cognitivist-generativist divide. It is impossible at the LSA, which has a conservative, generatively-oriented program committee and which has refused to permit paper sessions devoted to results in cognitive linguistics.

Not enough that founding a research discipline serves as a forum for a group of researchers with a particular view on the relationship between whatever *cognitive* means and language, Daniel L. Everett, on February 13th 1991, also argues that it has monetary advantages:

(48)   ... nor does usurpation of a particular term of so much *emotive* value to many linguists as 'Cognitive' [help, K.F.] (emotive because calling something 'Cognitive Linguistics' instead of just 'Linguistics' implies that what others do is less relevant for cognitive concerns). Of course, I can understand why this term is so desirous - we all know that 'Cognitive' is more attractive to funding agencies and nonspecialist book-buyers than straight 'Linguistics'.

Another aspect which fits the picture that cognitive linguistics is treated as a paradigm in Kuhn's sense is the prominence of certain books. Kuhn writes in his

Postscript to the second, enlarged, edition, in which he sketches "needed revisions", comments "on some reiterated criticisms" and directions in which his thought was developing at the time (1970: 174): "A paradigm is what the members of a scientific community share, and, conversely, a scientific community consists of men who share a paradigm" (1970: 176). Therefore, he argues that "Any study of paradigm-directed or of paradigm-shattering research must begin by locating the resonsible group or groups" (1097: 180). If we now attempt to answer the question of how writers succeed in conveying to their readers to which kind of cognitive linguistics they are referring, it is found that strikingly often in the instances found in the world-wide-web occurrences of *cognitive linguistics* are accompanied by the names of prominent representatives of the respective research perspective, for instance:

(49)   The course will begin with the topic of aspect in both CL [cognitive linguis-
        tics, K.F.] and NTL, comparing CL approaches (largely Langacker's) with
        Narayanan's NTL approach. http://socrates.berkeley.edu:4247/F97/lx205.-
        html

The picture of a paradigm is supported by Peeters' (forthcoming) observation that "the Cognitive Linguistics movement as we know it today was born out of polemical opposition to Chomskyan linguistics." He furthermore writes that "it became the name used by one particular group of people to refer to the sort of work they were undertaking. It also became - quite naturally - the name used by others to identify that particular group of people." Thus, in Peeters' view and corresponding with Kuhn's definition of *paradigm*, it is not only a particular research perspective which *cognitive linguistics* denotes, but more importantly a group of people.

Besides the need for identifying the relevant members of the particular research group, Kuhn also argues that a paradigm is characterised by a specific body of litera-ture: "A scientific community consists, on this view, of the practitioners of a scientific speciality. To an extent unparalleled in most other fields, they have undergone similar educations and professional initiations; in the process they have absorbed the same technical literature and drawn many of the same lessons from it" (1970: 177). Accord-ingly, in a reading list on cognitive linguistics (www.arts.kuleuven.ac.be/~ezra/ezra/-read-cl.html), there are titles (by Lakoff and Langacker) which are referred to as "the bibles":

(50)   The "bibles":

        Lakoff, G. (1987), Women, Fire and Dangerous Things. What Categories
        Reveal about the Mind, Chicago: University of Chicago Press

        Langacker, R.W. (1987), Foundations of Cognitive Grammar. Vol. I: Theo-
        retical Prerequisites, Vol. II: Descriptive Application, Stanford, CA.

This matches with Peeters' (1998) observation that in the book edited by Geiger and Rudzka-Ostyn (1993), 67% of the authors cited works by G. Lakoff and 74% cited works by Langacker. Furthermore, Kuhn argues that "each community ordinarily has

a subject matter of its own" (1970: 177). Correspondingly, in most of the instances found in the word-wide web, the respective reading of *cognitive linguistics* is identified by a list of topics or relevant research questions; for instance, de Gruyter advertise their journal as being "devoted to high-quality research on topics such as:

- the structural characteristics of natural language categorization (such as proto-typicality, cognitive models, metaphor, and imagery)

- the functional principles of linguistic organization (such as iconicity)

- the conceptual interface between syntax and semantics

- the relationship between language and thought, including matters of universality and language specificity

- the experiential background of language-in-use, including the cultural back-ground, the discourse context, and the psychological environment of linguistic performance."

Similarly, the call for papers for the 6th International Cognitive Linguistics Conference in Stockholm in 1999 included this statement:

(51)   This conference is a primary venue for presentation of new work in all as-pects of cognitive linguistics and related disciplines. Some of the major areas to be discussed are: function and form; lexical and grammatical meaning; metaphor and metonymy as cultural and cognitive phenomena; relationship between language and thought; language change and grammaticalization; typology; polysemy and semantic fields; discourse analysis; language acquisi-tion; conceptual structure; language processing, reference theory; literature and cognition. Contributions from the fields of neuro- and psycholinguistics, sign language research, bilingualism and cognitive science are also included.

These areas of interest are similar to those in example (27); so in accordance with the most prominent representatives of each research direction, there are particular topics which are typically associated with this research paradigm. These are the properties writers employ to make clear to which reading of *cognitive linguistics* they are referring.

To sum up, the analysis of the role of *cognitive* in combination with *linguistics* has yielded the following results: The ambiguity of *cognitive* between mental and biolog-ical phenomena influences the readings of *cognitive linguistics* in those cases where an account for results from neurological research is being demanded (for instance, Peeters forthcoming). When Peeters thus asks whether *Cognitive Linguistics* lives up to its name, he assumes mainly the biological reading of *cognitive*. Otherwise, the writers in the corpus investigated seem to agree on the mental-phenomena reading of *cognitive*; this reading may be specified as 'general principles of cognition', 'our con-ceptual world and our human experience', or cognitive processes such as 'organizing,

processing and conveying information', for instance. In comparison with those examples of cognitive phenomena writers have provided in their definitions of *cognitive processes*, those mentioned in the discussion of *cognitive linguistics* thus differ slightly, focussing more on general organising principles than on functions such as perception, language, or thinking.

Thus, not the whole functional spectrum *cognitive* displays in combination with nouns like *model, architecture, decline* etc. is involved in the interpretation of *cognitive linguistics*. Nevertheless, this combination also exhibits polysemy: First of all, there seems to be a compositional meaning which can be paraphrased very generally as the investigation of language under the assumption that language and cognition are somehow related. However, *cognitive linguistics* was most frequently was used such that the relationship between language and aspects of cognition was conceptualised in some more specific way, while writers did not agree on the particular nature of this relationship. In particular, there seem to be at least two basic research trends: One connected to the name of Chomsky, in which language is investigated in order to find out something about the human mind; research topics named are, for instance, syntax, semantics, discourse, sign language, and gesture. The other is connected to the names G. Lakoff and Langacker where the relation between language and cognition is such that general cognitive principles are taken to influence in some way the properties of linguistic structures. Typical research topics here are categorization, prototypicality, metaphor, mental imagery, cognitive models, iconicity and the experiential and pragmatic background of language-in-use. These readings are not inferable from the linguistic material.

Before closing the discussion of the different readings of *cognitive*, it has to be mentioned that the investigation presented here is all but complete. What has been left out in this investigation are, for instance, elliptical uses of *cognitive*, such as a discussion of *cognitive group* where *cognitive* defines the research interests of the particular group, or cases like example (52) in which it is not clear what *cognitive* means and how its meaning is related to the other readings discussed:

(52)   Cognitive Marketing Inc. is a full-service marketing and communications consultancy in Rochester, New York, specializing in the design and development of objectives-driven Internet programs for business and non-profit organizations.

Likewise the use of *cognitive* as the name of a telephone company has not been addressed here, and what its meaning in this usage could be can only be speculated about. The focus in this investigation however was not so much on a complete description of *cognitive* which considers all of its uses possible, but on an exercise in determining which the procedures are by means of which writers display to their readers to which reading of *cognitive* they refer. These will now be discussed in the final section.

Regarding our hypothesis made in section 4.1, that distinct but co-operative readings are not attended to by the writers but that discrete and antagonistic readings are, the tests for antagonism proposed by Cruse (1995) should yield positive results for

cognitive linguistics. Accordingly, in this test, *cognitive linguistics* can not mean either Lakoffian or Chomskian style linguistics but it only works well with the compositional meaning of *cognitive linguistics* which indeed embraces all of these approaches:

(53)   Theo studies cognitive linguistics – Chomsky, Lakoff, Langacker, Edelman, ...[3]

Similarly, zeugmatic effects arise in the following sentences for all other readings than the compositional one:

(54)   Theo studies cognitive linguistics: categorisation, prototypicality, iconicity, and Chomsky's books.

(55)   Chomsky and Lakoff are my favorite cognitive linguists.

(56)   Lakoff studies cognitive linguistics; so does Chomsky.

As the latter test shows, the readings are also distinct, and they are antagonistic regarding the Lakoff- or the Chomsky-interpretation of the term, however, not with respect to the compositional cover term.

To summarize, there is a compositional meaning of cognitive linguistics, and writers attend to it. There are at least two further meanings of it, and writers attend to presenting their understanding of it by means of the three procedures mentioned above. These readings are discrete and antagonistic.

5   Conclusion: Pragmatic Methods for Lexical Semantics

This investigation has focussed on some basic meanings of *cognitive*, that is, as describing mental phenomena, abilities, and their models, and as biological processes, abilities, and their models. Then its meanings were investigated which it may get in combination with a noun which denotes a particular discipline; the example was *cognitive linguistics.* Here it was found that, contrary to the use of *cognitive* in other contexts and combinations, writers attend to its disambiguation very much, and that the procedures they use to display their understanding of the combination were related to the concept of *cognitive linguistics* as a paradigm in Kuhn's sense.

Most striking is here also which procedures are not employed; within the different specific research traditions, at least with respect to the one referred to by the International Cognitive Linguistics Association, the journal *Cognitive Linguistics*, or the conference organisers of the International Cognitive Linguistics Conferences, no consensus about the specific relationship between language and aspects of cognition seems to exist; furthermore most statements about cognitive linguistics do not make

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[3]Edelman is one of the researchers Peeters (1998) proposes as prominent researcher of the neurologically oriented cognitive linguistics he would prefer.

use of procedures like discussing the essential assumptions of the theory, for instance, the autonomy and the modularity issue, innateness, or content versus architecture orientation. Instead, names of prominent representatives, topics of interest and sometimes a very general statement about the nature of the relation between language and cognition are used to display to which reading the writers attend.

These results regarding the writers' attention to signalling the intended interpretation of the combination now also provides information about those aspects that are of interest to language users; while the different research directions named *cognitive linguistics* are essentially different in their theoretical assumptions regarding the relationship between language and aspects of cognition, their main disambiguation procedures concern the social aspects of these research views: Whom to read and to cite, what constitutes a topic and what are the basic tenets. Self-evidently a lexicon, whatever its uses, does not only have to represent what is attended to; however, the information at which properties language users are oriented can support lexical analyses by means of the approaches proposed discussed in section 2; for instance, researchers, experts (cf. Putnam 1975), are likely to decide on the question whether a given article contributes to cognitive linguistics or not on the basis of the same criteria as found as those to which writers attend, and thus the truth conditions of *cognitive linguistics* would have be defined along these criteria. Likewise, regarding the inferences which are based on the lexical properties of sentences, for some readings of *cognitive linguistics* the hyperonymical information would have to be coded in the lexical entry according to what the writers have been found to believe to be the hyperonym, especially in those cases in which the head principle of the adjective-noun combination does not work; thus, cognitive linguistics is not necessary a type of linguistics but in some readings has been described as subdiscipline of cognitive science and of the linguistic and behavioural sciences.

Similarly, the contrast relations to other lexical items may also orient at the ways cognitive linguistics is opposed to other linguistic disciplines in the corpus instances investigated: by means of prominent researchers, relevant topics and a rough statement about the relationship between language and cognition. Also an account of speakers' understanding may make use of what the language users really attend to. And finally, an account which describes the compositional aspects of meanings refers to the emergent meaning, and the method proposed here can assist in determining this meaning.[4] Thus, the methods proposed can support previous approaches to lexical meaning and provide clues as to which information constitutes the understanding of a lexical item.

Furthermore, it was found that in the discussion on the appropriateness of the employment of this combination as a name for a particular research perspective, writers, and especially those contributing to the e-mail discussion, were also oriented at the compositional meaning of the combination. Thus, the combination of the adjective and the noun are obviously also analysed according to their original contributions

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[4]However, two of the readings of the adjective-noun combination in the current example are not compositional and thus do not have a direct impact on the meaning aspects described for *cognitive* in such an account.

plus their rules of combination (cf. Fischer 1996) and irrespective of the more specific meanings the combination may have and of which the writers seem to be well aware. This finding supports compositional accounts of natural language semantics.

Finally, theoretical distinctions, such as Cruse's dimensions along which ambiguity can be analysed as well as Pinkal's taxonomy can be substantiated by means of results from a corpus-based analysis of the participants' categories involved in language usage.

Pragmatic methods from the analysis of conversation are therefore useful in supporting lexical semantic analyses by providing evidence for speakers' attention to compositionality, by displaying their understanding of the relevant readings and thus providing the researcher with content information on their understanding, as well as by contributing to theoretical distinctions between different types of semantic indeterminacy.

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Bedeutungswandel als Charakterwandel

ULRIKE HAAS-SPOHN

(ulrike.haas-spohn@uni-konstanz.de)

Zusammenfassung

Im folgenden möchte ich Hilary Putnams Theorie von Substanzwörtern und theoretischen Begriffen im Rahmen von David Kaplans Kontexttheorie rekonstruieren. Dies wird es erlauben, epistemische und realistische Aspekte der Referenzfestlegung innerhalb eines Bedeutungsbegriffs – dem des Charakters – zusammenzufassen. Daraus ergibt sich auch ein Begriff von Bedeutungswandel, der der Auffassung von der Theorieabhängigkeit der Bedeutung Geltung verschafft, ohne Putnams Sichtweise, daß der Bezug von Substanzwörtern über die Theorien hinweg gleich bleibt, aufgeben zu müssen.

Ich werde zunächst Putnams Bedeutungstheorie informell schildern und insbesondere auf ihre wissenschaftstheoretische Einbettung hinweisen. Danach schlage ich ein Format für Bedeutungsregeln für Substanzwörter im Rahmen von Kaplans Kontexttheorie vor; dabei wird es vor allem um eine Klärung des Begriffs des Gebrauchs gehen. Schließlich komme ich zu den Implikationen dieser Theorie für den Bedeutungswandel und werde drei Typen von Bedeutungswandel im Sinne von Charakterwandel unterscheiden und versuchen, ihren Nutzen anhand einiger zentraler Beispiele aufzuzeigen.

1. Putnams Theorie der Substanzwörter und ihr wissenschaftstheoretischer Hintergrund

Man muß die Theorie der Substanzwörter, die Putnam (1975b) entwickelt[1], vor dem Hintergrund der Diskussionen innerhalb der Wissenschaftstheorie sehen. Putnam wendet sich einerseits gegen die Verifikationstheorie der Bedeutung, gegen den davon herrührenden logischen Empirismus und gegen die sogenannte kalifornische Semantik[2], die seines Erachtens nach wie vor auf der Verifikationstheorie der Bedeutung basiert. Andererseits argumentiert er aber auch gegen die Auffassungen von Kuhn (1962) und Feyerabend (1962, 1965, 1975), die sagen, daß sich mit den Theorien nicht nur die Bedeutungen, sondern auch der Bezug der Wörter ändert, daß man nach einer wissenschaftlichen Revolution also in einer neuen Welt mit einer neuen Ontologie lebt.

Allgemeiner gesagt wendet sich Putnam gegen einen epistemischen Bedeutungsbegriff und hält diesem eine realistische Semantik entgegen. Die Idee ist die: Wörter sind nicht mit Deskriptionen oder Definitionen gekoppelt, welche ihre Bedeutung darstellen, und sie erhalten ihre Bedeutung auch nicht dadurch, daß sie

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[1] Siehe auch Putnam (1970), (1973), (1975c).

[2] Damit meint Putnam die Mögliche-Welten-Semantik in der Nachfolge von Carnap (1947).

eine bestimmte Stellung innerhalb einer Theorie haben. Denn aus solchen Auffassungen würde folgen, daß sich die Bedeutung der Wörter mit unserem Wissen und unseren Theorien wandelt, und man könnte gar nicht davon sprechen, daß eine spätere Theorie besser ist als eine frühere oder daß man über einen Gegenstand mehr herausgefunden hätte; wenn nämlich die Wörter hinterher etwas anderes bedeuten als vorher, so können sich die beiden Theorien gar nicht widersprechen. Es kann sogar sein, daß eine falsche Theorie sich auf gar nichts bezieht, weil es nichts gibt, was ihre Beschreibungen erfüllt; so muß man immer damit rechnen, daß sich auch die eigenen Wörter auf nichts beziehen. Kuhn entgeht allerdings diesem Problem durch die Auffassung, daß jede Theorie über ihre eigenen Gegenstände, insbesondere über ihre eigenen natürlichen Arten redet. Aber auch das ermöglicht es natürlich nicht, von Wissenszuwachs oder wissenschaftlichem Fortschritt zu reden.

Laut Putnam ist das alles eine falsche Sicht der Dinge und entspricht nicht dem, was Wissenschaftler wirklich tun und auch nicht dem, wie wir in der Umgangssprache reden. Wissenschaftler gehen von „transtheoretischen Termen" aus, sie setzen voraus, daß man über ein und dieselbe Eigenschaft oder natürliche Art verschiedene Theorien entwickeln und falsche Aussagen darüber durch wahre ersetzen kann. Ein Beispiel, das Putnam in diesem Zusammenhang bringt[3], ist das Wort "Elektron": Es gibt nichts, worauf die frühe Bohrsche Beschreibung von Elektronen genau zutrifft, weil ihm die Unschärferelation, die Heisenberg erst 1927 entdeckte, unbekannt war. Aber nach heutiger theoretischer Auffassung erfüllen Elektronen approximativ die Bohrsche Charakterisierung, etwa bezüglich Masse und Ladung und bezüglich vieler beobachtbarer Effekte, für die Elektronen verantwortlich sind. Daher ist es vernünftig davon auszugehen, daß Bohr und andere Experten über diese Partikel redeten, als sie den Begriff "Elektron" einführten und verwendeten.

Aber nicht nur in der Wissenschaft, sondern auch in der Alltagssprache reden wir so, daß sich zumindest manche Terme, nämlich die sogenannten „natural kind terms" - ich habe das als "Substanzwörter" übersetzt - so verhalten wie die theoretischen Terme der Wissenschaftler und sich unabhängig von unseren Kenntnissen stets auf die gleiche natürliche Art beziehen. Wenn wir zum Beispiel annehmen, daß es Metallstücke gibt, die man zu Archimedes' Zeiten nicht von Gold unterscheiden konnte, heute aber sehr wohl als ein anderes Metall identifizieren kann, so ist nicht nur klar, daß ein solches Metallstück heute nicht in der Extension unseres Wortes "Gold" liegt, sondern auch, daß Archimedes, wenn er von diesem Metallstück behauptet hätte, daß es Gold sei, damit etwas Falsches gesagt hätte - auch wenn er die Falschheit seiner Aussage nicht hätte erkennen können. Und wenn wir auf einem entfernten Planeten - der berühmten Zwillingserde - eine Flüssigkeit entdecken würden, die sich oberflächlich nicht von unserem Wasser unterscheidet, von der sich aber bei genauerer Analyse herausstellen würde, daß sie nicht aus H_2O, sondern aus XYZ-Molekülen besteht, so würden wir nicht sagen, daß es sich bei dieser Flüssigkeit um Wasser handelt. Und auch hier gilt wieder: Selbst wenn wir die zwillingsirdische Flüssigkeit zu einer Zeit entdeckt hätten, in der wir noch nicht über die Methoden, sie von unserem Wasser zu unterscheiden, verfügten, hätten wir etwas Falsches gesagt, wenn wir sie „Wasser" genannt hätten.[4]

Wenn man diese Behauptungen von Putnam akzeptiert, dann kann der tatsächliche Bezug von Ausdrücken und auch ihr Bezug in anderen möglichen Welten, also ihre Intension, nicht durch Definitionen oder Beschreibungen, die genau

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3   Siehe Putnam (1975c), S. 275.

4   Zu diesen Beispielen siehe Putnam (1975b), S. 235 und 223ff.

von den Bezugsgegenständen erfüllt werden, gegeben sein. In gewisser Weise wird die herkömmliche Auffassung von Putnam gerade umgekehrt: Es ist nicht die Intension, welche die Extension festlegt, vielmehr wird die Intension - der Bezug in anderen möglichen Welten - von der Extension, der tatsächlichen Welt, der Realität festgelegt; daher die Bezeichnung "realistische" Semantik. Putnam spricht hier auch davon, das Substanzwörter versteckt indexikalisch sind.

Das Bild, das Putnam dabei entwirft, ist das folgende: Es gibt in einer Sprachgemeinschaft einen bestimmten Gebrauch von Wörtern, und dieser Gebrauch hängt davon ab, daß es Paradigmen gibt, Standardbeispiele, bei denen Einigkeit besteht, daß sie modellhafte Angehörige der bezeichneten Art sind. Diese paradigmatischen Anwendungsfälle legen die Extension der Wörter - in tatsächlichen und kontrafaktischen Situationen - fest: Was etwas zu Gold oder Wasser macht, ist, von derselben Natur zu sein wie die Paradigmen für den Gebrauch von "Gold" oder "Wasser", den gleichen objektiven Gesetzen zu unterliegen. In der gegenwärtigen Physik wird das als das Haben einer bestimmten Zusammensetzung gedeutet, da diese das gesetzesmäßige Verhalten der Substanz bestimmt.

Putnam zieht hier Parallelen zu der Theorie der Eigennamen von Kripke (1972). Kripkes Taufakten bei Eigennamen entsprechen bei Substanzwörtern die paradigmatischen Anwendungen. Bei Kripke wie bei Putnam sind es konkrete Dinge, die den kausalen Ursprung des Gebrauchs von Ausdrücken bilden, und so deren Bezug mitbestimmen. So wie es bei Substanzwörtern die physikalische Natur ist, die ihren Bezug in anderen möglichen Welten festlegt, so sind es bei Eigennamen die wesentlichen Eigenschaften des ursprünglich "getauften" Individuums - für Kripke ist das die genetische Identität -, die den Bezug des Namens in anderen Welten bestimmen. Diese von Kripke, Putnam - und auch anderen - begründete Auffassung ist unter dem Namen „kausale Referenztheorie" bekannt geworden.

Dadurch, daß Putnam epistemische und Referenz festlegende Aspekte von Bedeutung auseinanderhält, wird es möglich zu sagen, daß sich Wörter auch dann noch auf die gleichen Gegenstände beziehen, wenn sich unsere Theorien, in denen dieses Wörter vorkommen, und unser Wissen über diese Gegenstände ändert, jedenfalls solange unsere Theorien noch durch hinreichend ähnliche paradigmatische Anwendungsfälle mit der Wirklichkeit verbunden sind.

Die epistemischen Aspekte der Bedeutung will Putnam mit seinem Begriff des Stereotyps erfassen.[5] Stereotypen sind das minimale Wissen, über daß ein Sprecher verfügen muß, wenn man überhaupt von ihm sagen können will, daß er das fragliche Wort beherrscht. Das Stereotyp ist sozusagen eine Konzession an den Deskriptionstheoretiker. Denn das Bild der kausalen Referenztheorie impliziert zunächst einmal, daß jeder, der in der richtigen Kausalkette steht, also etwa das Wort "Gold" von einer Person übernommen hat, die es entweder selbst schon in paradigmatischer Weise angewendet oder aber ihrerseits korrekt übernommen hat, und der intendiert, über dasselbe zu reden, wie die Person, von der er das Wort hat, auch gleich schon über Gold redet. Er muß nicht besonders viel über Gold wissen, sondern kann sich, was den Bezug des Wortes anbelangt, auf die Experten verlassen - das ist die sprachliche Arbeitsteilung. Andererseits darf er mit seinen Annahmen über Gold aber auch nicht völlig daneben liegen: Jemand, der auf einen Schneeball oder eine Erdbeere zeigt, und fragt: „Ist das Gold?", disqualifiziert sich damit klarerweise als geeignetes Glied des kausal-intentionalen Netzes, welches den Gebrauch des Wortes "Gold" konstituiert.

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5   Siehe Putnam (1975b), S. 247ff.

Welches minimale Wissen als Beherrschung eines Wortes zählt, ist vage und hängt vom kulturellen und sozialen Kontext ab. Während man in alltäglichen Zusammenhängen von jemandem, der "Elektrizität" äußert, vielleicht nicht mehr verlangen würde als daß er weiß, daß das etwas ist, was Glühbirnen leuchten und Haushaltsgeräte funktionieren läßt, würde man im Kontext einer physikalischen Fachdiskussion schon so weit gehen, daß nur der, der die Maxwell'schen Gleichungen hinreichend beherrscht, zur fraglichen Sprachgemeinschaft gezählt wird.

Putnam beschreibt Bedeutungen schließlich als komplexe Gebilde, die aus vier verschiedenen Komponenten bestehen: aus syntaktischen und semantischen Merkmalen, einem Stereotyp, und der Extension selbst.[6] Der Mechanismus der Referenzfestlegung, also im Falle wissenschaftlicher Wörter, die Theorie, die mitbestimmt, was paradigmatische Beispiele sind, gehört jedoch nicht dazu. Denn nur so scheint man gewährleisten zu können, daß der Bezug gleich bleibt, wenn sich die Theorie ändert.

Ich möchte im folgenden jedoch versuchen, die Einsichten Putnams auf andere Weise umzusetzen, und zwar so, daß sie sich in die herkömmlichen Auffassungen von rekursiver Semantik einfügen und auch den epistemischen Bedeutungsaspekten, den Theorien, ein geeigneter Platz zugewiesen werden kann. Ich denke, daß man das auf recht triviale Weise tun kann, wenn man versucht, Putnams Reden von der versteckten Indexikalität der Substanzwörter, der Weltabhängigkeit ihrer Bedeutung wörtlich zu nehmen.

Ich muß vorausschicken, daß ich mich im folgenden nur mit der Bedeutung von Wörtern in wissenschaftssprachlichen Zusammenhängen beschäftigen werde, und nicht mit den Wörtern der Umgangssprache. Dies erlaubt es mir, die ganze Problematik von Vagheiten und Mehrdeutigkeit zunächst einmal außer acht zu lassen.

2.   Eine Rekonstruktion von Putnams versteckter Indexikalität im Rahmen der Charaktertheorie Kaplans

Für die semantische Analyse von offen indexikalischen oder kontextabhängigen Ausdrücken wie "ich", "hier" oder "dies" hat Kaplan (1977) einen formalen Rahmen entwickelt, in dem der zentrale Bedeutungsbegriff der des Charakters ist: Bedeutungen werden nicht mehr wie bislang in der intensionalen Semantik als Funktionen betrachtet, die Extensionen in Abhängigkeit von möglichen Welten oder komplexeren Indizes liefern, sondern als zweidimensionale Konstrukte, die Paaren aus einem Kontext und einer Welt oder einem Index Extensionen zuordnen, oder alternativ als Funktionen, die Kontexten Intensionen im alten Sinn zuweisen. Kontextabhängige oder indexikalische Wörter sind solche, die nicht in jedem Kontext die gleiche Intension haben.

Die Notwendigkeit dieser Doppelindizierung begründet Kaplan damit, daß man zwischen metaphysischer Notwendigkeit bzw. Kontingenz einerseits und epistemischer Notwendigkeit oder Apriorität bzw. Informativität andererseits unterscheiden können muß: Ein Satz wie „Ich bin jetzt hier" ist in einem Sinne immer, also a priori wahr ist, nämlich insofern, als er nie falsch geäußert werden kann (es sei denn "hier" wird nicht als rein indexikalischer Ausdruck, sondern als Demonstrativpronomen oder anaphorisch verwendet), aber gleichzeitig drückt keine seiner Äußerungen eine notwendige Proposition aus: ich könnte mich jetzt

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genausogut an einem anderen Ort befinden, und das gleiche gilt für alle anderen möglichen Sprecher. Andererseits kann David Kaplan, wenn er „Ich bin David Kaplan" äußert, damit etwas Informatives mitteilen, obwohl der Inhalt seiner Aussage die notwendige Wahrheit ist, daß David Kaplan mit David Kaplan identisch ist.

Diese Unterscheidung kann man in einer zweidimensionalen Semantik nachvollziehen. Apriorität oder Informativität ist eine Eigenschaft von Sätzen: ein Satz ist a priori wahr, wenn er in jedem Kontext wahr ist und informativ, wenn er in mindestens einem, aber nicht in allen Kontexten wahr ist. Notwendigkeit bzw. Kontingenz hingegen ist eine Eigenschaft von Äußerungen: die Äußerung eines Satzes in einem Kontext drückt dann eine notwendige Wahrheit aus, wenn seine Intension in diesem Kontext die Menge aller Welten ist, und sie drückt eine kontingente Proposition aus, wenn die Intension weder leer noch die Menge aller Welten ist.

Man kann hier also innerhalb ein und desselben Schemas sowohl einen metaphysischen wie einen epistemischen Bedeutungsbegriff definieren: Für ersteres betrachten wir den Satz in einem festen Kontext und schauen, welche Proposition - also welche Menge von Welten - sein Charakter für diesen Kontext liefert. Für zweiteres betrachten wir die Menge der Kontexte, in denen der Satz wahr geäußert wird; diese Menge heißt auch die Diagonale des Satz-Charakters, weil wir hier nur den Wert der Charakterfunktion für solche Paare $<k, w_k>$ aus Kontexten und Indizes berücksichtigen, bei denen die Indexwelt gleich der Kontextwelt ist.

Es liegt nun nahe zu versuchen, auch die versteckte Indexikalität von Substanzwörtern auf dieses Schema zu bringen. Denn auch bei ihnen findet man ein ähnliches Auseinanderfallen von metaphysischer Notwendigkeit und potentieller Informativität: Laut Putnam und Kripke ist eine Aussage wie „Wasser ist H_2O", wenn wahr, notwendig wahr, ohne daß man hier von Apriorität sprechen wollte.

Nun ist klar, daß die offenkundige Kontextabhängigkeit von "ich" (vom Sprecher) oder "hier" (vom Ort) oder "jetzt" (vom Zeitpunkt), oder "dies" (von der Zeigegeste etc. des Sprechers) etwas anderes ist als die Kontextabhängigkeit von Substanzwörtern. Putnam (1975b, S. 234) betont das selbst. Es hängt nicht vom Ort der Äußerung ab, ob "Wasser" H_2O oder XYZ bezeichnet, und vom Sprecher auch nur, insofern er der einen oder der anderen Sprachgemeinschaft angehört: der Mann von der Erde redet auch auf der Zwillingserde mit "Wasser" über H_2O. Andererseits wäre es unsinnig zu sagen, daß die Bedeutung von "Wasser" mit der Sprachgemeinschaft variiert, denn damit würde man nicht mehr Wörtern einer Sprache, sondern bloß syntaktischen Formen Bedeutungen zuordnen.

Bei Substanzwörtern sind nicht lokale Eigenschaften des Äußerungskontexts relevant, sondern, wie oben erläutert, die Natur, die wesentlichen Eigenschaften der paradigmatischen Anwendungsfälle; es ist, wie Putnam sagt, die Welt selbst, die die Bedeutung der Wörter festlegt. Man kann dies innerhalb des Kaplanschen Schemas so rekonstruieren, daß die Intension von Substanzwörtern von der Kontextwelt abhängt. Damit erhält man folgende Charakterdefinition für Substanzwörter N einer Sprache L zu einer Zeit t:

$\| N^{L,t} \| (k) (w) = \{x \quad w \mid x$ hat in w die gleichen wesentlichen Eigenschaften wie die meisten der Gegenstände, die in w_k paradigmatische Anwendungsfälle des Gebrauchs von "N" in L zu t sind$\}$.

Dies ist natürlich eine sehr schematische Bedeutungsregel. Doch sie ermöglicht es, die verschiedenen Komponenten, die zur Festlegung des Bezugs von Wörtern beitragen, klar zu unterscheiden und ihr Zusammenspiel sichtbar zu machen.[7]

Die Hauptarbeit bei der obigen Definition leistet natürlich der Begriff des Gebrauchs. Der Gebrauch eines Wortes liefert zunächst einmal eine Eingrenzung dessen, was als paradigmatischer Anwendungsfall des Wortes gilt. Die Kriterien für typische Anwendungsfälle von "Wasser" etwa bestehen heutzutage nicht mehr nur darin, daß sie flüssig, durchsichtig und durstlöschend sind, sondern auch darin, daß sie sich etwa bei der Elektrolyse wie H_2O verhalten; "Wasser" könnte sich im heutigen Deutsch nicht nur nicht auf Bier oder Softeis, sondern auch nicht auf XYZ-Ansammlungen beziehen. Somit geht zumindest in den wissenschaftlichen Gebrauch eines Wortes auch die zuständige Theorie mit all ihren Operationalisierungsverfahren, Meßmethoden, experimentelle Anordnungen, etc. ein. Die durch den Gebrauch gegebenen Anwendungskriterien für ein Wort *N* sind also so etwas wie die besten Methoden festzustellen, ob etwas ein *N* ist oder nicht, über die die Sprachgemeinschaft inklusive ihrer einschlägigen Experten zur betrachteten Zeit verfügt.

Diese Kriterien allein bestimmen jedoch oft nur unvollständig die Intension des Wortes, also auf welche Gegenstände in der tatsächlichen Welt und in kontrafaktischen Welten es zurecht angewendet werden darf. Innerhalb der vom Gebrauch gezogenen Grenzen ist die Intension von "Wasser" erst mit der Beschaffenheit der Welt, eben mit der tatsächlichen Beschaffenheit der Flüssigkeit, aus denen die typischen Anwendungsfälle von "Wasser" bestehen, vollends festgelegt. Und gerade weil da - wie Putnams Beispiele von der Zwillingserde plausibel machen sollten - noch ein echter Spielraum für Variationen bleibt, ist "Wasser" versteckt indexikalisch.

Daß dieser Spielraum besteht, macht dieses Wort zu einem Substanzwort. Dieser Spielraum ist aber etwas, was die Sprachgemeinschaft dem Wort zugesteht; daß "Wasser" ein Substanzwort ist, ist also ein Teil ihres "Wasser"-Gebrauchs. Denn der Gebrauch enthält Annahmen darüber, welche *Art* von Eigenschaft für Wasser wesentlich ist – nämlich seine physikalische Struktur –, und überläßt es dann der Welt, welche Eigenschaft dieser Art am Ende für Wasser tatsächlich wesentlich ist. Zu dieser Wesentlichkeitsannahme gehört auch die Voraussetzung, daß es überhaupt eine einheitliche zugrundeliegende physikalische Struktur gibt.

Es kann also - das ist der Witz der Sache - in verschiedenen Kontextwelten verschiedene paradigmatische Anwendungsfälle des "Wasser"-Gebrauchs geben, nämlich insoweit, wie sie auch durch die besten jeweils verfügbaren Identifikationsmethoden nicht auseinandergehalten werden können; und das liefert schon genügend epistemischen Raum, um auch das Wesen der Paradigmen variieren zu lassen. Darin liegt schließlich auch die Erklärung dafür, daß „Wasser ist H_2O" zwar notwendig wahr sein mag und dennoch nicht a priori, also in allen Kontexten wahr ist.

Um das am gegebenen Beispiel noch einmal auseinanderzusetzen: Betrachten wir zunächst einmal den "Wasser"-Gebrauch zu einer Zeit, in der die moderne Chemie sich gerade erst entwickelt hat, man also schon den Satz „Wasser ist H_2O" formulieren konnte, aber noch nicht annahm, daß Wasser H_2O ist; die besten Identifizierungsmethoden waren also noch oberflächliche. Zu diesem Zeitpunkt umfaßt die Diagonale des Satzes „Wasser ist H_2O" offenkundig nicht alle möglichen Kontexte, für die der Satz überhaupt definiert ist, denn zu diesen gehören auch noch solche, in denen Wasser von ganz anderer Natur, zum Beispiel auch von der

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7   Vgl. zu alledem Haas-Spohn (1995), Abschnitt 3.1 und 3.2.

chemischen Struktur XYZ ist; dies ist zu diesem Zeitpunkt durch den "Wasser"-Gebrauch noch nicht ausgeschlossen.

Ist das heute anders geworden? Nicht grundsätzlich. Der Informationsgehalt eines Satzes sollte, so hatte ich gesagt, durch die Diagonale seines Charakters dargestellt werden. Die heutigen Experten glauben, daß es für Wasser wesentlich ist, aus H_2O zu bestehen; und ihre Identifizierungsmethoden wie die Elektrolyse sind danach ausgerichtet. Im heutigen Deutsch ist die Diagonale von „Wasser ist H_2O" also die Menge der Kontexte k, in denen alle Gegenstände aus H_2O bestehen, die die gleichen wesentlichen Eigenschaften haben wie die paradigmatischen Anwendungsfälle des Gebrauchs von "Wasser" - wobei zu diesem Gebrauch die Expertenmeinung gehört, daß diese Paradigmen aus H_2O-Molekülen zusammengesetzt sind und sich daher z.B. unter Elektrolyse wie H_2O verhalten. Für Kontexte, in denen man mit "Wasser" über XYZ oder Flüssigkeiten von anderer chemischer Beschaffenheit redet, ist der Charakter von "Wasser" dann gar nicht mehr definiert. Es mag also scheinen, als gebe es nun gar keine möglichen Kontexte mehr, in denen „Wasser ist H_2O" falsch wird, als habe dieser Satz also seine Informativität verloren.

So ist es aber nicht. Denn nach wie vor gibt es mögliche Kontexte, in denen wir alle "Wasser"-Paradigmen für H_2O halten, sie aber kein H_2O sind. Das heißt nichts anderes, als daß wir es immer noch für möglich halten, daß wir uns grundlegend täuschen. Unser ganzes chemisches Klassifikationssystem könnte in subtiler Weise fehlgeleitet sein und versteckt ähnlich daneben liegen wie zu Beginn des 18. Jahrhunderts die Phlogiston-Chemie. Vielleicht gibt es die Elemente gar nicht in der Form, wie wir uns das derzeit vorstellen; und vielleicht gibt es eine tiefere Erklärung für unseren Eindruck, es gäbe solche Elemente. Insofern ist der Charakter des Wortes "Wasser" nach wie vor für Kontexte definiert, in denen Wasser zwar all unseren heutigen experimentellen Anordnungen und insofern der Expertenmeinung genügt, in denen aber in Wahrheit solch eine, in subtiler Weise grundlegend modifizierte Theorie zutrifft. In diesen Kontexten würde sich "Wasser" auf eine andere natürliche Art beziehen, und solche Kontexte liegen nicht in der derzeitigen Diagonale von „Wasser ist H_2O". Insofern ist dieser Satz auch heute noch informativ.

3.   Implikationen für den Bedeutungswandel

In der obigen Charakterregel sind es zwei Dinge, die in die Festlegung des Bezugs eingehen: der Gebrauch als fallibles epistemisches Element und die Natur der Paradigmen und damit die Beschaffenheit der Kontextwelt als realistisches Element. Da beide Aspekte sowohl gemeinsam als auch unabhängig voneinander variieren können, erhalten wir drei verschiedene Klassen von Bedeutungswandel im Sinne von Charakterwandel.

In die erste Klasse fallen die Wörter, bei denen sich der Gebrauch so ändert, daß andere Dinge zu paradigmatischen Anwendungsfällen werden und das Wort dadurch in allen Kontextwelten eine andere Intension bekommt.[8] Hier ändern sich also Gebrauch und Intension gemeinsam. Das wäre sozusagen der normale Fall von

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[8]   Für Beispiele siehe etwa Egli&Eckardt (1998).

Bedeutungswandel, wie er in der Umgangssprache die Regel und bei allen Sorten von Wörtern, nicht nur bei Substanzwörtern zu beobachten ist. Die Anwendungskriterien erweitern oder verengen oder verschieben sich, und soweit es sich nicht um Substanzwörter handelt, ist damit ja auch bereits die Intension festgelegt. In unserem Zusammenhang, wo es um Wissenschaftssprache und die Beschreibung wissenschaftlichen Fortschritts geht, ist dies aber auch der uninteressanteste Fall.

Zum zweiten Typ von Bedeutungswandel gelangen wir, wenn wir uns der Frage zuwenden, ob unsere Charakterdefinition trotz der Einbeziehung eines epistemischen Elements, des Gebrauchs, mit den von Putnam vertretenen Auffassungen kompatibel ist. Denn wir hatten ja gesagt, daß ein Motiv für Putnams Theorie der Substanzwörter die Intuition war, daß der Bezug eines Wortes gleich bleiben können muß, auch wenn sich das darum rankende Wissen, die Theorien, in denen das Wort vorkommt, ändern oder erweitern. Ist das noch gewährleistet?

Es ist zumindest nicht von vornherein ausgeschlossen, wie das bei den deskriptiven Bedeutungstheorien der Fall war. Betrachten wir zunächst einen einfachen Fall, nämlich "Wasser". So wie wir "Gebrauch" definiert hatten, unterscheidet sich hier der heutige "Wasser"-Gebrauch vom früheren Gebrauch, etwa dem im Jahre 1750, weil sich die Theorien und damit auch die Identifikationsmethoden verändert haben: die Chemiker haben heute andere Kriterien dafür, ob etwas Wasser ist oder nicht, weil sie die molekulare Struktur von Substanzen untersuchen können. Doch hat diese Wissensänderung keinerlei Einfluss auf die Intension von "Wasser". Die Intension des heutigen Worts "Wasser" - in der wirklichen Welt w_k geäußert - ist die Funktion, die jeder möglichen Welt w die Menge der Flüssigkeitsansammlungen in w zuordnet, die aus H_2O-Molekülen bestehen. Genau die gleiche Intension aber hatte gemäß unserer Bedeutungsregel das deutsche Wort "Wasser" im Jahre 1750, denn es haben sich im Lauf der Jahrhunderte weder die paradigmatischen Anwendungsfälle, noch ihre Natur verändert. Insofern haben wir schon im Jahre 1750 über die gleiche natürliche Art geredet wie heute, obwohl wir heute mehr über sie wissen.

Dennoch hat sich in einem anderen Sinn die Bedeutung von "Wasser" geändert: geändert hat sich nämlich sein Charakter. Denn zwar hat "Wasser" heute wie damals in der wirklichen Kontextwelt w_k die gleiche Intension, aber dies gilt nicht für andere mögliche Kontextwelten. Für das deutsche Wort "Wasser" zu einem Zeitpunkt t vor der Entdeckung der Elektrolyse, also etwa im Jahre 1750, kann man sich mögliche Kontexte vorstellen, in denen die Deutschen aus irgendwelchen Gründen ab einem bestimmten Zeitpunkt massiv mit XYZ-Ansammlungen in Berührung kommen. Diese XYZ-Ansammlungen werden dann unter der Hand zu paradigmatischen Anwendungsfällen von "Wasser". Und somit bezeichnet "Wasser" im Deutschen zu t in einem solchen Kontext beide Substanzen; seine Intension ist also die Funktion, die einer möglichen Welt w die Flüssigkeitsansammlungen in w zuordnet, die aus H_2O- oder aus XYZ-Molekülen bestehen.

Das Deutsche zu t' nach der Entdeckung der Elektrolyse kann man ebenfalls in solchen Kontexten betrachten. Da aber nun das Verhalten unter der Elektrolyse zu einem von mehreren Kriterien für paradigmatische Anwendungsfälle von "Wasser" geworden ist, können all die neuen XYZ-Ansammlungen dort nicht mehr unter die paradigmatischen Anwendungsfälle von "Wasser" geraten. Und somit bezeichnet "Wasser" im Deutschen zu t' auch in einem solchen Kontext nur H_2O- und nicht XYZ-Ansammlungen, und sein Charakter liefert für diesen Kontext als Intension wieder die Funktion, die einer möglichen Welt w die Flüssigkeitsansammlungen in w

zuordnet, die aus H_2O-Molekülen bestehen. Damit aber hat Wasser zu t' einen anderen Charakter und in diesem Sinn eine andere Bedeutung als zu t.

Dieses Beispiel zeigt also, daß Gebrauchsänderungen nicht unbedingt mit Intensionsänderungen einhergehen müssen, jedenfalls dann nicht, wenn sie keine oder nur geringe Änderungen hinsichtlich dessen nach sich ziehen, was als paradigmatischer Anwendungsfall tatsächlich akzeptiert ist. Damit haben wir die zweite Klasse von Bedeutungswandel im Sinne von Charakterwandel: Gebrauchswandel ohne Intensionswandel.

Putnams Ausführungen legen nahe, daß er sozusagen den Normalfall von Bedeutungswandel wissenschaftlicher Terme bildet. Er trifft nicht nur auf Beispiele wie "Wasser" und "Gold" zu, sondern auch auf "Elektron" oder "Fisch". Das letzte Beispiel zeigt jedoch besonders deutlich, daß man in der Charakterdefinition in der Tat auf die Qualifikation "die meisten" paradigmatischen Anwendungsfälle angewiesen ist: Wenn wir einmal davon ausgehen, daß der Gebrauch von "Fisch" früher auch Wale und Delphine als paradigmatische Anwendungsfälle zuließ, so erhalten wir nun dann das gewünschte Ergebnis, daß die Intension von "Fisch" auch damals nur Fische und nicht Fische oder Wale umfasste, wenn wir zurecht annehmen können, daß Wale und Delphine als paradigmatische Anwendungsfälle vernachlässigt werden können. Dieses Recht ergibt sich sozusagen aus der Wesentlichkeitsannahme für "Fisch", daß all den Anwendungsbeispielen eine gemeinsame Natur zukommt. Um diese Annahme aufrechterhalten zu können, darf man die Wale und Delphine außer Acht lassen.

Zugegebenermaßen eröffnet sich ein großer Vagheitsspielraum, wenn man generell die Frage beantworten will, wie man reden soll, wenn die im Gebrauch eines Wortes enthaltene Annahme eines einheitlichen Wesens sich als im strikten Sinne falsch herausstellt. Zu fragen "wie man reden soll" macht im übrigen deutlich, daß in die Festlegung der Bedeutung auch ein normatives Element eingeht - eine Art "Principle of Charity", wie Putnam selbst schon betont. Wenn nur einige wenige Anwendungsfälle „aus der Art" schlagen, ist es vernünftig, diese zu vernachlässigen. Falls sich herausstellt, daß sich die paradigmatischen Anwendungsfälle auf zwei oder drei natürliche Klassen verteilen, scheint es vernünftig, eine "disjunktive" Natur zuzulassen. Aber wenn sich herausstellt, daß den verschiedenen Paradigmen überhaupt keine einheitliche Natur zugrunde liegt, so bleibt keine andere Wahl als die ursprüngliche Wesentlichkeitsannahme aufzugeben, und sich auf phänomenale oder funktionale Kriterien für die Extensionszugehörigkeit zu verlassen.

Putnam (1975b, S. 241) bringt als Beispiel für eine disjunktive Natur das Wort "Jade", das auf zwei Sorten von Mineralien, nämlich Jadeit und Nephrit angewendet wird. Hier scheint es ziemlich einleuchtend zu sein, die Intension von Jade - heute und damals - so zu beschreiben, daß sie jeder möglichen Welt die Menge der Gegenstände zuordnet, die entweder aus Jadeit oder aus Nephrit bestehen. Andere Fälle jedoch sind weniger klar.

Eines der beliebtesten Beispiele in der Wissenschaftstheorie ist der Begriff "Masse" und die Frage, wie er sich beim Übergang von der Newtonschen Mechanik zur Relativitätstheorie gewandelt hat. Für Newton gab es nur eine Masse, die durch die Newtonschen Gesetze charakterisiert war. Aus der Relativitätstheorie folgte jedoch, daß man zwischen bewegter Masse und Ruhemasse unterscheiden muß, die Unterschiede allerdings erst bei ziemlich hohen Geschwindigkeiten messbar und relevant werden. Das klingt zunächst oberflächlich betrachtet so ähnlich wie der "Jade"-Fall: Eigentlich hat Newton schon immer über beide Sorten Masse geredet,

aber seine Identifizierungsmethoden waren noch nicht fein genug, um zu erkennen, daß es sich um zwei verschiedene Sorten Masse handelte. Doch ist das vermutlich keine plausible Sicht der Dinge; sie würde implizieren, daß zwei Aussagen „*a* hat Masse *x*" und „*a* hat Masse *y*" für geeignete, verschiedene Zahlen *x* und *y* beide zugleich hätten wahr sein können. Heutzutage ist "Masse" ein mehrdeutiger Ausdruck, der je nach Zusammenhang "Ruhemasse" oder "bewegte Masse" meint.[9] Aber würde man behaupten wollen, daß auch zu Newtons Zeiten "Masse" ambig war, ohne daß dies jemandem auffiel?[10]

Wenden wir uns abschließend dem dritten Typ von Bedeutungswandel zu, der dann vorliegt, wenn sich zwar nicht der Gebrauch, aber trotzdem die Intension ändert, nämlich dadurch, daß sich die Natur der paradigmatischen Anwendungsfälle ändert, ohne daß dies bemerkt werden kann. Daß solche Fälle möglich sind, zeigte bereits die kontrafaktische Kontextwelt, die wir oben schon betrachtet haben, die, in der die Deutschen schon vor der Entdeckung der modernen Chemie auf ihren Reisen mit massiven XYZ-Ansammlungen in Kontakt kamen, die dann unter der Hand zu paradigmatischen Anwendungsfällen von "Wasser" wurden. In einer solchen Welt hätte sich die Intension von "Wasser" unbemerkt und insofern ohne Einfluß auf den Gebrauch gewandelt.

Eckardt (1998) hat nachgewiesen, daß ein solcher Fall von Charakterwandel auch tatsächlich vorgekommen ist, und zwar für die chinesische Entsprechung des Wortes "Jade". Das chinesische "Jade" wurde zunächst nur auf Nephrit angewendet - und daneben noch auf eine Reihe anderer Substanzen; Jadeit gab es zu diesem Zeitpunkt in China noch nicht. Erst im 18. Jahrhundert gelangte Jadeit in großen Mengen über Burma nach China und wurde sofort zum paradigmatischen Anwendungsfall von "Jade". Etwas später, als man erkannt hatte, daß zu den paradigmatischen Anwendungsfällen von "Jade" hauptsächlich zwei Sorten von Mineralien, Jadeit und Nephrit gehörten, regulierte man zumindestens den wissenschaftlichen Sprachgebrauch so, daß die anderen Substanzen nicht mehr als Jade betrachtet wurden.

Hier besagt also unsere Bedeutungsregel, daß die Intension des chinesischen Worts für "Jade" zu der Zeit vor der Intensivierung des Handels mit Burma für jede mögliche Welt nur die Menge der Nephritvorkommen liefert - jedenfalls unter der Voraussetzung, daß die anderen Substanzen nur marginale Anwendungsfälle darstellten. Nach der Aufnahme der entsprechenden Handelsbeziehungen wandelte sich hingegen die Intension - und damit auch der Charakter - von "Jade" und liefert nun für jede mögliche Welt die Menge der Dinge, die entweder aus Jadeit oder aus Nephrit bestehen.

Eckardt (1998) hält es für eine unerwünschte Konsequenz von Putnams Theorie, daß sie eine Art von Bedeutungswandel vorhersagt, die völlig unbemerkt, auch von den Experten unbemerkt vonstatten gehen kann. Ich glaube nicht, daß dies ein Vorwurf ist, der Putnam selbst trifft. Denn einerseits will Putnam gerade keinen

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[9]   Vgl. Field (1973), Fn. 12.

[10]   Field (1973) vertritt die Auffassung, daß "Masse" vor der Entwicklung der Relativitätstheorie referentiell unbestimmt war und sich partiell auf bewegte Masse, partiell auf Ruhemasse bezog. Aussagen mit referentiell unbestimmten Ausdrücken sind wahr (bzw. falsch), wenn sie sie für alle ihre partiellen Denotate wahr (bzw. falsch) sind, ansonsten sind sie unbestimmt. Eine Aussage wie „*a* hat Masse *x*" wäre danach zu Newtons Zeiten, genau genommen, unbestimmt gewesen, eine Aussage wie „Je gößer die Masse eines Körpers ist, um so mehr Kraft braucht man, um ihn gleichmäßig zu beschleunigen" hingegen wahr. Mir erscheint das Masse-Beispiel analog zum Fall der Eustacia Evergreen von Kitcher (1978), S. 526f.

epistemischen Bedeutungsbegriff explizieren und muß insofern Intuitionen dieser Art gar nicht berücksichtigen. Zum anderen könnte er aber darauf hinweisen, daß der Intuition ja doch schon dadurch genügt werden kann, daß man in Fällen wie diesen jedenfalls noch eine Gleichheit des Gebrauchs hat, und sich in diesem Sinne der Begriff von Jade nicht geändert hat.

Der Einwand trifft schon eher meine epistemische Umdeutung der Charaktertheorie. Ich wollte ja die Diagonale des Charakters als epistemische Bedeutung im Gegensatz zur Intension als metaphysischer Bedeutung betrachten. Aber natürlich hat sich im beschriebenen Fall auch die Diagonale von "Jade" gewandelt. Dies zeigt, daß die Diagonale des oben erklärten Charakters nach wie vor keinen internen, den Zustand einer Sprachgemeinschaft nur für sich beschreibenden Bedeutungsbegriff liefert.

In der Tat beschreiben die Charaktere und Diagonalen, wie ich sie oben eingeführt habe, so etwas wie situierte Gebräuche. Der Gebrauch von "Wasser" mag auf der Erde und auf der Zwillingserde der gleiche sein, ebenso der Gebrauch des chinesischen "Jade" im 17. und im 18. Jahrhundert. Aber dadurch, daß diese Gebräuche unterschiedlich situiert sind - z.B. vor und nach einem massiven Import von Jadeit -, ergeben sich unterschiedliche Charaktere und Diagonalen. Meiner Meinung nach gehört diese raumzeitliche Situierung zur Identität einer Sprache oder eines Sprachzustandes, was für die spezifische Gestalt meiner Explikationen spricht.[11] Kupffer (1999), Kap. 5, hat allerdings gezeigt, wie man von dieser Situierung abstrahieren und so zu einem Bedeutungsbegriff gelangen kann, der dann wirklich nur noch den internen Zustand der jeweiligen Sprachgemeinschaft beschreibt. Danach kann es dann keinen unbemerkten Bedeutungswandel geben, und "Jade" hätte seine Bedeutung in China damals nicht geändert.

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[11] Vgl. dazu Haas-Spohn (1995), S. 135ff.

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Intensifiers as Targets and Sources of Semantic Change

EKKEHARD KÖNIG & PETER SIEMUND

(koenig@zedat.fu-berlin.de
siemund@zedat.fu-berlin.de)

How regular is semantic change?

In contrast to the established view on sound change and morphological change, which seem to be governed by clear restrictions and principles, the prevailing view on semantic change has been for a long time and probably still is that "each word has its own history" (J. Grimm, J. Gilliéron). This pessimistic view has been seriously called into question by some recent studies, which have shown that it is possible to formulate some pervasive generalizations about semantic change. First of all, it has been shown that all semantic changes are instances of a very limited set of possible processes, such as metaphor, metonymy, ellipsis, narrowing, broadening, etc. (Traugott 1985; Blank 1996; Koch 1997). Secondly, it is possible to formulate at least some generalizations about the source domains and target domains involved in such changes, in particular, with regard to metaphorical change. The structuring of temporal domains in terms of spatial notions (space > time) or, more generally, the pervasive change from concrete to abstract are cases in point. Thirdly, various attempts have been made to formulate some generalizations about possible directions of semantic change. E. Traugott's hypothesis that meanings grounded in the socio-physical world of reference develop into meanings grounded in the speaker's world and further into markers of metatextual attitude to the discourse is one of the best known examples (Traugott 1989, 1995).

That semantic change is far from erratic or random and is in fact general and regular to a certain extent is particularly obvious if the focus of investigation is on minor lexical classes (function words) rather than on the major word classes (N, V, Adj, P). The semantic development of such function words does not only reveal some general tendencies of semantic change within a particular language, but also allows cross-linguistic generalizations to be made about typical source and target domains and possible directions of change.

The meaning of intensifiers

Since this paper is centrally concerned with general processes of semantic change involving intensifiers either as target or as source, our analysis has to begin with a brief analysis of their meaning. Intensifiers are expressions like the following:

(1)   Germ. *selbst*; Russ. *sam*; Ital. *stesso*; Engl. x-*self*; Fr. x-*même*, etc.

There is no general agreement as to how such expressions should be categorized. We find at least a dozen different labels in grammar handbooks or specific studies. The

reason for choosing the term *intensifiers* is not that it is particularly illuminating, but simply that it avoids misleading connotations, in contrast to terms like *emphatic reflexives*. The morphological properties of such intensifiers differ considerably across languages: Intensifiers may be invariant (German, Mandarin, Japanese) and they may inflect for some or all of the following features: person, gender, number and case (Turkic, Slavic, Romance, English). In the latter case they manifest adjectival behavior and typically exhibit agreement with a nominal co-constituent. Among their syntactic properties there is one that seems to be the most reliable criterion for identifying them across languages: In nearly all of the fifty languages investigated so far we found that intensifiers are used as adjuncts to noun phrases, i.e. they combine with a noun phrase to form another noun phrase:

(2)   a. I would like to talk to the Pope himself.
       b. The work of Picasso himself is what I came to see.
       c. The work of Picasso itself …

Furthermore, there seem to be semantic criteria which clearly allow their identification across languages. Intensifiers seem to have at least two uses: an adnominal one and an adverbial one. In addition to functioning as adjuncts to noun phrases (cf. (2)), intensifiers can also be used as part of a verb phrase:

(3)   a. The President wrote that speech himself.
       b. I had a car like that once myself.

As is shown by examples like (3a-b), many languages further differentiate between two such adverbial uses: (i) an exclusive use, roughly paraphrasable by 'alone', 'without help' and (ii) an inclusive use, paraphrasable by 'too'. There is a certain complementarity between these two uses. Only an exclusively used adverbial intensifier can be in the scope of negation and only inclusively used intensifiers can combine with predicates denoting states and processes. Since the relevant contrast is not found in all languages, however, it will play no role in the subsequent discussion.

   To describe the meaning of adnominal intensifiers simply as expressing 'emphasis', 'intensification' or 'unexpectedness' is clearly not very illuminating. Examples like (2) show that such expressions evoke alternatives to the denotation of the expression they combine with. Since this property is generally associated with focusing, it suggests that these expressions should be regarded as focus-sensitive adjectives or particles. Perhaps the evoking of alternatives is then a property of the focusing intensifiers are associated with and the co-constituent they combine with can be analyzed as their focus. This is exactly the view that will be taken here. What then is the real contribution that an adnominal intensifiers makes to the meaning of a sentence? To answer this question for examples like (2a), we need to ask what the alternatives evoked in such cases are. A plausible answer certainly is that they are people associated with the Pope in some way: his Cardinals, his secretary, his collaborators or clergy. An assertion of (2a) is thus tantamount to asserting that the speaker does not want to talk to any of those people from the environment of the Pope. Generalizing from such examples, it is suggested in König (1991) that adnominal intensifiers associate a periphery of alternatives (Y) with a center (X), constituted by the denotation of their focus. Building on this idea, Baker (1995) has distinguished several types of such relations between a center (characterized as

'discourse-prominent' by Baker) and a periphery, which can be illustrated by examples like the following:

(4)   a. Bill Clinton himself will sign the document.
      b. The passengers got away injured. The driver himself died on the scene of the accident.
      c. Mary's husband looks after the children. Mary herself has a regular job.
      d. He was not particularly tall, a little taller than Jemima herself perhaps, but his shoulders in the tweed suit were broad, giving an air of authority, and he himself, if not exactly heavy, was certainly a substantial man. [Antonia Fraser, *A Splash of Red*, 1981:88]

A center can be established on the basis of hierarchies in the real world (cf. (2a), (4a)). Intensifiers in their adnominal use can thus always be combined with expressions for people of high rank. In fact, it seems that these are the examples that we think of first whenever we are asked to produce examples with adnominal intensifiers. In our modern egalitarian societies central roles are more typically temporary, rather than permanent. A driver is central, in contrast to the passengers, in all matters of driving and safety, a guide is central during the time of an excursion, etc. (4b). Centrality may also be the result of taking a certain person as point of departure for the identification of others, as in (4c). Note that the intensifier in this example could not be combined with the expression *Mary's husband*. Finally, a person may be used as the center of observation or perspective in a narrative and become central in that sense. The final example (4d) is a case in point. Following Baker (1995), the conditions for using adnominal intensifiers can thus be summarized as follows:

(5)   conditions for the use of adnominal x-*self* (Baker 1995)
      a. X has a higher rank than Y on a real-world hierarchy
      b. X is more important than Y in a specific situation
      c. Y is identified relative to X (kinship terms, part-whole, etc.)
      d. X is the subject of consciousness, center of observation, etc. (logophoricity)

In German there are expressions often used as titles for pictures which nicely illustrate the points made above:

(6)   *Maria selbdritt*
      Mary   self-three
      'Mary together with two persons'

In contrast to the adnominal use, the adverbial (exclusive) use of intensifiers will not play a prominent role in the subsequent discussion. We will therefore only say that sentences with exclusively used adverbial intensifiers make an assertion which can be roughly represented by the relevant sentences without intensifiers, but with an information structure in which the agent subject is focused against the rest of the sentence as background. Moreover, there is a presupposition to the effect that it is the denotation of the subject which profits or suffers most as a result of the relevant action:

(7)   a.   The President wrote the speech himself.
       b.   [[the President]$_F$ wrote the speech] (assertion)
       c.   The President is primarily affected. (presupposition)

The expressions listed in (1) are the most prominent representatives of intensifiers in the languages mentioned, i.e. they are the ones most frequently used, exhibiting the fewest restrictions and the greatest versatility in their use. The list given in (1) should not be taken to suggest, however, that there is only one single intensifier in each language. The following examples from German show that languages typically have more than one intensifier, even if their number is very limited in each case:

(8)   (*höchst*)*selbst*, (*höchst*)*persönlich*, *eigen*, *leibhaftig*, *in Person*, *von selbst*, *von sich aus*, *an sich*, (*von*) *allein*

Processes of semantic change with intensifiers as targets and sources

In this section only a brief overview of all changes involving intensifiers as sources or targets will be given. Each of the changes listed will then be discussed in detail in a subsequent section.

   Intensifiers frequently derive from expressions for body parts. *Leibhaftig* in German is the clearest example we can find in that language. Intensifiers may further develop into reflexive anaphors. The development of reflexive pronouns in English as a result of a fusion between personal pronouns and the intensifier *self* (*him + self > himself*) as well as similar developments in Afrikaans are clear examples.

(9)   'body parts' > intensifiers > reflexive anaphors

Intensifiers may also, so it seems, adopt the meaning of their focus and be used in the sense of 'master', 'boss', etc., i.e. they may come to express roles of high rank, normally expressed by a typical focus. It is a very similar development that gives rise to the use of intensifiers as polite or honorific pronouns, a usage that is found in Turkish and Japanese, for example. Given such developments, it also is not surprising that intensifiers should have a euphemistic use, as is found in the Celtic areas of the British Isles.

(10)   intensifiers > social roles > honorific pronouns > euphemisms

A very different development is indicated by the polysemy found in many languages for intensifiers. In addition to the adnominal use discussed above, many languages use the same expressions pre-nominally as scalar focus particles expressing unlikely instantiations of values in certain contexts. In other words the relevant meanings correspond to Engl. *even*.

(11)   intensifiers > scalar additive focus particles

In German *selbst* exhibits both uses, in contrast to *selber*, which is only used as an intensifier:

(12)   a.   Der Papst selbst/selber wird uns besuchen.
             'The Pope himself will come to visit us.'
       b.   *Selbst der Papst wäre hier ratlos.*
             'Even the Pope would not know what to do.'

Especially the Romance languages show that intensifiers may be involved in the development of demonstrative pronouns (Sp. *ese*). From these demonstratives, definite articles and personal pronouns may develop (Sardinian, Catalan).

(13)   intensifiers > demonstrative pronouns > definite articles/personal pronouns

Finally, we also find that intensifiers frequently develop into expressions indicating type identity (Sp. *mismo*).

From expressions for body parts to intensifiers

A wide variety of languages for which the relevant connection is still visible synchronically show that intensifiers often develop from expressions for body parts ('body', 'soul', 'head', 'eye', 'bone', 'person' (< *persona* 'mask'). The following examples illustrate this historical and synchronic connection (cf. Moravcsik 1972):

(14)   Arab. *ayn* 'eye'; Arab. *nafs* 'soul'; Amharic *ras-* 'head'; Georgian *tviton*, *tavi* 'head'; Germ. *leibhaftig*; Hausa *ni dakaina* 'I with my head'; Hebrew *etsem* 'bone'; Hung. *maga* 'seed'; Jap. *zi-sin* 'body'; Okinawan *duna* 'body'; Rum. *insumi* 'person'; etc.

Given such convincing cross-linguistic evidence, Grimm's (1967) hypothesis that Germ. *selbst* derives from *si-liba* 'his body' is not all that implausible, even if it is not fully convincing. For most intensifiers in European languages the etymology is unclear, except for those cases where the source is provided by Lat. *persona* (< 'mask'), such as *personally*, *in person*, etc.
     To reconstruct the path leading from expressions for body parts to intensifiers is no easy matter, given that we only have the beginning point and endpoint, but no information on stages in between. It is quite plausible to assume that the relevant change started in contexts like (2a) and (4a) and thus was essentially based on hierarchical structures in social groups. Persons of high rank could get things done by proxy. A formulation like 'The duke did that' was quite appropriate for such scenarios. Only their presence ('in person') was remarkable and noteworthy. The addition of such a proto-intensifier to a noun had the effect of eliminating the entourage of the high-ranking person as a possible referent and thus had the overall result describable as semantic narrowing. The next step could have been a metonymic change. The intensifier picked up the feature of characterizing a referent as central from its context and thus came to be associated with imposing a structure on a set of persons including the referent of its co-constituent and contextually given alternatives in terms of center vs. entourage and later center vs. periphery. If intensifiers were originally only used in combination with the names of persons of high rank, the other three uses listed in (5) can be assumed to be later developments. They would be, in fact, another instance of a change towards further subjectivization in the sense of Traugott (1989). These assumptions are supported by a substantial body of evidence:

i. In the texts of older periods of European languages, intensifiers are primarily used with names of high-ranking persons. In Old English, for example, *self* was primarily used with nouns like *Crist, Haeland, God, Drihten, deofol, cyning*, etc. (Farr 1905:19).

ii. In many languages at least some intensifiers can only be combined with a human focus. Examples are Turk. *kendi*, Jap. *zisin*, Mand. *ziji*, Bengali *nije*, Ital. *in persona*. In other words, here we find a situation which is closer to the original selectional restrictions. In other languages intensifiers can be assumed to have extended their territory to all the contexts described in (5).

iii. Some languages seem to have developed new expressions which recreate, as it were, the original selectional restriction, i.e. that only combine with expressions for persons of exalted rank: *höchstpersönlich, höchstselbst* in German, *selveste* in Norwegian, *sahsiyyan* in Arabic*, in persona* in Italian, etc. That these new expressions are more complex than the original intensifiers, whose combinatorial potential had been extended, is to be expected. This fact finds a parallel in the frequent phenomenon that new, more complex local prepositions are created once the older ones are primarily used in a temporal sense.

From intensifiers to reflexive anaphors

A wide variety of languages use the same expression both as intensifier and as a marker of co-reference in a local domain, i.e. as reflexive pronoun. In Europe this phenomenon is relatively rare, but it can be found in the Finno-Ugric and Celtic languages and in English. Outside of Europe the double use of the same expression both as intensifier and as reflexive pronoun seems to be the majority pattern. It is found *inter alia* in Turkic languages, in Semitic languages, in many Caucasian languages, in Indic languages, in Persian, Mandarin and many others. For most of these languages it does not seem to be possible to identify a direction of change. Clear evidence for such a direction is, however, provided by West Germanic languages such as English or Afrikaans. In Old English there were no reflexive pronouns and personal pronouns did double duty as markers of disjoint reference and as markers of co-reference in a local domain. After modest beginnings in Old English and even in Middle English the intensifier *self* was more and more used in combination with object pronouns to indicate co-reference unambiguously:

(15) a. *Hannibal ... hine selfne mid atre acwealde* [King Alfred's Orosius 4 11.110.2; Bately, 1980]
        'Hannibal killed himself with poison.'
    b. *Judas se arleasa de urne H lend bel wde for dam lydran scaette de he lufode unrihtlice aheng hine selfne* [Admonito ad filium spiritualem 19. 25, Norman 1848]
        'Judas the disgraceful who betrayed our Lord for that wicked money that he loved unrighteously hanged himself.'

These combinations of personal pronouns and intensifiers were later fused into one word and developed into reflexive anaphors in a process that is still not completely understood. At the same time, the original monosyllabic intensifier *self* was replaced by such compounded forms, so that intensifiers and reflexive anaphors are identical in

form, even if not in distribution, in Modern English. To this piece of positive evidence for a direction of change from intensifier to reflexive anaphor we can add the general argument that reflexive anaphors are more strongly grammaticalized than intensifiers and can also for this reason be assumed to be the target of a change connecting these two classes of expressions.

What we have not considered so far is the question of how a fusion of personal pronouns and intensifiers can lead to reflexive pronouns, i.e. result in expressions that mark co-reference in a local domain. Recall that in Old English a sentence of the form (16) could either express co-reference or disjoint reference of the third person pronoun:

(16) *he acwealde hine*
     'he killed him/himself'

Now it is quite plausible to assume that an interpretation of disjoint reference was the preferred or unmarked option. Most activities denoted by verbs in a language are preferentially other-directed, i.e. the standard assumption is that these activities are outward directed, away from the agent. The opposite assumption seems to be the unmarked choice only for a very small subset of verbs: verbs of grooming, of defending, preparing seem to be self-directed in the standard case. So, whenever a simple personal pronoun appeared in a sentence like (16), the standard interpretation was one of disjoint reference. In order to indicate the marked option unambiguously, the intensifier could be used in Old and Middle English and was standardly used from Early Modern English onwards. The relevant meaning of the intensifier seems to have been the one discussed for the adnominal use above. When an intensifier was added to the pronoun the referent was characterized as center and opposed to a periphery. In the absence of any contextual information of the type listed in (5) the center was clearly the agent, the referent of the subject, as opposed to other persons towards the relevant activity could be directed. For *hine* in (16) to be interpreted as disjoint from the subject after the addition of *self*, alternatives to such a referent would have to be given in the context.

So far our assumption has been that the path from body parts to reflexive anaphors necessarily involves intensifiers as an intermediate stage. There is, however, clear evidence that such an intermediate step is not necessary. Expressions for body parts may lead directly to reflexive markers. In Basque, for example, the reflexive marker *burua* 'head' is not used as an intensifier and similar facts have been reported from other languages. Moreover, it is a well-known fact that inherently reflexive verbs or reflexive uses of verbs may develop from constructions with objects denoting part-whole relations as a result of metonymic change. The following English example from the end of the 18th century, which clearly has a co-referential, reflexive interpretation, is an interesting case in point:

(17) Women who have lost their husbands' affection, are justly reproved for
     neglecting their persons, and not taking the same pains to keep, as to gain a
     heart …
     [Mary Wollstonecraft, *The Wrongs of Woman*, 1798]

From intensifiers to prominent roles

Intensifiers in Balto-Slavic languages exhibit an interesting type of polysemy. The expressions for intensifiers are also used in the sense of 'husband', 'lord/lady of the house', i.e. they may denote important, prominent social roles.

(18)   Lith. *pàts* 'self', 'husband', *patì* 'wife'; Latv. *pats* 'self', 'Lord of the house'

Similar usages are also found in Latin, Classical Greek and Russian, even if this does not seem to be a matter of polysemy.

(19)   a.   Russ. *sam skazal* 'the master/the husband said'
      b.   Lat. *ipse/ipsissimus dixit* 'the master said'
      c.   Class. Greek *autòs* 'the master', 'the lord of the house', 'the teacher'

That such usage is not strictly a matter of polysemy, i.e. of *la langue*, is pointed out by Benveniste in the following quotation:

> L'emploi de *ipse* pour le maitre de maison est un simple fait de 'parole', il na jamais atteint le niveau de la 'langue'. [Benveniste 1966:302]

A similar usage can also be found in Hiberno-English as the following examples show:

(20)   a.   It's himself is going to speak.
      b.   Herself isn't too good again.
      c.   How is himself?
      d.   Herself isn't here right now. (i.e. the person salient in a specific context)

The relevant changes in Balto-Slavic as well as the incipient changes or extended uses are clearly based on ellipsis. The intensifier itself expresses the central role of a contextually given focus. In Irish English *himself* or *herself* can simply refer to a person who is salient in a given context. The conditions for such changes or extensions in usage are nicely summarized by Benveniste in the following quotation:

> Pour qu'un adjective signifiant 'soi-même' s'amplifie jusqu'au sens de 'maitre', une condition est necessaire: un cercle fermé de personnes, subordonné à un personnage central qui assume la personalité, l'identité complète du groupe au point de la résumer en lui-même, à lui seul, il l'incarne. [Benveniste 1969:91]

The relevant condition is a hierarchically structured social group with a prominent personality representing this group.

    The use of intensifiers in contexts where personal pronouns are normally used, particularly in subject position, is a related phenomenon. Due to the basic meaning of adnominal intensifiers, such usage is polite and honorific. In Turkish *kendi* can be used for all persons, speaker, hearer and other. In Japanese *zibun* is only used for speaker or hearer and, to give a third example, *nerrorek* in Basque is an archaic form which could be used as a honorific pronoun to address persons of high rank such as priests. Finally, there is the use of intensifiers as euphemisms. On the Isle of Man, for example, sentences like (21) are apparently used to refer to small people:

(21)   Themselves were not out on the streets today.

Intensifiers and scalar focus particles

In a wide variety of languages intensifiers, or related expressions, are also used in the sense of English 'even', i.e. as scalar focus particles, which characterize their focus as an extreme, or maximally unlikely value for the open sentence which constitutes their scope. In a sentence like the following George is characterized as a highly unlikely candidate for the predication 'x will go to that party':

(22) Even George will go to that party.

A further aspect of meaning that distinguishes scalar focus particles from intensifiers is the 'additive' implication that alternatives to the value given will make the sentence true, i.e. other people than George will go to the party. This use of intensifiers or related expressions as scalar additive focus particles can be found in languages like the following:

(23) Germ. *selbst* (but not *selber*); Norw. *selv*; Dutch *zelfs*; French *même*

As is shown by this list, the relevant polysemy is a wide-spread phenomenon among the languages of Europe. What the exact path of the relevant extension or change is, is completely unclear. The only relevant observation that can be made here is that there are contexts in which intensifiers and additive scalar particles are interchangeable. In the relevant contexts the denotation of the focus must be characterized by the context as an extreme case for a predication that is also made true by other values. Note that in the case of intensifiers these aspects of meaning come from the context. All the intensifier does is establish the usual relation between center and periphery:

(24) a. In such basic issues the Pope himself would not know what to do.
      b. (This picture is very valuable) The frame itself would cost a fortune.

Such sentences clearly allow a paraphrase with *even*.

(25) a. Even the Pope would not know what to do.
      b. Even the frame would cost a fortune.

Note that the additive implication is due to the conditional mood of these sentences. The characterization as an extreme value for an open sentence is based on contextual knowledge. What the intensifier shares with scalar focus particles is the evoking of alternatives, and compared to the plausible alternatives, the focus of the intensifier in sentences like (24) is clearly an extreme, maximally unlikely value. Sentences like (24) can thus be assumed to provide the transition point for the relevant change, which could again be characterized as an abductive one. Different compositional processes can be assumed to lead to the same overall result.

There is one more detail in the change from an intensifier to an additive scalar particle that needs to be mentioned. Intensifiers in their adnominal use do not have scope over a clause, but take their scope purely within the NP with which they combine. Evidence for this claim is provided by the fact that adnominal intensifiers can never take scope over other scope-bearing elements. Moreover, the rest of the sentence other than the NP which they follow never plays any role in spelling out the contribution to the meaning of a sentence. All an adnominal intensifier contributes to

a sentence is the evoking of alternatives and their characterization as periphery to the referent of the focus, characterized as center. Scalar additive focus particles, by contrast, do usually take scope over the clause that contains them, which is clearly demonstrated by the fact that they have the additive implication in sentences which do not normally suggest that alternatives to the focus referent will make the relevant predication true:

(26) a. The President himself will address the meeting.
      b. Even the President will address the meeting.

From intensifiers to expressions of definiteness

As pointed out in (13) above, intensifiers may develop into demonstrative pronouns and further into definite articles. Intensifiers may also develop into expressions indicating type identity, personal pronouns and other anaphoric expressions. The following observations will mainly be based on the Romance languages.

That the Latin intensifiers *ipse* developed into a demonstrative pronoun is well-documented in the modern Romance languages, cf. Cat. *eix*, Port. *esse*, Sp. *ese*. In view of the fact that Lat. *ipse* is the result of compounding the Latin demonstrative pronoun *is* with the intensifier *-pse*, the subsequent development of *ipse* into a demonstrative pronoun is certainly not entirely unexpected.

It is also a well-known fact that demonstrative pronouns can develop into definite articles. This can be observed in German, where the articles *der*, *die*, *das* were originally used as demonstratives, but also within the group of Romance languages itself. Here the source of most modern definite articles can be found in Lat. *ille*, cf. Fr. *le*, *la*; Ital. *il*, *la*; Port. *o*, *a*; Sp. *el*, *la*. The underlying use of *ille* that allowed for this development is that as a determiner, not as a pronoun. We are here confronted with a clear process of semantic bleaching. Demonstratives are deictic expressions of definiteness, and when these expressions lose their deictic component and only retain the ability to pick out a unique referent in a certain discourse domain or world, they develop into definite articles. Hand in hand with this development has gone the emergence of an obligatory definite/indefinite marking on nominals.

Sardinian and those dialects of Catalan spoken on the Balearic Islands did not use *ille* as source for the development of the definite article, but derived it from *ipse* instead, cf. Sard. *su*, *sa*; Cat. *es*, *sa*. Interestingly enough, the relevant dialects of Catalan have another set of definite articles, viz. those derived from *ille* (*el*, *la*). Their use, however, is mainly restricted to adverbials (*a l'hora de la mort*) and proper names (*l'Havana, el Papa*). There are even some minimal pairs. Thus, *s'església* refers to a particular church as a building whereas *l'Església* denotes the (Catholic) Church as an institution. Also, *es senyor* means 'gentleman' or 'owner', but *el Senyor* is reserved for 'the Lord' (cf. Hualde 1992:281; Seguí i Trobat 1993:35). To base the definite article on *ipse* appears to have been the original strategy in the linguistic domain where Catalan is spoken today. Those derived from *ille* were superimposed during the 12th and 13th century. The original situation is preserved in a number of place-names: *Sant Joan Despí*, *Coll<u>s</u>erola*, *Sant Esteve <u>Ses</u>rovires* (Seguí i Trobat 1993:33).

Another possible development of demonstrative pronouns is that of 3rd person personal pronouns. Although most of the modern Romance languages used Lat. *ille* as the source of this development (Fr. *il*, *elle*; Ital. *egli*, *ella*; Port. *ele*, *ela*; Sp. *él*, *ella*), Sardinian derived them from Lat. *ipse*, cf. *isse*, *issa* (Campidanese *issu*). As in the

case of definite articles, this development can also be assumed to be due to semantic bleaching. Note, however, that the relevant source are demonstratives in their use as pronouns, not as determiners. Again, the deictic component is lost and what remains is the referential function. It appears noteworthy that Sard. *isse* may also be used as a respectful form of address and that it is by and large restricted to animate referents. Apart from Lat. *ipse*, Lat. *ille* too left its imprint on the Sardinian pronominal system. The clitic pronouns found there are clearly derived from this demonstrative and are in fact preferred in direct/indirect object positions (cf. Jones 1993:201):

(27) a. ?*Appo datu su dinari a issos.*
    b. *Lis appo datu su dinari.*
        'I gave the money to them.'

This does not mean that *isse* could not be found in object positions. However, if it is used there, it always implies some element of contrast:

(28) *Appo vistu a issos, ma no'a tie.*
     'I saw them, but not you.'

Another possible path of development that intensifiers can take is the one to expressions of type identity (Port. *mesmo*, Sp. *mismo*). In the French expression *même*, we even find formal identity between Lat. *ipse* and *idem*. In the course of this development, the Lat. enclitic pronominal intensifier *-met* became prefixed to *ipse* (*mismo* < *meísmo* < *medipsimus* < *-met ipsimus*). What seems to have been grammaticalized here is the discourse-anaphoric or discourse-deictic function of *ipse*. This expression could regularly be used to pick up information which had been established in the previous discourse. Anaphoricity can be analyzed as the expression of identity, but this is at first restricted to cases of token identity. When this expression of identity is extended to also cover cases of type identity, we arrive at the meaning of Sp. *mismo* in contexts like the following:

(29) *Tengo el mismo coche que mi hermano.*
     'I've got the same car as my brother.'

In Sardinian we also find anaphoric uses of the pronominal forms derived from Lat. *ipse*. Still, this use of Sard. *isse* appears to be restricted to those positions where it is not a co-argument to its antecedent. In co-argument positions the reflexive clitic *si* is used invariably. In contrast to the reflexive clitic, *isse* in itself is not confined to the co-referential interpretation (cf. Jones 1993:241):

(30) *Juanne$_i$ credet ki Gavini$_j$ l'at comporatu pro isse$_{i/j/k}$.*
     'John thinks that Gavin bought it for him/himself.'

The co-referential interpretation can be forced by adding an intensifier (*e tottu* (lit. 'and all') or *mattessi* 'same') to the anaphoric pronoun. This strategy to restrict the binding domain of an anaphoric expression is strikingly parallel to what we find in Old English, Afrikaans or Frisian.

(31) *Juanne$_i$ credet ki Gavini$_j$ l'at comporatu pro isse e tottu$_j$/isse mattessi$_j$.*
     'John thinks that Gavin bought it for himself.'

Conclusion

However tentative some of the observations and assumptions are that were made above, the picture that emerges provides further evidence for the view that semantic change is not as random and unpredictable as it is often assumed to be. The development of minor lexical categories, in particular, exhibits a great deal of similarity across languages and seems to follow one of a limited number of possible paths. The processes of semantic change exhibited by the development of function words are partly those found in the development of major lexical categories, but there is also a certain element of generality, predictability and unidirectionality not found in the development of nouns, verbs or adjectives.

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Co-variation of Form and Meaning
in the Loss of Auxiliary Selection in English

MIMI LIPSON

(lipson3@ling.upenn.edu)

Introduction

This project is a corpus-based investigation of the decline of auxiliary selection in the formation of the English perfect. We know that at some point in its history, English ceased to be a language that, like most Germanic and Romance languages, uses the HAVE auxiliary with some verbs and the BE auxiliary with others. In order to better understand the details of this transition, I collected a large corpus of sentences with periphrastic perfects from literary texts available on the Internet, covering the years 1560-1875 (= year of author's birth). The results show that, during the long period of variable auxiliary selection, the choice of auxiliary reflected a previously UN-encoded contrast in meaning.

Evidence for semantic structure is always indirect, being more a matter of what entailments go with a particular construction than what constructions are possible or grammatical in a language. This fact makes the diachronic study of semantics through corpora particularly difficult. Because such projects are (as far as I know) uncommon, the methodological details may be of interest to others. So after review of the basic facts of the case, I discuss some of the issues that came up when assembling and analyzing the corpus. Then, following a more thorough discussion of the semantic variability of the data, I address the implications that this meaning shift has for a theory developed by Kroch and others working in the area of morphosyntactic change.

It has long been observed that linguistic change implies variation at some stage of the grammar in question. A great deal of the work in contemporary sociolinguistics concerns the interpretation of variation. Specifically, sociolinguists use the distribution of new and old forms to answer questions about the motivation for language change and the mechanism(s) by which this change is accomplished—i.e. how innovative forms embed themselves in the grammar. These are the sorts of questions I will mainly be concerned with; however, there is a growing body of synchronic investigation on the variable distribution of HAVE and BE in the Germanic and Romance languages (cf. Kayne, Freeze, Platzak, Gueron), and in the last part of the paper I will say a few words about what I believe to be the relevance of this work to the diachronic situation in English.

2. Basics of auxiliary selection

In auxiliary selection languages, the potential BE-selecting verbs are unaccusatives-verbs in which the single argument shows object-like properties as opposed to subject-like properties (compare the unaccusative in 1a-b to the unergatives in 2a-b).

(1)   a. Han *har/er rejst.   b. Si *ha/è arrivati
          he *has/is gone   they *have/are arrived

(2)   a. Han har/*er sovet.   b. Si ha/*è mangiati.
          he has/*is slept   they have/*are eaten
          (Danish)   (Italian)

There are many internal lexical-semantic distinctions within the general class of unaccusative verbs (For a thorough discussion of unaccusative verb classes, see Levin and Rappaport-Hovav 1996), and auxiliary selecting languages differ in how widespread BE-selection is among the unaccusative verb types.

3. Assembling the corpus

For the purposes of conducting a constrained and systematic search of texts from various historical periods, I restricted my search to the class Levin and Rappaport-Hovav call 'verbs of inherently directed motion,' a class which includes verbs such as come, *go, fall, rise/arise, depart, arrive, land, return, gather,* and *meet*. I wanted to be able to maintain some degree of comparability between verbs, since we have no other assurance that the individual verbs within the class were not behaving differently (through some form of classificational drift or lexical diffusion). Of the verbs sampled, only *come, go,* and *fall,* and *become*[1] occur in sufficient numbers for cross-verb comparison, and so only these verbs were included in the corpus.

Essentially, what I wanted to get at was the decline over time of the use of BE + past-participle as a perfect. However, contemporary usage suggests that not all such strings are actually perfects. In particular, consider the case with *gone*:

(3)   a. John has gone.
        b. John is gone.

The alternation in (3) does not mean that there is (variable) contemporary BE selection when forming a perfect of the verb *go*. There are three types of evidence against treating (3b) as a perfect. First and most obviously, there are many types of modification which, in contemporary English, are restricted in their use with *gone*, several of which are listed in (4): The construction does not combine comfortably with modification that delimits the path, goal, beginning time, or manner of going.

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[1] Though *become* is transitive, it is universally classed as a BE verb in auxiliary-selecting languages.

(4) a. John had gone to the store.
b. ?John was gone to the store.   *(goal)*
c. John had gone on the interstate.
d. ?*John was gone on the interstate.   *(path)*
e. John had gone as soon as possible.
f. ?John was gone at 12 sharp.   *(beginning time)*
g. John had gone effortlessly/by car.
h. ?John was gone effortlessly/by car.   *(manner)*

BE + *gone* and HAVE + *gone* also have different entailments with respect to the current status of the underlying eventuality: (3b) entails that John is still gone, whereas (3a) carries no such entailment: John may have gone and then returned. In this sense, *gone* resembles past participles like *drunk* or *finished* in (5-6):

(5) a. John had finished (with) his homework.
b. John was finished with his homework.
(6) a. John had drunk.
b. John was drunk.

This distinction turns out to be of little help in the sampling process, since it is not usually possible to deduce these sorts of temporal entailments from a written text. However, I discuss below a way in which the sample seems to reflect the entailment facts of contemporary usage.

The most compelling argument against analyzing (3b) as a BE-selecting perfect is the fact that a perfect may be formed from BE + *gone*. There is evidence that this sort of stative adjective used to be more widespread within the verb class in question; compare (7) and (8).

(7) John has *been gone* for ages
(8) And with that Diabolus gave back, thinking that more aid *had been come.*
(Bunyan)

For this reason, it would not be sufficient to simply remove the *gone* tokens from the sample. I needed some way of disambiguating the stative adjective from the perfect for all of the verbs. included in the sample tokens occurring with any hint of agentivity – mainly purpose (9) or delimiting modification (10), modification describing manner (11), or coordination with a verbal past participle (12).

(9)   a. They are come to give us joy. *(purpose)*
(10) a. They were gone to Hartfield. *(goal)*
b. I was really gone from Randalls. *(source)*
c. I had not gone three steps... *(extent)*
d. ...after so many hazards as I had gone through... *(path)*
(11) She had come as fast as she could *(rate/pace)*
(12) When they had been all walking together, he had so often come and walked by her, and talked so very delightfully!—

Any tokens that did not have some type of disambiguating modification were excluded from the sample.

4. Sample overview

I first searched the Penn-Helsinki corpus of Middle English, which is comprised of texts dated from AD 1150 to AD 1500. In the entire corpus, I found only fourteen examples of HAVE + *come.* Of these, 12 occurred in irrealis environments – either in counterfactuals (13) or as complements of modal verbs (14).

> (13) ... and **had I not that tyme comen** he sholde haue taken his lyf from hym...
> (14) ... for south ye **myght have comen** to my counter, …

The search of the Middle English corpus established two things: 1. An adequate sample would have to cover a later period of the language, and 2. Irrealis environments were the first places where BE was replaced with HAVE in this verb class. Indeed, looking at the Early Modern English data, it appears that HAVE was categorically used with modals and counterfactuals, except where BE was used to denote futurity. Because the use of HAVE was categorical in them, the modal and counterfactual tokens were also excluded from the sample.

Table 1 shows the token distribution of the four verbs in the Project Gutenberg texts, divided by the period during which the author was born. Table 2 gives the percentages of BE perfects over time for each verb, and for the three transitive verbs (*come*, *go*, and *fall*) as a group.

	1560-1575	1608-1625	1660-1675	1710-1725	1760-1775	1810-1825	1860-1875	Total
come	39	96	30	19	54	144	23	405
gone	76	38	72	17	59	83	33	378
fallen	21	11	17	7	25	32	16	129
become	28	9	10	9	27	37	14	134
Total	164	154	129	52	165	296	86	1046

Table 1 e-texts: http//www.promo.net/pg/list.html

	1560-1575	1608-1625	1660-1675	1710-1725	1760-1775	1810-1825	1860-1875
come	82%	97%	67%	26%	35%	18%	0%
gone	64%	66%	56%	35%	32%	18%	6%
fallen	71%	73%	41%	29%	0%	6%	0%
become	71%	73%	41%	29%	0%	6%	0%
3 trans.	71%	87%	56%	30%	28%	17%	3%

Table 2 Percentages of BE perfects

When plotted graphically, the decline in the percent of BE perfects in the sample follows an S-shaped curve (*Figure 1*).
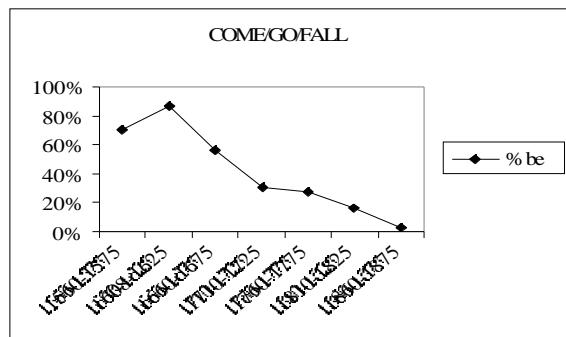

Figure 1

The S-shaped curve is familiar from the study of sound change and syntactic change. This trajectory is a typical quantitative picture of the loss of an outgoing linguistic variant: the rate of change is rapid at the beginning and end of the process, and slower in the middle (but note here the period of initial increase, due probably to stylistic differences between the earliest texts, which drew heavily from the morality plays of Bunyan, and the second-earliest category, in which the plays of Shakespeare are most heavily represented). It is interesting to note that the S-shaped curve also appears in a linguistic change that, as we will see, involves meaning differentiation.

When the verbs are plotted individually (Figure 2), it is apparent that they pattern as a class—with the exception of *become*, which, being a transitive verb, is arguably not a real member of the class.
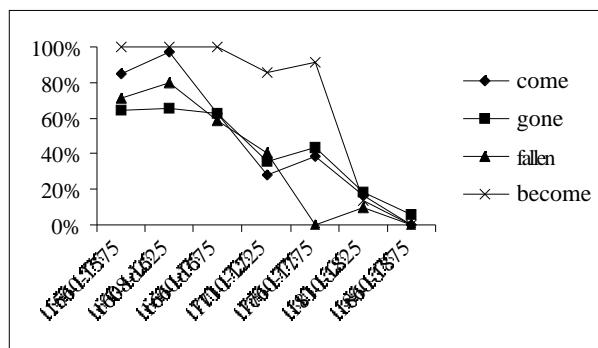

Figure 2

5. A closer look: Semantic differentiation of the auxiliaries

As I became more familiar with of the Gutenberg texts, I began to suspect that the two forms of perfects did not distribute identically. I came upon many examples such as the following:

> (15) a. For *after* that the children of God <u>had</u> gone in vnto the doughters of men and had begotten them childern, the same childern were the mightiest of the world and men of renowne. (EME 1)
> b. Thus *twice before*, and jump at this dead hour, with martial stalk <u>hath</u> he gone by our watch
> c. For a mile or thereabouts my raft went very well, only that I found it drive a little distant from the place where I <u>had</u> landed *before* (Defoe).
> d. "...and my conscience, which <u>was</u> not *yet* come to the pitch of hardness to which it <u>has</u> *since,* reproached me with the contempt of advice, and the breach of my duty to God and my father" (Defoe)
> e. <u>Am</u> I come near ye *now*? (Shakespeare)

The two forms show a tendency toward the entailment difference pointed out above in the discussion of contemporary *have gone/be gone*: BE kept appearing in contexts where the eventuality persists into the reference time, as in (15d and e), where the sentence is modified by *now*. Conversely, HAVE seemed to appear with unusual frequency where the eventuality is more certain to have ended or taken place in the past, as in (15a, b, c), where it coincides with the modifiers *after, twice,* and *before*. Such examples suggest that, during the period when there was variation in the auxiliary used to form the perfect in this verb class, the morphological variation was exploited semantically.

This meaning distinction is reminiscent of the distinction between what are sometimes referred to as the Universal perfect and the Existential perfect (cf. Anagnostopoulou et al, 1997 draft). In Reichenbachian terms, where T = topic time, R = reference time, and S = the time of utterance, the distinction is whether or not T and R are ever contemporaneous: the Universal Perfect means that the reference time is included in the interval during which the eventuality holds, and the Existential perfect places the eventuality prior to the reference time (16-17; [ ] represents the duration of the eventuality).

> (16)   Mary has always lived in Chicago – why should she move now? *(Universal)*
> ([T….R/S]: Mary still lives in Chicago)
> (17)   Mary has read Valley of the Dolls 5 times *(Experiential)*
> ([T]….R/S: Mary read before now)

Existential perfects may be formed on verbs of any aspectual class, but Universal perfects are restricted to statives (i.e. *live*).

During the period when two auxiliaries were available in forming the perfect for a given verb, it seems that they were (or at least tended to be) used to denote these two

different meanings of the perfect. This is a difficult point to argue when dealing with historical texts, since the evidence for these sorts of temporal entailments is quite indirect. However, as suggested above, there are some differences in the way these two Perfects can be modified; for instance, the Universal Perfect cannot be modified by iterative adverbials, like *many times* or *twice.* Table 4 shows that HAVE is more prevalent than would be expected (given the overall distribution) with modification that contraindicates the Universal Perfect reading, whereas BE is more likely with *now:*

Year of birth:	1560-1575	1608-1625	1660-1675	1710-1725	1760-1775	1810-1825
now + BE	20	22	13	7	17	4
now + HAVE	0	1	0	2	2	10
times* + BE	5	4	0	0	0	0
times + HAVE	8	8	1	6	3	4

Table 3.

* = X *times, before, since, after*

When plotted as percentages of perfects selecting BE (figure 3) and HAVE (figure 4), the effect is quite clear: though the direction and general rate of change is consistent in every category, the difference is dramatic.


Figure 3

% HAVE with temporal modifiers
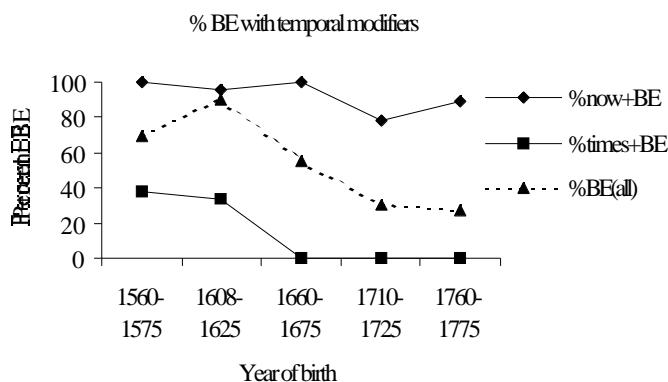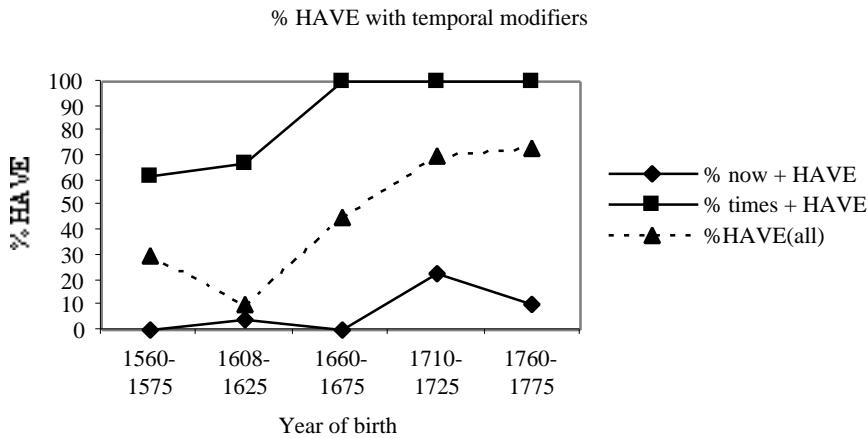
Figure 4

The HAVE/BE distribution is reminiscent of the *be gone/have gone* alternation in another way: because only *be gone* is durative in nature, *have gone* cannot occur in a *while* clause (18). The problem is not that perfects cannot be temporal antecedents for *while*, but rather that the underlying eventuality must be stative, as in *know* and *have* (19).

(18)   Mary read a book while John was/*had gone
(19)   a. I've read *Valley of the Dolls* four times while I have lived here.
       b. John has read *Valley of the Dolls* four times while I have known him.

There are several examples of BE + past participle *while* clauses in the corpus, some with modification that identifies the construction as a perfect:

(20)   a. We found her a ship of Bristol, bound home from Barbadoes, but had been own out of the road at Barbadoes a few days before she was ready to sail, by a terrible hurricane, **while the captain and chief mate were both gone on shore**. (Defoe)
       b. The dwarf, watching his opportunity, **while Glumdalclitch was gone to the side-board**, mounted the stool that she stood onto take care of me at meals, took me up in both hands, and squeezing my legs together, wedged them into the marrow bone above my waist, where I stuck for some time, and made a very ridiculous figure. (Swift)

Examples like these suggest that the class of verbs has been reclassified in terms of the possible aspectual interpretations they support, and that the auxiliaries played some part in the composition of meaning: the same verbs act more telic with HAVE than with BE. In any case, these BE perfects do not have exactly the same meaning as their contemporary (HAVE) counterparts.

6. A semantic trajectory?

So, the earliest data show that modal/counterfactual use of HAVE perfects were the first to appear in this verb class. In other words, these irrealis contexts seem to be the wedge that introduced the HAVE perfect to this verb class. The question then becomes: how did the HAVE perfect come to be used in non-irrealis contexts? It seems possible that there is some sort of interpretational side-effect connecting modals to the Existential interpretation of the perfect (and to the interpretation of *have gone* as opposed to *be gone*.

   The different interpretations of the perfect can be represented with a period structure making use of time intervals. We begin with a set of points in time and a precedence relation: $T, <$; i.e. a partial order of points in time. The basic units of a period structure are uninterrupted and dense sets of points in time, i.e. intervals. Let $I(T)$ be all the sets in T such that:

$$x, y \quad I, \quad z \quad T \text{ [if } x \leq z \leq y \text{, then } z \quad I]$$

In addition to the usual algebraic operations, we define the relations $<$, #, and O :

Let i, i' $I(T)$
   $i < i'$ (*i* completely precedes *i'*) iff t $i,$ t' $i': t < t'$
   $i \# i'$ (*i* is temporally included in *i'*) iff i i'
   i O i' (*i* overlaps *i'*) iff i i' 0

We can now give meaning postulates that distinguish BE perfects from HAVE perfects with respect to the # relation:

   HaveC(j, x_i) *iff* $y_i[C(j, y_i)$ $z_i [z_i \# y_i$ $z_i < x_i$]]
John HAS come at interval x iff there is an interval y during which 'John comes'[2] holds, and some subset z of interval y precedes interval x.

   BeC(j, x_i) *iff* $y_i [x_i \# y_i$ $C(j, y_i)$ $z_i [z_i \# y_i$ $z_i < x_i]]$
John IS come at interval x iff there is an interval y, which temporally includes interval x, during which 'John comes' holds, and some subset z of interval y precedes interval x.

The definitions differ only in that, for BeC(j, x_i), it is specified that x_i (the reference time) is a subset of y_i (the topic time). (Note that the denotation given for HAVE looks very much like a denotation for the simple past tense. This may not be as problematic as it seems, since the perfect in English is, famously, often interchangeable with the simple past.)

   It seems reasonable to assume that temporal expressions are constrained by linearity; i.e. x, y, z $I(T)$ $[x < y$ $y < x$ x O $y]$. Modals, on the other hand, are usually associated with anti-linear, branching structures. Suppose the definitions of BEX(x, i) and HAVEX(x, i) were imposed upon a branching structure like that in Figure 5,

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[2] A better semantics would indicate in some way a systematic relation between verbs of inherent motion and their resulting states. In this case, 'John comes' is an unfortunately imprecise way of indicating that 'John is here, under his own volition.'

where the bold line represents actual time (and the points, actual moments in time) and the other branch is a series of unrealized worlds.
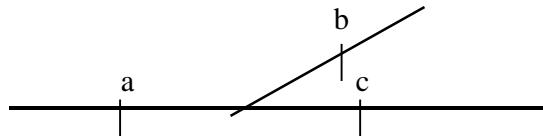

Figure 5.

The usual interpretation of a modal, say *could*(X, *j*, *i*), is that there is a world accessible to *j* from *i* where X is true. A plausible interpretation of an expression like *could have* is that *could*(X, *j*, *i*) is asserted, where *i* is in the (actual) past. Say that interval i_1, the reference time, contains point c, and i_2, the topic time, contains point b. The definition for BE could never be satisfied, since there is no convex interval which includes point b and point c. The definition for HAVE, on the other hand, can be satisfied. Perhaps the logical constraints on modals (and the incompatibility with the x_i # y_i part of the meaning of *be*) led to a different interpretation of HAVE + past participle — one deduced in a compositional fashion from its modal use.

The account sketched above assumes that a lexical association with a relation can be extended from one semantic domain to another. The trajectory of change involves an extension from the modal domain to the temporal/aspectual domain. This is not unprecedented: Iatridou (1996) gives a similar account of the contribution of past-tense morphology in the interpretational contrast between normal conditionals and counterfactuals, in which a relation from the tense domain is used in the modal domain. There are examples of languages where language contact and shift results in perfect morphology is used to denote special epistemic positions, such as the Macedonian Dubitative Perfect (Friedman 1997) and the Bulgarian Perfect of Evidentiality (Izvorski 1997). These can be looked at as ways of instantiating the pigeon-hole principle: where the language does not supply expressions for every denotation, some denotations must share. In the cases above, morphology is borrowed that superimposes an old relation on a new domain.

7. Conclusion

There is a steady accumulation of research on the synchronic facts of auxiliary selection. Discussions of the distribution of auxiliaries, either within a language or crosslinguistically, have tended toward syntactic explanation. Kayne (1993) and Freeze (1993) both propose that the HAVE auxiliary is the spellout of a movement-driven incorporation of BE + an abstract pronoun-like feature; Platzack (1987) argues that auxiliary selection among the Scandinavian languages is an epiphenomenon of the null subject parameter. Whatever the merits of the syntactic approach to auxiliary selection, it is difficult to see how such analyses could explain the diachronic situation in English: the decline in auxiliary selection did not coincide with any change in pro-drop or word-order possibilities.

The next obvious place to look for an explanation of the loss of this (putatively) syntactic feature is the work of historical syntacticians. Kroch (1994) invokes the Blocking Principle from morphology as a cause of syntactic change. The Blocking Principle states that: *Stable linguistic systems do not permit equivalent morphological (or syntactic) doublets* (i.e. dived/dove). Kroch argues that all morphosyntactic change indicates the existence of competing grammars, with each member of the doublet represented in one or the other grammar. The argument for competing grammars has been made convincingly in cases such as the evolution of periphrastic *do* in Middle English (Kroch 1989) or the change from V-to-C to V-to-I movement in Yiddish (Santorini 1993), and on the evidence of cases such as these, Kroch (1994) makes some explicit claims about the underlying mechanism of linguistic change:

> "We have seen that the historic evolution of competing variants in syntactic change is similar to the evolution of morphological doublets. In both cases, the coexistence of variant forms is diacronically unstable: one form tends to drive the other out of use and so out of the language" (Kroch 1994: 17).

The old grammar is replaced by a new one at the same rate in all environments, since each environment is representative of an underlying grammar which is the actual locus of change. In some cases, it can appear that certain environments "lead" in the change, since the input rate of application of the new form may be greater or less, but this is not to be taken as evidence that change progresses independently in individual linguistic environments. In other words, Kroch argues that it is *not* the case that forms in specific environments change by a process of analogy with other environments—i.e. "generalization" of the application of a new rule.

Since auxiliary selection has so often been analyzed as a syntactic phenomenon, we would expect that this sort of analysis, and specifically the invocation of the Blocking Principle, would apply to a case where auxiliary selection is lost in a language. However, note that the Blocking Principle, as stated, can be satisfied in more than one way: either one or the other morpheme may be lost *or* their status as doublets may change via a process of semantic differentiation. In the present case, it seems clear that the process involves more than a meaning-neutral transition from one morpheme (BE) to another (HAVE). Along the way, there seems to have been a language-internal redistribution of grammatical distinctions. Of course, this begs the question: why *did* the BE perfect go out of use? I don't have an answer for this, but possibly it was asymmetry. In other words, perhaps having the morphological resources to distinguish these two senses of the perfect in only one verb class was too cumbersome. Note again that meaning one entails the other: *I am come* entails *I have come*: any situation in which *I am come* is felicitously uttered also supports the statement *I have come.* Therefore, if one or the other interpretation had to survive, it makes sense that it would be the more broadly applicable. This case study leaves many unanswered questions. There remain many questions about the semantic status of the auxiliaries in stable auxiliary selecting languages. But some questions of more general interest also suggest themselves: How can morphosemantic change be most efficiently be investigated in a corpus? Is morphosemantic change like other sorts of linguistic change? What can diachronic variation tell us about synchronic variation?

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Elements for an Integral Theory of Semantic Change and Semantic Development

BRIGITTE NERLICH & DAVID D. CLARKE

(bn@psychology.nottingham.ac.uk)

1. Introduction

Ten years ago we proposed what we then called the MES or *Metasemantic Expert System* to account for the use of metaphors and metonymies in ordinary discourse (Nerlich & Clarke 1988; 1992a; Nerlich 1989). We represented it like shown in figure 1.

After a five year interlude, when we concentrated on discovering the historical antecedents of modern semantic and pragmatic theories of language, we have started to fill in some gaps that were left open, intentionally or unintentionally in this initial model. We bolstered some links with modern theories of cognitive semantics, with research into conceptual metaphors and metonymies and prototype theory (Nerlich & Clarke 1992a), especially shifts in prototypes (Nerlich & Clarke 1992b); we explored a third component of the MES, synecdoche (Nerlich, in press; Nerlich & Clarke, in press); we also examined some-long term effects of the use of the MES, polysemy (Nerlich & Clarke 1997), and looked at the uses people make of polysemy in ordinary discourse (Nerlich & Clarke, in prep. b; Nerlich & Chamizo Domínguez 1999); and finally, we tried to find out how the MES or rather a competence for figurative language use and the exploitation of polysemy could be acquired in semantic development (Nerlich, Todd, & Clarke 1998; Nerlich, Todd, & Clarke, 1999; Nerlich, Todd, & Clarke, in prep.). More recently we have begun to take account of research into blending, mainly fostered by Gilles Fauconnier and Mark Turner (Nerlich & Clarke, in prep. a).

In this article we shall focus on certain facets of our historiographical and our theoretical research, and try to show how both strands can contribute to a new understanding of semantic change and semantic development. The issue of 'blending' will give us an opportunity to explore links between the present and the past. Our research into language acquisition might open up possible links between the present and the future.

2. Blending the Past and the Present

Theories of 'blending' were developed in cognitive linguistics in an attempt to model the processes of metaphor creation and understanding. Almost twenty years ago George Lakoff and others first put forward a two-domain model in which a conventional conceptual metaphor is seen as a partial mapping of one conceptual gestalt-structure or source-concept, e.g. JOURNEY onto another conceptual gestalt-structure, the target-concept, e.g. LOVE. This means that the source domain, say JOURNEY projects information directly onto the target domain, say LOVE, through structural transfer (see Oakley 1998:325). „They loved each other to the ends of the

earth" is an example of an utterance based on this type of conceptual projection. The target concept of LOVE can also be metaphorically structured by other source-concepts such as WAR or MADNESS.

META-SEMANTIC EXPERT SYSTEM

Task

● Reconcile existing knowledge, communicative needs, changes in world, human situation & interaction
● Create more semantic power when needed

Resources

● Knowledge of strategies (metaphor, metonymy & euphemism)
● Knowledge of focal features

● FACTORS criteria for change, semantic gaps, loss of meaning in over-used words, homonymic clashes
● CONSTRAINTS on range of innovation: extent of hyponymic specification, range of synonyms, extent of polysemy

Speaker's wishes goals & aims

Advice on change procedures available

● Type & amount of contextual knowledge
● Appearance & disappearance of objects & concepts

SEMANTIC KNOWLEDGE

● Standard meanings
● Syntagmatic relations
● Paradigmatic relations like synonymy, hyponymy, homonymy, polysemy
● Semantic fields

WORLD KNOWLEDGE

● Knowledge about objects
● Relations between objects (causal & functional)
● Scripts and schemas

Requirements for lexical choice   Lexical choices

ONGOING STREAM OF DISCOURSE AND THOUGHT

Figure 1

Another example would be the transfer of human characteristics, such as being able to recognise somebody or something, to the domain of computers. We might say for example:

"My computer doesn't seem to recognise this new printer", when trying to print out an urgent letter. And going one step further, we can create a meta-metaphor and say: "I wish we were back in the good old days when pens recognised paper and when paper recognised envelopes". Here the conventionalised computer metaphor is transferred to the 'novel' domain of pen-and-paper communication, that is, letter writing in the good old sense of the word (for this example, see Laurie Taylor, *Times Higher Education Supplement*, 15 January, 1999, p.60).

In contrast to Lakoff's early models of metaphor, Fauconnier and Turner are now working with a whole array of mental spaces (see Fauconnier 1998), and blending is seen to occur when two or more input spaces in cooperation with a generic space project partial structure into a fourth space known as the blend, the blend inheriting partial structure from each input space and developing its own emergent structure (Oakley 1998: 326). In 1996 Mark Turner expressed a central assumption underlying this type of blending research in the following way.

> Meanings are not mental objects bounded in conceptual places but rather complex operations of projection, binding, linking, blending, and integration over multiple spaces.
>
> (Turner 1996: 57)

To fully understand the import of the concept of blending or conceptual integration for contemporary semantic thought, it might be useful to reconstruct the contexts in which those concepts appeared, albeit sometimes in a veiled form, for the first time (see Nerlich & Clarke, in prep.; some of the following overlaps with this article). We hope that such a reconstruction may lead to a critical evaluation of contemporary concepts and theories.

A few preconditions must be fulfilled in order to develop theories of blending.

- The view that language is a mere instrument for the representation of thought has to be replaced by a view according to which thought and language are intricately linked up with one another, and according to which they structure each other mutually.
- The view of word meaning as being based on a one-to-one fixed mapping relation between a word and a well-defined object or concept must be abandoned for a view of meaning as having fuzzy boundaries, as being elastic and context-sensitive.
- The view of word meaning as pinpointing a real or ideal objector concept must be replaced by a view of word meaning as delimiting a roughly drawn and changeable 'area of meaning(s)'.
- The view that sentence meaning is the sum of the meanings of the words used must be replaced by a view of sentence meaning as being the result of integrational and inferential processes feeding on clues other than those contained in the meaning of each word in isolation, that is, clues arising from the co-text of

the sentence and the wider context of the situation of discourse (the situation of perception, memory, discourse, and culture).

• The view that there is a radical distinction between the literal and the metaphorical in grammar and semantics has to be replaced by the view that language (and thought) are metaphorical through and through (see Schmitz 1985; Gibbs 1994; Schumacher 1997; Lakoff & Johnson 1999).

All these insights into the construction of meaning were in the air before and during the 19th century and are not the reserve of the 20th century alone (see Smith 1982; Nerlich 1992; for a summary of what cognitive linguists know about their predecessors, see now Mark Turner's contribution to the cogling list, 30th of January, 1999). However, these views needed to be pitched *against* other dominant views (e.g. truth conditional and/or componential semantics) to lead to a real scientific revolution. This only happened in the last part of this century.

The main foundations for a dynamic conception of meaning were laid in the 18th century with the works of Giambattista Vico and Du Marsais for example. They both, in different ways, held the view that metaphor was not an artifice of language but a natural way of expressing and talking about the world (see Nerlich 1998). They overthrew the then predominant view of metaphor as a dangerous impediment to the clear transmission or communication of thoughts. This view had still been held by Locke, a philosopher who, ironically, boosted metaphor research by pointing out, that our basic mentalistic concepts are metaphorical "in origin" (Leary 1990: 14). Quite insidiously, the insight into the metaphorical nature of some words and concepts, such as *spirit*, undermined the representational view of language. And once liberated from the single function of representing things or thoughts, language could become the free possession and tool of the communicating subject. The language user could come into focus instead of the language, and this again facilitated social, cognitive, and pragmatic insights into language and meaning.

The 18th-century insights into the nature of meaning and metaphor had a profound effect on the philosophies of language elaborated in the 19th and early 20th centuries who all offered alternative avenues of attack on the problem of meaning. After centuries of philosophical disparagement, the crucial role of metaphor in language and in the structuring of thought was recognized by the likes of Herder and Humboldt, Goethe and Gerber, Nietzsche and Biese, Wegener and Gardiner, Mauthner and Stählin, setting the stage for such 20th-century developments as Bühler's (1934) declaration that metaphor is fundamental to all concept formation (see Nerlich, in prep.).

By the beginning of the 20th century, a theory of metaphor as blending was very much in the air, sparked off, perhaps, by Philipp Wegener's work (Wegener 1885). A fan of Wegener's and an acquaintance of Bühler's, the Egyptologist Alan Henderson Gardiner, pointed out, in his book *A Theory of Speech and Language* (Gardiner 1932) that under the guidance of the situation of discourse the meaning of a word or a sentence emerges as a *fusion* between the traditional range of meanings of the word and the thing-meant, between what is said and what is meant. The process of fusion or as Gardiner says, "blending" (p. 169), is most spectacular in the case of metaphor. This can be illustrated with the following examples (not taken from Gardiner).
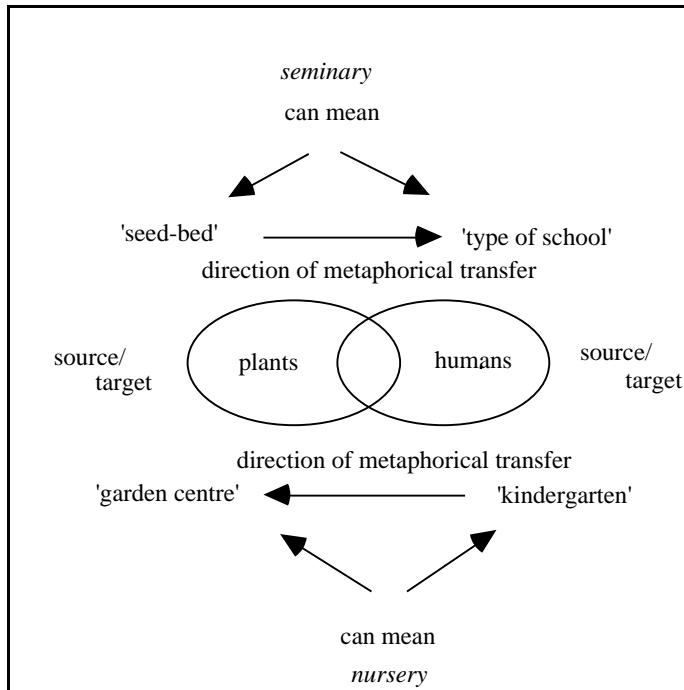
Figure 2

How you 'concoct' your metaphor or your blend depends on the available lexical resources available, the communicative needs, and the context of discourse.

Going one step beyond Gardiner in his *Theory of Language* (Bühler 1934), Bühler wanted to find „the *sematological core* of a well-constructed theory of the metaphor" (Bühler 1934/1990: 392/343). And this semiotic core lies in the fact that in metaphor production and understanding we are dealing with a mixing of spheres, *Sphärenmischung*, that is, with the *blending* of linguistic and non-linguistic knowledge. Bühler's most favourite example is the metaphor of a butterfly 'knitting socks' - a metaphorical description of the movement of its antennae.

> A duality of spheres [...] and something like a transition from one to the other can often be detected in the experience [of understanding], and this often vanishes only when idiomatically familiar constructions are involved.
>
> (Bühler 1934/1990: 392-393/343)

Bühler compares this process of blending with binocular vision or with a visual projection that passes through two filters covering each other partially.

Another less well known psychologist of (religious) language, Gustav Stählin was also interested in metaphor and especially in metaphor as one of the *psychological* processes involved in language change (see Schumacher 1997). He too developed a theory of 'blending' as a by-product. What Lakoff calls target domain, Stählin called *Sache*, and what Lakoff calls source domain, Stählin called *Bild*.

> [...] der metaphorische Ausdruck steht jedesmal *in einer gewissen Spannung mit dem Zusammenhang*. Er stammt aus einem Gebiet, von dem hier nicht die Rede ist, und wird auf ein Gebiet angewendet, auf dem er nicht daheim ist. Er ist der Name eines Gegenstandes, der hier gar nicht "gemeint" ist, und muß erst übertragen werden auf den Gegenstand, der hier in Rede steht. Er ist ein Fremdkörper in dem Zusammenhang und kann mindestens als solcher zum Bewußtsein kommen. (Stählin 1913: 321-322)

> [...] kurzum: ich ziehe nicht nur das Bild in die Sphäre des Sachgegenstandes, sondern auch die Sache in die Sphäre des Bildes hinein. Es findet ein Austausch der Merkmale, eine Vereinigung der beiderseitigen Sphären, *eine Verschmelzung von Bild und Sache statt*. (p. 324, italics added)

In the 1970s and 1980s the theoretical and empirical work on metaphor accomplished by Bühler and Stählin was rediscovered and compared to the interaction theory of metaphor developed by Richards and Black. Nowadays, one can see similarities between the older theories of metaphor and the newer cognitive theories of metaphor and blending. There are, however, a few differences. The older theories of blending are all limited to the two domain model. The more elaborate multi-spacemodel developed by Turner and Fauconnier eludes them.

And yet, one should not forget that others before Lakoff, Turner and Fauconnier had begun to tell the tale of the metaphoricity of language and the embodiment of thought. These investigations were interrupted in the middle portion of this century by the second world war as well as by the rise of behaviourism, positivism and structuralism(s). Retelling the story of these beginnings of a theory of blending might give modern theories firmer roots, roots that might prevent them from being swept away by the next wave of positivism and reductionism.

We have looked at some examples of a *psychological* investigation of metaphor at the turn from 19th to the 20th century. However, one should not forget that metaphor and metonymy, generalisation and specialisation, that is synecdoche, were at the core of the historical semantic research programme. These 'figures of speech' were investigated as types of semantic change linked, just as today, to types of association processes between ideas, such as similarity and contiguity (see Nerlich 1992). Here too then one can see a link between the past and the present. The next section of this article will however focus entirely on the present and the future of research into metaphor, metonymy, and polysemy.

3. The role of metaphor, metonymy and polysemy in research into language development and language use

Metaphor, metonymy and synecdoche are three fundamental ways in which language conveys mental representations. They form the three corners of what Seto calls 'the cognitive triangle' (Seto 1999). Metaphor is based on 'seeing similarities' (e.g. "She is the *sun* of my life"), metonymy is based on 'exploiting connections' (e.g. "I am giving a *paper*"), and synecdoche is based on understanding relations between categories, on 'understanding class inclusion' (e.g. "Give us our daily *bread*").

These three 'figures of speech' are *universal* semantic and cognitive *procedures* or *strategies* which make it possible to communicate novel experiences effectively. They also give rise to *polysemy* historically, structure meanings synchronically, allow adult speakers to vary word meanings contextually, and make it possible for children to convey meaning with a very restricted set of lexical items at their disposition.

Semantic development is the process whereby children acquire the lexicon inherited from their elders and learn how to use it efficiently. This includes amongst other things the acquisition of what one could call a *figurative competence* which allows children to express new things with the old words they have.[1] This process of

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[1] "Die *allgemeine Sprachkompetenz* ...*umfaßt eine Metaphernkompetenz* -- die Fähigkeit, gewisse sprachliche Gebilde in fast unbeschränkter Fülle produzieren und verstehen zu können und das Wissen

acquisition changes gradually depending on the number of old words children have at their disposition, at first very few, a time when they have to resort to (metaphorically, metonymically, and synecdochically based) over- and underextensions so as to make themselves understood; then more and more until the children's lexicon matches the adults'. In between they learn not only how to map the right things and concepts onto the right word-forms and vice versa, but also how to see relations of similarity, contiguity and class-inclusion between things and concepts and how to exploit them in their search for the most effective means of linguistic expression and their construal of a world (see Nelson et al. 1978).

Twenty years ago Dan Slobin claimed that the essence of language itself can only be discovered through a collaboration between developmental psycholinguists and historical linguists. Discussing the rhetorical aspects of child language (Slobin 1977: 187), he wrote that the first meanings to be acquired should be closest to the child's non-linguistic strategies for representing events to himself. He takes up Eve Clark's suggestion that such meanings "can be regarded as cognitively simpler than others" (Clark 1973:180) and argues that when a new form enters a whole language its range of meaning is likely to be restricted too to this cognitively simpler core. The extension of meanings from that core must also follow *natural cognitive patterns*, whether occurring in ontogenesis or in other diachronic linguistic processes (Slobin 1977: 206-207).

We claim that these natural patterns are based on metaphor, metonymy, and in less spectacular fashion on synecdoche.[2] We also claim that Slobin's programme of studying developmental psycholinguistics and historical linguistics jointly has not found any followers to date, at least in the field of semantics. There is an urgent need to study metaphor and metonymy as *universal* mechanisms of semantic structure, semantic change *and* semantic development. We shall now try to demonstrate what a theory of metonymy can contribute to an understanding of certain aspects of language acquisition.

According to older theories of metonymy, metonymy enables us to say things quicker, to shorten conceptual and linguistic distances. Instead of saying "The water in the kettle is boiling", we say "The kettle is boiling". Our hypothesis was that this function of metonymy as an 'abbreviation device' (and to some extent a type of cognitive and referential ellipsis) can be detected in child language as well as in adult language. Metonymy should be seen as a universal strategy of cost-effective communication used by children as well as by adults, most effectively exploited in headlines, such as "Brains at Science Museum crack Crystal Skull mystery" (see Nerlich, Todd, & Clarke, 1999).

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um ihre jeweilige Angemessenheit und Wirkung in konkreten Kommunikationssituationen." (Schöffel 1987: 57-58) "Mit dem Hineinwachsen in seine Muttersprache erwirbt der Mensch auch die Fertigkeit zu metaphorisieren. Es ist kein Zeichen besonderer Sprachmächtigkeit oder hoher sprachlicher Gebildetheit, Metaphern zu schaffen und zu gebrauchen. Seine Sprachfähigkeit ermöglicht es jedem Menschen, die metaphorischen Potenzen seiner Muttersprache zu nutzen und auszubauen, und zwar ebenso selbstverständlich wie alle ihre Leistungen." (Ingendahl 1971: 221; quoted in Schumacher 1997).

[2] We have not looked extensively at synesthesia. One could perhaps say with Marks and Bornstein that "the structures of synesthetic metaphors that are shown to be present in the earliest months after birth would constitute *Anlagen*, or primitive forms, for the plethora of more sophisticated, figurative expressions we commonly encounter and create in language and literature." (Marks & Bornstein 1987: 64)

When looking more closely at examples from early language use we observed that metonymical (as well as metaphorical and synecdochical) relations seem to be exploited in *overextensions* produced by children up to age 2;5. We called these 'compelled metonymical overextensions' as they are based on the fact that at this age a child's vocabulary, category and conceptual systems are still relatively small and unstructured and this scarcity *compels* them to extend already known words to cope with increasing communicative demands, to comment on what they see and to request what they want. Here are some examples.

Examples of one-word sentences are taken from (Barrett 1982):

Wheel: for a wheelbarrow wheel (1;8); a wheelbarrow (1;10); toy wagon/a ring (1;11); more appropriate lexical item learned: *wheelbarrow* (1;11)
[based on part-whole relationship]
Choo-choo: for trains (1;7); bradyscope (1;9); airplane/wheelbarrow(1;10); streetcar/a trunk (1;11); more appropriate lexical item learned: *airplane* (1;11), *streetcar* (1;11), *wheelbarrow* (1;11)

We also looked at a corpus of two-word utterances collected by Braine (1976). In the examples we indicate the metonymical relation that is exploited, as well as the illocutionary force of the utterance.

David (1;9): want pocket.   [container-contained]{request}
David (1;10): here hello.   [words-object]{comment}
    Situation: indicating or identifying toy telephone
David (1;10): here more book   [instrument-action]{request}
David (1;10): want more spoon.   [instrument-action]{request}
David (1;10): gimme that blow.   [instrument-action]{request}
    Situation: wants to blow the match out
David (1;10): more put in.   [action for place]{request}
    Situation: has been putting tinker toys in their box, apparently wants to put somewhere the pieces the adults are using

Later on, when children have acquired a sufficient body of words to express their more and more complex needs and desires, together with a growing body of domain knowledge or world knowledge, they begin to use metonymy in a creative way, what we called 'creative metonymical shrinking'. As an example we shall tell you a meaning creation story, an approach advocated recently by Gerd Fritz: „Was praktisch möglich ist, um die Wirklichkeit des Bedeutungswandels besser zu verstehen, ist das Erzählen und Betrachten von *exemplarischen* Kommunikations-geschichten" (Fritz 1998: 28)

> Matthew, our son, started school in January 1996. At first we thought he might eat the school dinners. But he didn't like them and insisted on bringing his own lunch box like most of his friends do. So in the end we relented and, walking to school in the morning, he brandished his lunch box saying to everybody he met: "I love being a *lunch box*." Then he thought a bit and said: "I love being a sandwich, I really like being a *sandwich*" - one could really see the metonymical chain extend from his arm through the lunch box to the sandwich and back. What he meant by this metonymical utterance was that he liked to be part of the children who were allowed to bring a lunch-box (i.e., a sandwich) to school and were not forced to have this horrible stuff like potatoes and veg served at the school dinner!

Both compelled and creative metonymies are based on semantic *strategies* which are not completely different from adult communicative strategies, of which metaphor and metonymy are the most effective (as Ann Dowker says, the child does what the adult does: express the inexpressible, see Dowker, in press, pp. 8-9), and, we should add: both use similar cognitive and linguistic strategies.

Let us now look at metaphor as another important communicative strategy used by adults and children. As is well known, producing and understanding a novel metaphor requires the meaningful integration of two incongruous domains of knowledge or experience in a manner not previously considered. How do children acquire a metaphoric competence, that is the ability to create and understand metaphors? Two things are required: *knowledge of domains and categories*, so as to be able to override them, that is, to build metaphorical bridges between them, and an ability to *see similarity* in dissimilar objects and events. Knowledge of domains increases naturally with a child's growing experience of the world - it is in fact a life-long task. This life-long acquisition of domain knowledge can be illustrated by looking at an example. When reading the following sentence in Alison Graham's column in the *Radio Times*: "The first *Sarah – Surviving Life* focused on the kind of Pop Tart philosophising indulged in by the rich and self-absorbed" ("A right royal mistake" 24-30 October, 1998, p. 148), the reader has to know what a "Pop Tart" is so as to understand the metaphor. This type of domain knowledge can only be acquired when you have children who pester you to buy this rather disgusting toastable breakfast 'tartlet' in the supermarket. So, domain knowledge acquisition is a life-long task, but what about seeing similarities: how does the ability to see similarity evolve?

There seems to be a developmental sequence going from compelled metonymically or, metaphorically and even synecdochically based *overextensions* to more creative *pretend-naming*, to the use of *similes*, to the production and then understanding of *metaphors*. These can be regarded as overlapping stages in a child's semantic development. In overextensions the child *explores* the 'space' of conventional categories (as when he or she says "doggy" when pointing to a horse); in pretend-naming the child starts to see and *use* one thing *as* another thing (as when a child picks up a leaf from the ground, puts it between two gloves and asks Mummy to "eat the sandwich"); in similes he or she starts to verbalise *perceived* similarities ("Mummy, mummy, this chimney *looks like* a giant's pencil"), which sets the child en route for the metaphorical exploitation of *conceptual* similarities between whole in congruous domains of experience, on route for a create blending of mental spaces, as described in section 2 of this article. One child for example called a puddle of oil "a dead rainbow". Our son Matthew said recently that having repeated nightmares is just like an illness, or like a virus, only it attacks the mind not the body, but nobody has as yet been able to find the right medicine to cure children from nightmares (Matthew, aged 7.11). Seeing similarities shades gradually into constructing analogies. Creating compelled metaphorical overextensions shades gradually into making creative metaphorical leaps.

Is this true? It has been argued for a long time that overextensions are not metaphors (see now Dowker, in press).

> Denken wir uns ein Kind, das an den kleinen Gummiluftballons [...] seine Freude hat [...]; dieses Kind, in der Stadt erzogen und wenig mit den Erscheinungen der Natur vertraut, erblickt eines Abends zum ersten Male den in nebligem Dunst aufgehenden Mond und sagt bei dessen Anblick: *sieh dort oben den schönen Luftballon!* Für den Mond und den Luftballon ist es nicht schwer das *tertium comparationis* zu erkennen; aber von einer Metapher könnte in diesem Falle nicht die Rede sein.
>
> (Elster 1911: 114)

However, we would argue that metaphor, metonymy, and synecdoche *as cognitive strategies* are present from birth, but they need the child's interaction with the world and other human beings to grow into the fully fledged production of metaphors, metonymies and synecdoches.

In synecdochical speaking and inferencing children explore the space of conceptual categories, in metonymical speaking and inferencing children explore the space of established referential and semantic relations, in metaphorical speaking and inferencing children discover novel relations and engage in analogical reasoning -- and so do adults. These are all aspects of cognitive and semantic learning which continuously structure our understanding of the world and of each other.

Understanding conventional and novel metonymies and metaphors produced by *others* is a different matter again, because children have to integrate domain knowledge that might *not* match their own developing, and to some extent restricted knowledge of domains. (This was illustrated nicely in an example used by Andreas Blank in his contribution to the *AG Bedeutungswandel und Bedeutungsvariation*: „*Mutter*: 'Heute ist Landtagswahl, da müssen Papa und ich unsere Stimme abgeben.' *Kind*: 'Aber dann könnt ihr ja nicht mehr sprechen!'"). As is common in language acquisition, there is a lag between production and comprehension of metonymy and metaphor, which also applies to the understanding of jokes, riddles and puns. It seems that based on a type of (innate?) 'figurative competence', children can create metaphorically and metonymically based overextensions and later on creative metaphors and metonymies on the level of *parole*. However, they still have to 'learn' the metaphorically and metonymically based polysemies which characterise a language on the level of *langue* and in various types of *discourse* - that is, on the level of social norms. They also have to learn (in a different sense) to accept that adults (whom they normally perceive as rule-imposers and rule-followers) can sometimes break the rules and create novel metaphors and metonymies. When Brigitte once said to Matthew after he came home from school: "Wow, you have eaten your whole lunchbox" (meaning the contents of the lunchbox), Matthew laughed his head off and told her 'not to be so silly!'.

4. Conclusion

- Investigating the synchronic rhetorical procedures whereby we create new meanings from old can sharpen our view for fundamental semantic and cognitive processes.

- Investigating diachronic mechanisms of semantic change can sharpen our view for fundamental semantic and cognitive processes.

- Investigating the ways in which children produce and understand new meanings can sharpen our view of how these fundamental semantic and cognitive abilities actually develop.

Linking theses three fields of investigation can advance our theorising in the social and cognitive sciences . It would provide a direct insight into the linguistic and social roots of cognition and the cognitive roots of linguistic structures.

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Der Bedeutungswandel von wissenschaftsdefinierbaren Wörtern und Putnams Auffassung von Bedeutung

JOSÉ PINTO DE LIMA

(ajisoulima@mail.telepac.pt)

1. Eine kritische Darlegung von Putnams Auffassung von Referenz und Bedeutung

Als Sprachphilosoph hat Hilary Putnam seit 1975 eine Auffassung von Bedeutung und Referenz entworfen, die sehr originell ist, und vieles enthält, das - meiner Meinung nach - jede Theorie von Bedeutung und Referenz berücksichtigen sollte. Leider führen auch Putnams Ideen zu Problemen, besonders was den Begriff der Bedeutung betrifft: knapp ausgedrückt kann man sagen, daß die Putnamsche Auffassung mit der historischen Dimension von Bedeutungen Schwierigkeiten hat, d.h. mit der Tatsache, daß Bedeutungen - wie alle sprachlichen Kategorien - dem Wandel ausgesetzt sind. Im Folgenden werde ich Putnams Auffassung von Bedeutung und Referenz kurz darlegen und ihre wichtigsten Züge hervorheben, - die ich *Antimentalismus*, *Kooperativismus* und *Indexikalität* nennen werde - dabei die Schwäche dieser Theorie erläutern, und schließlich eine alternative Auffassung von Bedeutung und Referenz vorschlagen, die alles zu beinhalten beansprucht, was mir sinnvoll in der Theorie Putnams zu sein scheint - nämlich eine Art von *Antimentalismus* und von *Kooperativismus* - und auf einiges verzichtet, nämlich auf die radikale *Indexikalität* Putnams.

Wie Putnam Bedeutung und Referenz konzipiert, drückt sich paradigmatisch in seinem berühmten Aufsatz "The Meaning of 'Meaning'"(1975) aus. Im Zentrum seiner Überlegungen stehen Wörter für natürliche Arten, wie "Wasser" oder "Gold", die in der Alltagssprache verwendet, aber auch in der Wissenschaft gebraucht werden, wo für sie wissenschaftliche Definitionen vorliegen. Die wichtige Frage, der Putnam in diesem Text nachgeht, ist, allgemein formuliert, folgende: "Was soll man sich unter der Bedeutung und der Referenz von einem Wort für eine natürliche Art, wie z.B. "Wasser", vorstellen? Um diese Frage zu beantworten, bedient sich Putnam eines Gedankenexperimentes, das inzwischen unter dem Namen "Zwillingserde-Argument" sehr bekannt wurde, aber das ich trotzdem aus methodischen Gründen kurz erläutern werde. Stellen wir uns vor, daß es im All neben der Erde einen anderen Planeten geben würde - nennen wir ihn "Zwillingserde" -, der sich allein in einem Punkte von unserer Erde unterscheiden würde: die Flüssigkeit, die auf der Zwillingserde "Wasser" genannt wird, und die alle wahrnehmbaren Eigenschaften vom irdischen Wasser hat, ist nicht H_2O, sondern hat eine andere chemische Zusammensetzung, sagen wir XYZ. Nehmen wir weiter an, daß dies den Bewohnern der Erde und der Zwillingserde zuerst nicht bekannt ist. In dieser Situation würden alle meinen, das Wort "Wasser" würde auf beiden Planeten ein und dieselbe Flüssigkeit bezeichnen. Sollte aber später ein Wissenschaftler entdecken, daß die Flüssigkeit auf der Zwillingserde eigentlich nicht dieselbe chemische Zusammensetzung aufweist wie die des Wassers auf der Erde - d.h., daß die Substanz, worauf mit dem Wort 'Wasser' auf der Zwillingserde Bezug genommen wird, XYZ ist -, dann würde der Wissenschaftler

meinen, die Flüssigkeit auf der Zwillingserde sei letzten Endes kein Wasser (obwohl es wie Wasser aussieht) und würde - seinen neuen Kenntnissen entsprechend - diese Flüssigkeit nicht länger "Wasser" nennen. Aus diesem Beispiel lassen sich die Hauptzüge der Putnamschen Theorie der Referenz und der Bedeutung ablesen:

Was die Theorie der *Referenz* betrifft, soll das Beispiel zeigen, es ist nicht das, was Sprecher über Wasser glauben, das die Referenz des Wortes festlegt, sondern die *Substanz selbst* bestimmt die Referenz. Vor der Entstehung der modernen Chemie waren die Sprecher nicht in der Lage, die Zusammensetzung von Wasser zu bestimmen, und konsequenterweise konnten sie auch die Referenz vom Wort "Wasser" nicht festlegen, aber daraus darf man nicht schließen, daß sich die Referenz des Wortes mit der Zeit geändert habe: daß z.B. das Wort "eine farblose, geschmacklose, geruchlose Flüssigkeit, die sich zum Trinken und Waschen eignet, die den Inhalt von Flüssen und Seen ausmacht, usw." *vor* der wissenschaftlichen Entdeckung bezeichnete, und daß es *nachher* die Flüssigkeit bezeichnete, die H_2O ist: ganz im Gegenteil ist die Referenz des Wortes zu jeder Zeit dieselbe, und nämlich das, worauf ein Sprecher zielen will, wenn er auf eine Menge der Flüssigkeit hinweist und dabei sagt "Wasser ist eine *Substanz wie diese*". Indem er auf ein *Paradigma* hinweist, deutet der Sprecher ostensiv an, was die Referenz des Wortes sein soll, obwohl es passieren kann, daß er nicht in der Lage ist, die Referenz festzulegen, weil es möglich ist, daß ihm keine Mittel zur Analyse der Substanz zur Verfügung stehen. Da er aber schon wei , daß das Wort eine **Substanz** benennt, und daß es für sie **Paradigmen** gibt, auf die man hinweisen kann, ist man erlaubt zu sagen, daß der Sprecher das Wort *in seiner Bedeutung* und *gemäß seiner Referenz* schon gebraucht. In dieser Idee drückt sich die *Indexikalität* der Theorie Putnams aus.[1]

Die Festlegung der Referenz hängt also von der Entwicklung der Naturwissenschaft ab: erst wenn diese einen bestimmten Entwicklungsgrad erreicht hat, kann sich ein Wissenschaftler finden, der in der Lage ist, die Referenz festzusetzen. Aber sogar dann ist die Referenz den meisten Sprechern nicht zugänglich. Diese kennen die Referenz einfach nicht, aber sind nach Putnam bereit, die Festlegung der Referenz den Experten zu überlassen. Es gibt also in dieser Gemeinschaft so etwas wie eine *sprachliche Arbeitsteilung* ("division of linguistic labor"). Entsprechend kann man die Theorie Putnams *kooperativistisch* nennen.[2]

Was die Theorie der *Bedeutung* betrifft, soll das Zwillingserde-Beispiel zeigen, daß kein psychologischer Zustand die Bedeutung ausmachen kann. Um dies plausibler zu machen, erweitert Putnam das Beispiel. Nehmen wir also weiter an, wir würden uns im Jahr 1750 befinden, als die moderne Chemie noch nicht entwickelt war, und stellen uns zwei Sprecher vor: Oscar 1, einen Erdbewohner, und Oscar 2, einen Bewohner der Zwillingserde. Nehmen wir weiter an, daß sie sich in ihren

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[1] Über Indexikalität, siehe Putnam (1975, 224-225 und 229-235). Putman versteht unter "Indexikalität" zweierlei. Einerseits, daß die Bestimmung der Bedeutung und der Referenz von "Wasser" von einem Akt der Ostension, des Hinweisens auf Paradigmen, abhängig ist. Andererseits kann "Indexikalität" darauf hindeuten, daß Wörter für natürliche Arten wie "Wasser" indexikalische Wörter - so wie "ich" oder "hier" - und wie diese "rigide Designatoren" im Sinne von Kripke (1980) sind. Weil Putnam, wie Kripke, ein Verfechter der kausalen Theorie der Referenz ist, kann man seine Auffassung, Wörter für natürliche Arten als "indexicals" anzusehen, gut verstehen. In seinen späteren Arbeiten distanziert sich Putnam allerdings von Kripke (siehe Putnam, 1990a, 69-70), so daß wir annehmen können, daß er nur noch die erste Auffassung von Indexikalität beibehält, d. h., die Idee, daß ein ursprüngliches Hinweisen auf Paradigmen allerbestimmend ist für die Festlegung von Referenz und Bedeutung von Wörtern für natürliche Arten. Demzufolge wird in diesem Aufsatz in erster Linie der Begriff der Indexikalität in diesem Sinn zur Diskussion stehen.

[2] Über die sprachliche Arbeitsteilung und den damit verbundenen Kooperativismus, siehe hauptsächlich Putnam (1975, 227-229).

psychologischen Zuständen nicht unterscheiden: sowohl Oscar 1 als Oscar 2 glauben von der Substanz, die sie "Wasser" nennen, sie sei "eine farblose, geschmacklose, geruchlose Flüssigkeit, die sich zum Trinken und Waschen eignet, die den Inhalt von Flüssen und Seen ausmacht, usw.". Da aber die Substanz, die Oscar 1 "Wasser" nennt, H_2O ist, und die Substanz, die Oscar 2 "Wasser" nennt, XYZ ist, dann - Putnam zufolge - *verstehen* Oscar 1 und Oscar 2 das Wort "Wasser" *anders*, und *gebrauchen* das Wort - konsequenterweise - auch *mit unterschiedlichen Bedeutungen*, obwohl sie das nicht wissen können, da sie sich im Jahr 1750 befinden, als die chemischen Zusammensetzungen der Substanzen noch nicht entdeckt waren. Putnams Fazit ist also, daß Bedeutungen keine psychologischen Zustände sein können: "*Meanings are not in the head*"(Putnam, 1975, 227; 1983a, 145; 1986, 30). Hierin drückt sich sein *Antimentalismus* aus.

> the extension of the term 'water' was just as much H_2O on Earth in 1750 as in 1950; and the extension of the term 'water' was just as much *XYZ* on Twin Earth in 1750 as in 1950. Oscar 1 and Oscar 2 **understood** the term 'water' **differently** in 1750 *although they were in the same psychological state*, and although, given the state of science at the time, it would have taken their scientific communities about fifty years **to discover that they understood the term 'water' differently**. Thus the **extension** of the term 'water' (and, in fact, its '**meaning**' in the intuitive preanalytical usage of that term) is *not* a function of the psychological state of the speaker by itself.
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> (Putnam, 1975, 224; Fettdruck von mir)[3]

Putnam betrachtet die Eigenschaften "farblose, geschmacklose, geruchlose Flüssigkeit, usw." als ein *Stereotyp*, das die Sprecher psychologisch erfassen, und das ihnen bei der Identifizierung des Referenten dient, aber das weder notwendig noch hinreichend ist, wenn es darum geht, die *Bedeutung* von "Wasser" zu beschreiben.

Nach Putnams "The Meaning of 'Meaning'" soll man an der Bedeutung zwei Aspekte unterscheiden: den *psychologischen* Aspekt - der die *individuelle Kompetenz* des Sprechers darstellt, und der die *stereotypischen Eigenschaften* enthält - und die *Extension*, die nicht psychologischer Natur ist (siehe Putnam, 1975, 269). Das Stereotyp vermag - wie gesagt - dem individuellen Sprecher beim angemessenen Gebrauch des Wortes helfen, aber das Stereotyp *allein* kann weder die Extension noch die Bedeutung bestimmen.

Trotzdem wird in "The Meaning of 'Meaning'" das traditionelle Prinzip beibehalten, nach dem die Bedeutung die Extension bestimmt (siehe Putnam, 1975, 270[4]), aber nur dadurch, daß die Bedeutung eine Komponente enthält, die die Extension des Wortes[5] ist, und nicht weil irgendeine Komponente der Bedeutung imstande wäre, die Extension zu bestimmen. Das Prinzip wird also nur auf Kosten einer Art **Zirkelschluß** beibehalten: die Bedeutung bestimmt die Extension, aber es gibt keine Möglichkeit, die Bedeutung selbst zu bestimmen, die die Kenntnis der

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[3] Siehe auch in Putnam (1975, 226) das Beispiel von "Aluminium", wo es ausdrücklich gesagt wird, daß "*Aluminium*" *unterschiedliche Bedeutungen* hat auf der Erde und auf der Zwillingserde:"(…) we have to say that 'aluminum' has the extension *aluminum* in the idiolect of Oscar 1 and the extension *molybdenum* in the idiolect of Oscar 2. (Also we have to say that Oscar 1 and Oscar 2 mean different things by 'aluminum', that 'aluminum' has a different meaning on Earth than it does on Twin Earth, etc.)."

[4] "This proposal means that we keep assumption II of our early discussion. **Meaning determines extension** - by construction, so to speak. But I is given up; the psychological state of the individual speaker does not determine 'what he means'." (Fettdruck von mir.)

[5] Man könnte meinen, die Sprechweise "Extension des Wortes" sei unsinnig, und man sollte von "Extension des Begriffes" sprechen. Aber Putnam spricht eben von "the extention of the term 'water'": siehe Putnam (1975, 224, unten).

Extension nicht voraussetzen würde. Dadurch wird der Begriff der Bedeutung ganz entleert, da es nichts Notwendiges an der Bedeutung zu geben scheint, außer der Extension.

Diese Position wird in "Meaning and our Mental Life" (1986) noch radikaler vertreten, weil hier behauptet wird, stereotyp Eigenschaften hätten keinen Anteil an der Bedeutung. In diesem Text sieht Putnam für eine psychologische Komponente der Bedeutung keinen Platz mehr (Putnam, 1986, 30). Und da er das Stereotyp psychologisch konzipiert, fallen die stereotyp Eigenschaften aus der Bedeutung aus. Damit verschärft sich die Idee, daß die Extension die Bedeutung **vollständig** bestimmt.

Diese Auffassung führt aber zu einer Schwierigkeit mit, so zu sagen, "historischen Sprechern" (damit meine ich Sprecher in vorwissenschaftlichen Gesellschaften): einerseits wird die Ansicht vertreten, daß die Bedeutung und die Referenz einiger Wörter diesen Sprechern nicht zugänglich ist (z.B. in einer Gesellschaft um 1750, was das Wort "Wasser" betrifft); andererseits wird aber eingeräumt, daß diese Sprecher das Wort *in seiner Bedeutung* und *gemäß seiner Referenz* trotzdem gebrauchen, da sie über die Fähigkeit verfügen, auf Paradigmen hinzuweisen.

Und es sind nicht nur "historische Sprecher", die sich in dieser scheinbar paradox Lage befinden. Dasselbe gilt für Kinder, die Wörter für natürliche Arten schon gebrauchen, bevor sie die Referenz dieser Wörter kennen, oder bevor sie sogar wissen, wie man zur Kenntnis der Referenz gelangen kann (nämlich, mit Hilfe von Experten). Das schildert Putnam in "Meaning and our Mental Life" anhand eines Beispiels, das er schon in einem früheren Text gegeben hatte[6]. Man soll sich zwei Jungen (Elmer und Oscar) vorstellen, die in zwei Ländern (Nordruritanien und Südruritanien) wohnen. In beiden Ländern gebraucht man das Wort "grug". Mit diesem Form werden aber zwei unterschiedliche Metalle bezeichnet: in Nordruritanien ist "grug" der Name für Silber und in Südruritanien bezeichnet "grug" das Aluminium. Da es in Nordruritanien viel Silber gibt, werden sogar Töpfe und Pfannen aus Silber hergestellt. In Südruritanien sind diese Gegenstände aus Aluminium. Als Kinder gebrauchen also Elmer und Oscar das Wort "grug" in gleicher Weise, und sie verbinden mit "grug" die gleichen Vorstellungen, nämlich, daß "grug" ein Metall ist, daß Töpfe und Pfannen aus "grug" sind, usw. Aber obwohl Elmer und Oscar sich in denselben psychologischen Zuständen hinsichtlich "grug" befinden, kann man nicht sagen, daß sie die Bedeutungen oder die Referenzen dieser Form kennen, da sie von den chemischen Zusammensetzungen der Metalle, die mit "grug" bezeichnet werden, keine Ahnung haben. Bis sie Erwachsene werden, werden sie vieles über "grug" bzw. "grug" lernen: Oscar wird z. B. lernen, daß "grug" im Englischen "aluminum" heißt, daß es sehr billig ist, usw.; Elmer wird lernen, daß "grug" im Englischen "silver" heißt, daß es ein teures Metall ist (außer in Nordruritanien), usw. Aber nach Putnam sollte man diese Aneignung von Informationen nicht als Prozeß des Lernens der Bedeutung von "grug" ansehen, denn vom "internen" Gesichtspunkt her würden Elmer und Oscar diesen Vorgang einfach als Erwerb von neuen *Fakten* über eine Sache namens "grug" ansehen, mit der sie gut vertraut sind. Nach Putnam haben wir hier nichts anderes als einen normalen Prozeß der *Glaubensfestsetzung* ("*process of belief fixation*": Putnam, 1986, 29) und dieser Prozeß führt nicht unbedingt zur Kenntnis der Bedeutung, sondern einfach zu Änderungen im Inhalt des Glaubens über "grug". Putnam meint , daß Bedeutung und Referenz von "grug" in Nord- und Südruritanien entscheidend, ja ausschließlich, von

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[6] "Computational Psychology and Interpretation Theory" (1983a).

den chemischen Zusammensetzungen der Metalle abhängen, und deswegen kann man auch sagen, daß die Bedeutung von "grug" für Elmer und Oscar unterschiedlich ist, und immer unterschiedlich war, **sogar zu der Zeit ihrer Kindheit**, denn damals bedeutete "grug" in Elmers Idiolekt "Silber", und in Oscars Idiolekt "Aluminium":

> In my view, it is legitimate (…) to attribute the meaning and reference a word has in their linguistic community to individual speakers, including children who are to some extent "plugged in" to the social network, even if they are not in a position to fix the reference by themselves. On this theory, the **meaning** of 'grug' is different for Oscar and for Elmer **even at t_0** [das ist Putnams Bezeichnung für die Zeit der Kindheit]. In fact, it means 'silver' in Elmer's idiolect and 'aluminum' in Oscar's idiolect.
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> (Putnam, 1986, 30; Fettdruck von mir)

Wer diese Auffassung übernimmt, muß unanschauliche Annahmen in Kauf nehmen, wie: daß die Kinder die Bedeutungen von "grug" nicht kennen, obwohl sie das Wort *in seinen Bedeutungen* gebrauchen; daß diese Bedeutungen unterschiedlich sind, obwohl dies sich in ihrem sprachlichen Verhalten auf keiner Weise widerspiegelt; und - *last but not least* - daß es nichts in diesem Prozeß gibt, das man als Prozeß des *Lernens der Bedeutung* ansehen könnte.[7]

Eine Bedeutungstheorie, die diese Annahmen zuläßt, entfernt sich unwiderruflich von einer plausiblen Auffassung von Bedeutung, oder (um Putnams eigene Worte zu gebrauchen) sie "flies in the face of fundamental properties of the notion of meaning" (Putnam, 1986, 29).

Es macht z. B. keinen Sinn, zu sagen, daß in Elmers Idiolekt "grug" "Silber" bedeutet, und in Oscars Idiolekt "grug" "Alumunium" bedeutet, und zur gleichen Zeit eine Theorie aufstellen, aus der hervorgeht, daß diese Sprecher die Bedeutung nicht kennen.

Selbstverständlich würde Putnam hierin keine Schwierigkeit sehen. Er würde sicher seinen Begriff des Paradigmas zu Hilfe rufen, und sagen, daß Elmer und Oscar imstande sind - obwohl sie die Bedeutung nicht kennen - ostensive Bestimmungen von "grug" anzugeben, indem sie z.B. auf Paradigmen hinweisen, und gleichzeitig sagen "*Das* (oder: *Diese Substanz*) ist 'grug'". Und das würde genügen, um behaupten zu können, daß sie das Wort *in seiner Bedeutung* gebrauchen.[8]

Mir scheint aber, man sollte nicht uneingeschränkt die Idee gelten lassen, daß Vertrautheit mit der Bedeutung aus nichts anderem als der Fähigkeit besteht, auf Paradigmen hinzuweisen. Das Hinweisen auf Paradigmen ist sicher ein wichtiger Teil von Bedeutungserklärungen, aber da es auch schlechte Paradigmen geben kann, setzt Vertrautheit mit der Bedeutung die Fähigkeit voraus, schlechte von guten Paradigmen zu unterscheiden, oder mindestens die Fähigkeit, die Paradigmen als **beschreibbar** anzusehen[9]. Es wäre also besser zu sagen, daß Elmer und Oscar die Bedeutung von "grug" **noch nicht kennen**, aber daß ihre Fähigkeit, sich mit dem Wort "grug" verständlich zu machen, darauf beruht, daß sie trotzdem **einige Merkmale** der

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[7] Allenfalls könnte man den Moment als Lernen der Bedeutung bezeichnen, in dem Elmer und Oscar die chemischen Zusammensetzungen von "grug" erfahren.

[8] In diesem Umstand drückt sich nochmal Putnams Begriff von Indexikalität aus. Dieser ist aber nur schwer mit der Idee von zwei Bedeutungen für die Form "grug" zu vereinbaren, da indexikalische Wörter - wie "ich" oder "hier" - nur eine einzige Bedeutung (bei vielen unterschiedlichen Referenten, je nach Kontext) aufweisen. Wenn man eine "starke" Indexikalität zusammen mit der Idee von zwei Bedeutungen für "grug" beibehalten will, muß man auch die widersprüchliche Idee akzeptieren, daß "grug" indexikalisch ist und gleichzeitig Homonyme aufweist. Zu dieser Kritik siehe Crane (1996, 293-294).

[9] Zur Beschreibbarkeit von Paradigmen, siehe unten, Anmerkung 13.

Bedeutung von "grug" schon kennen - wie z.B. daß "grug" ein Rohstoff bezeichnet aus welchem Töpfe und Pfannen sind. Diese Merkmale mögen zwar peripher erscheinen, aber sie gehören zum semantischen Prototyp von "grug". Was die Frage nach der semantischen Kompetenz von Elmer und Oscar hinsichtlich der Bedeutung von "grug" angeht, so scheinen mir beide Einstellungen unvernünftig, die ihnen diese Kompetenz entweder ganz absprechen oder ganz zusprechen. Angemessener wäre es zu sagen, daß die Kinder über eine **begrenzte** Kompetenz verfügen, die sich **im Prozeß des Entwickelns** befindet. Nur diese Antwort ist mit der Vorstellung vereinbar, daß Bedeutungen wie die von "grug" **prototypischer Natur** sind[10], und daß der Prozeß des Bedeutungslernens eben darin besteht, daß man **einen semantischen Prototyp erwirbt**.[11] So gesehen kennen Elmer und Oscar die Bedeutung von "grug" insofern, aber nur insofern, als sie über zwei Fähigkeiten verfügen, die mit dem Prototyp zu tun haben: erstens, die Fähigkeit, auf Paradigmen hinzuweisen; zweitens, das Wissen, daß "grug" der Rohstoff ist, aus welcher Töpfe und Pfannen sind.

Noch einige Worte zum Begriff des **Paradigmas**. Wie wir gesehen haben, traut Putnam diesem Begriff zuviel zu. Zum Beispiel die Frage der Kompetenz "historischer Sprecher" versucht Putnam dadurch zu lösen, daß er behauptet, "historische Sprecher" würden das Wort "Wasser" nicht als *Synonym* für "farblose, geschmacklose, geruchlose Flüssigkeit, usw." gebrauchen, sondern mit dem Wort würden sie "irgendeine Flüssigkeit, die dieselbe Zusammensetzung aufweist wie *diese*…."[12] meinen, wobei mit dem Demonstrativum *diese* auf ein Paradigma der Flüssigkeit hingewiesen würde. Die Sprecher würden also den Stoff meinen, der dieselbe *Zusammensetzung* aufweist wie die der meisten Paradigmen. Dabei ist es aber alles andere als evident, daß die Sprecher auf die Paradigmen für "Wasser" hinweisen würden mit dem Satz "Ich meine irgendeinen Stoff *mit derselben Zusammensetzung wie dieser…*". Warum würden die Sprecher auf der *Zusammensetzung* beharren? Im Gegenteil scheint es mir wahrscheinlicher, daß sie einfach sagen würden "Ich meine irgendeinen Stoff *wie diesen…*", und damit einen Stoff meinen, der dieselben *Eigenschaften* wie die des Paradigmas haben würde. Wenn diese Deutung aber zutrifft, dann gibt es keinen Grund anzunehmen, daß mit dem Ausdruck "dieselben Eigenschaften" nur die *Zusammensetzung* gemeint werden könnte. Unter "dieselben Eigenschaften" kann man genau so gut die Farblosigkeit, die Geschmacklosigkeit, die Geruchlosigkeit, usw. verstehen, d.h., die Eigenschaften, die Putnam stereotypisch nennt. Der Schluß liegt also nahe, daß ein Stoff, der die

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[10] Auch die Bedeutung von "Wasser" ist prototypischer Natur. Selbstverständlich schließt Putnams Auffassung diese Möglichkeit nicht ein: Putnam konzipiert seine Paradigmen nicht als Prototypen, sondern lediglich als Exemplare, die die Möglichkeit der Referenz erklären sollen und kausale Referenzketten auslösen können. Aber auch für eine von der Putnamschen so radikal unterschiedliche Semantikauffassung wie die von Rudi Keller hat die Bedeutung von "Wasser" keine prototypische Natur. Zu einer Kritik der Position Kellers, siehe unten, Anmerkung 16.

[11] Der Erwerb des Prototyps schließt natürlich den Erwerb von den sogenannten stereotypischen Eigenschaften ein. Unserer Auffassung nähert sich der David Wiggins (1994). Nach ihm sollte man sich Stereotyp und Extension nicht als absolut getrennte Entitäten vorstellen: der Erwerb des Stereotyps - als Informationsmenge aufgefaßt – erfolgt allmählich , weist schon in der anfänglichen Phase eine gewisse Fähigkeit zur Objektidentifizierung auf, und schließt ein, daß man schon während dieses Erwerbsprozesses mit der Extension Kontakt aufnimmt (wir würden sagen, daß der Erwerb des Prototyps Kontakt mit Paradigmen voraussetzt): siehe Wiggins (1994, 212).

[12] "What such 'Twin Earth cases' show is that what we intend to refer to when we use such a word as 'water' is whatever liquid has the same composition as…(here one can substitute almost any of the local paradigms without affecting what we call the 'meaning')": Putnam (1990b, 288).

Bedingung der Ähnlichkeit mit den Paradigmen erfüllen würde - entgegen dem, was Putnam glaubt - nicht unbedingt H_2O sein müßte (obwohl es H_2O sein könnte).[13]

Die Reduzierung der Bedeutung auf das Paradigmatische hat auch gravierende Folgen für den Begriff des Bedeutungswandels. Es wird nämlich rätselhaft, was man sich unter "Bedeutungswandel" von Wörtern für natürliche Arten vorstellen soll. In dem Text "Is Water necessarily H_2O?" (1990a) kommt Putnam wieder auf das Zwillingserde-Argument zurück, und behauptet, daß die Entdeckung der chemischen Zusammensetzung des Wassers *keine Änderung in der Bedeutung des Wortes "Wasser"* bewirkt hat, denn das Wort wird nicht von da an als *Synonym* von H_2O gebraucht, (so wenig wie es bis dahin als *Synonym* von "farblose, geschmacklose, usw. Flüssigkeit" gebraucht wurde), sondern zu jeder historischen Zeit wurde das Wort verwendet, um auf die Flüssigkeit zu referieren, *die die tiefe Struktur der entsprechenden Paradigmen hatte* (Putnam, 1990a, 59-60). Aber wenn es so ist, ist man berechtigt zu fragen, was wäre dann für Putnam eine Änderung in der Bedeutung des Wortes "Wasser"? Weil: unter dem *sprachwissenschaftlichen* Gesichtspunkt gibt es sicher keinen Grund anzunehmen, das Wort sei gegen Prozesse des Bedeutungswandels immun![14]

Was die Referenz betrifft, sieht Putnam sie so unveränderbar wie die Bedeutung an. In "Why is a Philosopher?"(1990c) betont Putnam, daß es immer einen Unterschied in der Referenz von "Wasser" auf der Erde und "Wasser" auf der Zwillingserde gegeben hat - da die Erdbewohner sich immer mit dem Wort auf H_2O, und die Zwillingserdbewohner auf XYZ bezogen haben, sogar in der Zeit vor der modernen Chemie - und fügt hinzu:

> The difference in the reference was, so to speak, "*sleeping*" *in the substance itself* all along, and was awakened by the different scientific discoveries that the two cultures made. (Putnam, 1990c, 110)

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[13] Auf etwas hinweisen – und dabei "Das ist (ein) A" sagen kann als ostensive Definition von A nur gelingen, wenn der Partner versteht, daß mit diesem Akt die Subsumierung von A unter einer Kategorie oder Kategorien unternommen wird. Nach der Behauptung "Das ist ein A" ist die Frage berechtigt "Das - was?" oder "Was meinst du mit 'das'?", worauf die Benennung einer oder mehrerer Kategorien folgt ("Diese Substanz/Dieser Stoff/ etc."). (Über diese Problematik, siehe Devitt & Sterelny, 1999, 79-81, 90-93). Wie Wittgenstein sagt: "Die hinweisende Definition erklärt den Gebrauch - die Bedeutung - des Wortes, wenn es schon klar ist, welche Rolle das Wort in der Sprache überhaupt spielen soll" (Wittgenstein, 1984b, §30). Mit der hinweisenden Definition wird also das Wort in die Sprache tiefer einbezogen, d. h., es wird mit anderen Wörtern vernetzt, verknüpft: nämlich, mit den Wörtern für die subsumierenden Kategorien. Welche Kategorien aber dabei in Frage kommen, bleibt relativ unbestimmt. Einerseits ist klar, daß bestimmte Kategorien ausgeschlossen sind: so, im Fall von "Das ist Wasser" Kategorien wie 'Farbe' oder 'Form' (Explizierungen wie "Diese Farbe/Diese Form ist Wasser" sind nicht zugelassen). Andererseits ist der Umfang der zugelassenen Kategorien nicht strikt begrenzt: Explizierungen wie "Diese Substanz/Diese Flüssigkeit ist Wasser" sind sicher plausibel, aber in Frage können auch viele andere Kategorien kommen, wie: 'Stoff'/'Rohstoff'/'farblose, geschmacklose, geruchlose Flüssigkeit'/'Flüssigkeit, die sich zum Trinken eignet'/etc./ etc. Unter dieser Perspektive ist die Kategorie 'Substanz mit der chemischen Zusammensetzung H_2O' auch zugelassen, aber es ist schwer verständlich, warum sie, wie Putnam behauptet, Vorrang vor den anderen haben sollte.

[14] Daß wir hier von "dem sprachwissenschaftlichen Gesichtspunkt" sprechen, will nicht heißen, daß wir der Meinung sind, es gäbe für das Wort "Wasser" zwei unterschiedliche Bedeutungen: seine Bedeutung in der Sprachwissenschaft und seine Bedeutung in der Sprachphilosophie. Eigentlich ist die Bedeutung von "Wasser" immer dieselbe, unabhängig davon, ob das Wort unter die Lupe von Sprachphilosophen oder unter die von Sprachwissenschaftlern genommen wird. Vielmehr soll der Ausdruck "sprachwissenschaftlich" in Erinnerung bringen, daß wir es hier mit einem gewöhnlichen Wort unserer Sprache zu tun haben, das - wie jedes andere Wort auch - dem semantischen Wandel ausgesetzt ist.

Mir scheint, daß diese Metapher von der "schlafenden Referenz" Putnams Ideen vielleicht zu verdeutlichen vermag, aber sie trägt nichts zur Erklärung der Referenz bei. Was soll man sich unter einer Referenz vorstellen, die *schläft* und dann *erwacht*? Und was bedeutet es, von der Referenz zu sagen, daß sie *in der Substanz selber* schläft? Mir scheint, daß das Bild der schlafenden Referenz sein Ziel verfehlt, indem es einen **Gegensatz** erkennen lä t, der man wie folgt formulieren könnte:

(a) Die Referenz vom Wort "Wasser" war **immer** - zu jedem historischen Zeitpunkt - die Substanz H_2O.

(b) Aber Sprecher vor 1750 konnten das nicht wissen, da damals die Referenz des Wortes "schlief", und folglich waren sie auch - hinsichtlich des Wortes "Wasser" - nicht in der Lage, korrekten von inkorrektem Gebrauch zu unterscheiden.

(c) Trotzdem haben sie das Wort ganz **normal** gebraucht: d.h., in ihren Sprachgemeinschaften gab es **Kriterien der Korrektheit** für den Gebrauch des Wortes "Wasser" - so wie für jedes andere Wort - und die kompetenten Sprecher der Zeit haben das Wort in seiner Bedeutung gebraucht, um damit gelungene Referenzakte zu vollziehen.

Nach dieser kritischen Darlegung der Putnamschen Auffassung von Bedeutung und Referenz, möchte ich die Schwierigkeiten, die sich mit ihr verbinden, kurz zusammenfassen:

(1) Es wird bei Putnam nicht klar, wie man sich die Kompetenz eines "historischen Sprechers" vorstellen soll; insbesonders bleibt unklar, was man als Kriterien für ein korrektes, gelungenes Referieren seitens eines solchen Sprechers ansehen sollte.

(2) Es ist problematisch, wie Bedeutungswandel (insbesondere von wissenschaftsdefinierbaren Wörtern) stattfinden kann, und was unter "Lernen der Bedeutung" in diesen Fällen zu verstehen ist.

Vorschlag: eine veränderte Auffassung von Referenz und Bedeutung

Im folgenden werde ich eine alternative Auffassung von Bedeutung und Referenz vorschlagen, die - so scheint es mir - die Unklarheiten vermeidet, die sich bei Putnam bemerkbar machen.

Wie wir sehen werden, behält diese Auffassung alles, was mir an der Putnamschen Theorie sinnvoll scheint. Sie ist auch *antimentalistisch* und *kooperativistisch*, aber sie verzichtet auf die *radikale Indexikalität* Putnams.

Die veränderte Auffassung orientiert sich an folgenden Annahmen:

1) Die Bedeutung eines Wortes zur Zeit t_n ist eine Konvention, die besagt, welche Rolle das Wort in der Sprache spielt.[15]

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[15] Die theoretische Tragweite einer Auffassung von Bedeutung als Konvention kann hier nicht erläutert werden. Es soll genügen, zu sagen, daß "Bedeutung als Konvention" ungefähr dem entspricht, was im Sinne von Wittgenstein (1984b) unter "Bedeutung als Regel" verstanden werden darf. Zur Auffassung

2) Diese Konvention ist kompetenten Sprechern der Sprache, der das Wort angehört, bekannt. Sie kann also als ein Gegenstand der Erkenntnis betrachtet werden.

3) Daß sie ein Gegenstand der Erkenntnis ist, bedeutet aber nicht, daß sie mentaler Natur ist; ebensowenig sind Gesetze oder Bräuche mentale Gegenstände, obwohl sie von vielen bekannt, und somit auch Gegenstände der Erkenntnis sind. (Hierin drückt sich der *Antimentalismus* dieser Auffassung.)

4) Daß die Bedeutung als Konvention besagt, welche Rolle das Wort in der Sprache spielt, heißt, daß sie diese Rolle beschreibt. Diese Beschreibung kann verschiedene Formen annehmen. Wenn z. B. das Wort referierende Funktion hat, kann die Beschreibung ein Bündel von Merkmalen enthalten, von denen angenommen wird, daß der zu referierende Gegenstand sie besitzt, und daß sie die Identifizierung des Gegenstandes ermöglichen. Aber zur Beschreibung kann auch das Hinweisen auf Paradigmen zählen.

Im Fall des Wortes "Wasser" etwa spielen sowohl Merkmale als auch Paradigmen eine Rolle in der Bedeutung, was in alltäglichen Erklärungen der Bedeutung von "Wasser" zum Ausdruck kommt: man erklärt die Bedeutung des Wortes, indem man die gewöhnlichen Merkmale vom Wasser nennt *und / oder* auf Paradigmen hinweist.

5) Beides, Merkmalbündel und Paradigmen, bilden einen Prototyp[16]. Das will heißen, daß die Beschreibung der Bedeutung keiner Definition gleicht, sondern die

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der Bedeutung als Konvention oder als Regel für den Gebrauch, siehe auch Keller (1995, 58-70 und Teil II, *passim*).

[16] Daß die Bedeutung prototypischer Natur sein kann, und daß Bedeutungserklärungen das Hinweisen auf Paradigmen einschließen können, ist mit der Auffassung Wittgensteins in (1984d) nicht nur völlig in Einklang, sondern folgt sogar - so will es mir scheinen - aus dieser Auffassung.

Zum allgemeinen Begriff des Prototyps, siehe Taylor (1995) oder Lakoff (1987). Die in diesem Aufsatz vertretene Auffassung des Prototyps unterscheidet sich aber von vielen gängigen darin, daß Prototypen *nicht psychologisch*, sondern - im Geist von Wittgenstein und eigentlich auch von Putnam - *pragmatisch* und *antimentalistisch* aufgefa t werden, wie aus dem oben unter Punkt 3) angegebenen Satz hervorgeht. Zu einer solchen Prototypauffassung, siehe Lima (1997).

Die hier vertretene Ansicht, "Wasser" habe eine prototypische Bedeutung, wird von Keller (1995) nicht akzeptiert. Nach Keller sind prototypische Begriffe solche, die - wie "Vogel" - über typische Beispiele gelernt werden. "Wasser" hingegen wird gebraucht, "um all das zu bezeichnen, was aus der Leitung kommt, was wir trinken, womit wir uns waschen, was in Flüssen, Seen und Meeren fließt oder steht, was vom Himmel regnet, etc."(Keller, 1995, 98): d. h., Keller will mit seiner Ansicht betonen, daß nicht nur objektive Eigenschaften das Kriterium des Gebrauchs von "Wasser" ausmachen, sondern auch ganz entscheidend funktionale Eigenschaften (was Keller "die Nutzung des Referenzobjekts" nennt). Gebrauchsregeln, die diese Nutzung "als Kriterium des Gebrauchs des betreffenden Wortes beinhalten, erzeugen typischerweise Begriffe mit unscharfen Rändern, da die Geeignetheit eines Gegenstands gemeinhin Toleranzen zuläßt"(1995, 98). Deswegen zählt Keller den Begriff "Wasser" nicht zu seiner Kategorie der Begriffe mit prototypischer Struktur sondern zu seiner Kategorie der Begriffe mit unscharfen Rändern. Diese Ansicht können wir aus dem Grund nicht teilen, weil die funktionalen Eigenschaften von "Wasser" ganz offensichtlich kein Kriterium für den Gebrauch des Wortes darstellen (sogar wenn man die Bedeutung des Wortes über diese Eigenschaften *lernen* würde, was auch zweifelhaft ist). Der Hinweis auf die Nutzung von Wasser macht nur einen *Teil* einer angemessenen Bedeutungsbeschreibung von "Wasser" aus, und dabei ist er sicher nicht das Wichtigste, da "Wasser" kein *funktionales Wort* ist. Der Begriff "funktionales Wort", der seit langem in der analytischen Sprachphilosophie in Anwendung ist, wird von R. M. Hare wie folgt definiert: "A word is a functional word if, in order to explain its meaning fully, we have to say what the object it refers to is *for*, or what it is supposed to do"(Hare, 1952, 99-100). Wörter wie "Stuhl"oder "Tasse" z. B. sind funktional, da bei ihrer Bedeutungsbeschreibung der Hinweis auf die Funktionen der entsprechenden Gegenstände eine gewichtige Rolle spielt ("*Sitz*möbel…", "*Trink*gefäß…"). Aber "Wasser" ist offensichtlich kein funktionales Wort (es wäre eine schlechte Bedeutungsbeschreibung von "Wasser",

Beschreibung eines Prototyps ist. Daß die Bedeutung prototypischen Charakter hat, bedeutet wiederum, daß die im Prototyp enthaltenen Merkmale nicht als notwendig aufgefaßt werden, sondern daß sie als Richtlinien für den Gebrauch des Wortes dienen.

6) Wie es von prototypischen Merkmalen zu erwarten ist, wird im Prinzip nicht getrennt zwischen rein sprachlichen und enzyklopädischen Merkmalen. Und so kann das Merkmalbündel viele Merkmale enthalten, die man traditionell nur zum enzyklopädischen Wissen rechnen würde, wie z. B. - im Fall von "Wasser" - das Merkmal "wird in Taufritualen benutzt". Prinzipiell kann man davon ausgehen, daß kein Merkmal für die Unterscheidung "sprachlich"/ "enzyklopädisch" markiert ist, und daß alle also für Änderungen oder Revisionen empfänglich sind.

7) Die verschiedenen Merkmale eines Prototyps besitzen hinsichtlich ihrer Rolle als Richtlinien für den Gebrauch des Wortes einen unterschiedlichen Wert. So kann man sich z. B. gut vorstellen, daß bei "Wasser" dem Merkmal "farblose Flüssigkeit" mehr Gewicht zukommt, als dem Merkmal "wird in Taufritualen benutzt".

8) Es kann aber auch der Fall eintreten, daß ein Merkmal durch den Sprachwandel eine so zentrale Stelle erlangt, daß es sich verabsolutiert und als notwendiges Merkmal empfunden wird. Gleichzeitig treten die anderen Merkmale in den Hintergrund. Das Merkmal kann durch diesen Prozeß definitorischen Charakter gewinnen. (Um von einer Unterscheidung Wittgensteins (1984d, 48) Gebrauch zu machen, könnte man sagen, daß das verabsolutierte Merkmal zu einem "Kriterium" wird, während die anderen Merkmale "symptomatisch" bleiben.) Und es kann auch sein, daß die Feststellung, ob ein gewisser Gegenstand das definitorische Merkmal aufweist oder nicht, von der Sprachgemeinschaft einer besonderen Sprechergruppe (z.B., Experten oder Wissenschaftlern) überlassen wird. (Hierin drückt sich der *Kooperativismus* dieser Auffassung).

Die Geschichte von "Wasser" spiegelt einigermaßen den jetzt skizzierten Prozeß wider. Um 1750 galt für "Wasser" eine prototypische Bedeutung, zu der der Hinweis auf Paradigmen zählte, sowie auch ein Merkmalbündel mit den Eigenschaften "Farblosigkeit, Geruchlosigkeit, Geschmacklosigkeit, zum Trinken und Waschen geeignet, Inhalt von Flüssen und Seen u.a.". Die Entdeckung der chemischen Zusammensetzung vom Wasser bewirkte eine radikale Veränderung des Prototyps. Das Merkmal "H_2O"gewann ständig an Gewicht - was sicher mit der zunehmenden Autorität der wissenschaftlichen Gemeinschaft zu tun hatte -, und erreichte zu einem gewissen Zeitpunkt den Stand der Verabsolutierung.[17] Die Wichtigkeit, die das

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die mit den Wörtern "Flüssigkeit, die dazu dient…" beginnen würde). Auch Putnam meint, daß "Wasser" kein "operationally defined word" ist (siehe Putnam, 1990b, 282). Uns scheint die Kellersche Prototypenauffassung zu eng gefaßt: Auch Wörter wie "Stuhl" und "Tasse" z. B. haben, obwohl sie unscharfe Ränder aufweisen, prototypische Struktur, da ihre Bedeutungsbeschreibungen auf paradigmatische Beispiele Bezug nehmen (dazu siehe u. a. Dirven&Verspoor, 1998; Taylor, 1995; Labov, 1973). Sicher hat Keller recht, wenn er meint, eine Bedeutungserklärung von "Wasser" erfolge nicht über Beispiele (im Sinne von *Exemplaren*). Dabei darf man aber nicht vergessen, daß sie trotzdem über *Muster* oder *Paradigmen* der Substanz geschieht.

Funktionale Wörter benennen Instrumente und andere funktionale Kategorien, die ein Teil dessen sind, was Schwartz (1996) "nominal kinds" nennt. Auch Schwartz zählt Wasser nicht zu den "nominal kinds" sondern zu den "natural kinds".

[17] Diese Möglichkeit der Verabsolutierung scheint Mellor (1996) nicht klar in seinen Überlegungen berücksichtigt zu haben. Nach ihm hat "Wasser" auf der Erde und auf der Zwillingserde immer dieselbe Extension gehabt, sowohl 1750 als auch heute; 1750 wie auch heute gab und gibt es Wasser

Merkmal "H_2O" innerhalb des Bedeutungsprototyps von "Wasser" erlangte, spiegelt sich sehr klar in der lexikographischen Praxis wider: die meisten Wörterbücher unserer Zeit enthalten dieses Merkmal in ihren Definitionen, manchmal erscheint es sogar an erster Stelle.[18]

Nach diesen Überlegungen sind wir in der Lage, der Frage nach der Bedeutung und der Referenz des Wortes "Wasser" für einen Sprecher des Jahres 1750 und für einen Sprecher unserer Zeit nachzugehen.

Die Bedeutung von "Wasser" zu der Zeit um 1750 zu kennen, hieß den zu jener Zeit gültigen Prototyp zu kennen (an dem das Merkmal "H_2O" nicht teilhatte). Wer die Bedeutung von "Wasser" kannte (und selbstverständlich noch dazu die üblichen Bedingungen für das Referieren), dem konnte die Referenz auf eine Flüssigkeit gelingen, die dem Prototyp entsprach. Ob sich die damaligen Sprecher mit "Wasser" auf dieselbe Flüssigkeit bezogen, auf die wir uns heute mit unserem Wort "Wasser" beziehen, hängt von zwei anderen Fragen ab: (1) ob die damaligen Sprecher - wenn sie in unsere Zeit versetzt würden - geneigt wären, zu behaupten, daß das, was heute "Wasser" genannt wird, dieselbe Flüssigkeit ist, die sie "Wasser" um 1750 nannten; (2) ob die heutigen Sprecher - wenn sie in die Zeit um 1750 versetzt würden - geneigt wären, zu behaupten, daß das, was die damaligen Sprecher "Wasser" nannten, dieselbe Flüssigkeit ist, die heute "Wasser" genannt wird.[19] Mir scheint, daß sowohl die heutigen Sprecher als die von 1750 diese Fragen bejahen würden. Und das hat sicher damit zu tun, daß unser Prototyp von "Wasser" noch viele Züge mit dem damaligen gemeinsam hat. Mit Sicherheit besteht der wichtigste Unterschied zwischen beiden darin, daß der heutige Prototyp das dominant gewordene Merkmal "H_2O" enthält, und daß die heutigen Sprecher bereit sind, die Überprüfung, ob eine Flüssigkeit H_2O ist, den Wissenschaftlern zu überlassen. Aber wenn man gründlich darüber nachdenkt, wird man erkennen, daß diese Umstände nichts an den folgenden Tatsachen ändern (die aus den obigen Überlegungen zur prototypischen Bedeutung und zur Referenz folgen):

(1) "Wasser" hatte 1750 eine Bedeutung, und diese war auch den Sprechern der Zeit bekannt.

(2) Diese Sprecher waren gelungener Handlungen des Referierens mit "Wasser" fähig.

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auf beiden Planeten; das Einzige, was sich inzwischen geändert hat, ist, daß wir entdeckt haben, daß Wasser nicht immer dieselbe Mikrostruktur hat, aber die braucht es auch nicht zu haben (Mellor, 1996, 72). Wir können dies zugeben, aber es kann auch vorkommen, daß die Mikrostruktur zu einem wesentlichen, definitorischen Merkmal von Wasser wird, wenn dieses *von der Sprachgemeinschaft* verlangt wird. Die entscheidende Rolle der Sprecher in Fragen der Bestimmtheit von Bedeutung und Referenz wird von Mellor nicht hervorgehoben.

Ganz anders sieht es bei Gärdenfors (1993) aus. Ähnlich wie Putnam glaubt Gärdenfors an eine semantische Arbeitsteilung, aber genau weil es eine "semantic power structure" gibt, ist Gärdenfors nicht der Meinung von Putnam hinsichtlich des möglichen Bedeutungswandels von Wörtern wie "Wasser": die Bedeutung solcher Wörter für natürliche Arten ändert sich als Folge von Veränderungen in der semantischen Machtstruktur (Gärdenfors, 1993, 300).

[18] So schon in dem *Sprach-Brockhaus* von 1944 (4. Aufl., Leipzig): "**das Wasser** (...) 1) H_2O, die verbreiteste Flüssigkeit der Erde (...)".

[19] Eine Entscheidung über die Identität der Referenten von "Wasser" zu zwei unterschiedlichen Zeitpunkten zu treffen, setzt also voraus, daß wir in zwei entgegengesetzte Richtungen blicken. Für Putnam scheint aber die Richtung "von der (wissenschaftlichen) Gegenwart her" maßgebend zu sein, so daß die Richtung "von der Vergangenheit her" vernachlässigt wird: Putnam läßt "historische Sprecher" nicht zu Wort kommen!

(3) Die Bedeutung von "Wasser" kann sich ändern und hat sich tatsächlich von 1750 bis heute geändert (obwohl nicht so sehr, daß es heute nicht mehr möglich wäre, mit "Wasser" auf dieselbe Flüssigkeit zu referieren, auf die im Jahr 1750 mit diesem Wort referiert wurde).

(4) Die korrekte Referenz von "Wasser" ist zu jedem beliebigen Zeitpunkt t_n bestimmbar und den jeweiligen Sprechern zugänglich. Sie hängt nicht notwendig von Entdeckungen über die Zusammensetzung vom Wasser ab. Worauf man sich mit dem Wort "Wasser" zu jedem Zeitpunkt t_n beziehen kann, hängt von den Urteilen über die Referenz des Wortes ab, die die kompetenten Sprecher zu t_n (d.h., die Sprecher, die zu t_n die Bedeutung kennen) geneigt sind, abzugeben.

(5) Und, *last but not least*: in Fällen wie "Wasser" bestimmt die prototypisch aufgefaßte Bedeutung die Referenz.[20]

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Bedeutung und Bedeutungswandel im deutschen Adjektivwortschatz

Petra Radtke

(Petra.Radtke@phil-fak.uni-duesseldorf.de)

1.

Generell lassen sich in der Bedeutungsdiskussion zwei Positionen unterscheiden: repräsentationistische und instrumentalistische Zeichenauffassungen. Erstere gehen davon aus, daß Zeichen durch die 'Stellvertreter-Relation' symbolisieren. Das, wofür sie stehen, sind entweder Sachverhalte in der Welt (ontologische Variante) oder aber Konzepte über Sachverhalte in der Welt (epistemologische Variante). Genau dieser Bedeutungsbegriff liegt so gut wie allen Ansätzen zur Adjektivbedeutung zugrunde. Repräsentationistische Modelle sind in der Lage, die Bedeutung von absoluten Adjektiven wie *tot* oder Farbadjektiven wie *rot* zu erfassen; relative Adjektive wie *groß* und *klein* sowie evaluative Adjektive wie *gut* und *schlecht* sind in diesem Rahmen kaum plausibel zu beschreiben.

Instrumentalistische Zeichenauffassungen gehen hingegen davon aus, daß Zeichen dadurch symbolisieren, daß ihre Verwendung konventionell geregelt ist. Dieser Auffassung gemäß ist die Bedeutung eines Zeichens genau das, was das Zeichen für den Sprecher verwendbar und für den Hörer interpretierbar macht. Beides ergibt sich nach Wittgenstein aus der Regelhaftigkeit des Gebrauchs in der Sprachgemeinschaft. Zeichen symbolisieren also nicht dadurch, daß sie für etwas stehen, sondern dadurch, daß sie Gebrauchsregeln folgen. Formuliert man die Gebrauchsregel aus, so erhält man eine Formulierung der Bedeutung des Zeichens. Innerhalb dieses Modells ist die Bedeutung eines relativen Adjektivs wie *schlecht* eindeutig; seine Bedeutung erhält man, wenn man die Konvention seines Gebrauchs beschreibt, d.h. die Kriterien der Verwendung von *schlecht* ausformuliert. Entsprechendes gilt nicht nur für relative, sondern auch für absolute und für evaluative Adjektive.

In meinem Beitrag möchte ich zeigen, daß die beiden Konzeptionen – auch wenn es auf den ersten Blick so scheinen mag – nicht unvereinbar sind. Die Kenntnis von Wahrheitsbedingungen, die für repräsentationistische Modelle eine zentrale Rolle spielen, läßt sich nämlich als ein Spezialfall der Kenntnis von Gebrauchsbedingungen ansehen. Allerdings können in die Gebrauchsregel weitere Parameter eingehen – neben wahrheitsfunktionalen auch epistemische, soziale, diskursbezogene und inner-sprachliche; Kombinationen sind ebenfalls möglich. Ich werde unter Punkt 2 zunächst das repräsentationistische Modell vorstellen und zeigen, welche Schwierigkeiten bei der semantischen Beschreibung und Klassifikation von Adjektiven auftreten. Im Anschluß daran werde ich im 3. Abschnitt das von mir präferierte Modell, die instrumentalistische Zeichenkonzeption, einführen. Im 4. Abschnitt schließlich wird

die Synthese der beiden Konzeptionen dargelegt. Die verschiedenen Beispiele aus dem adjektivischen Wortschatz[1] sollen dabei die folgenden beiden Thesen stützen:

(i)   Nur ein instrumentalistisches Modell ist in der Lage, die Semantik von Adjektiven adäquat zu erfassen.

(ii)   Nur ein instrumentalistisches Modell ist dazu geeignet, semantischen Wandel zu beschreiben.

2.

Wozu dienen Adjektive? Die vorschnelle und weitverbreitete Antwort lautet: Adjektive haben die Funktion, Eigenschaften zu bezeichnen. „Semantically, therefore, adjectives express properties – just like verbs and nouns." (Hamann 1995, 657) Doch mit dieser Aussage liegt eine Übergeneralisierung vor. Auf Adjektive wie *glatt, rot, ruhig, tot* mag es – mit Abstrichen – zutreffen, daß sie Eigenschaften denotieren, für Adjektive wie *gut* und *schön* oder auch *klein, groß* und *rund,* trifft dies schon nicht mehr zu. Ein schönes Auto und schöne Ferien haben keinerlei Eigenschaften gemein; das einzige, was sie vereint, ist die Tatsache, daß der Sprecher sie als schön bewertet. Auch bei *kleine Maus* und *kleiner Elefant* sowie bei *runder Tisch* und *runder Apfel* muß man feststellen, daß die entsprechenden Objekte faktisch unterschiedliche Größe bzw. Form besitzen. Inwieweit in diesen Fällen – wenn überhaupt – Eigenschaften geteilt werden, bedarf eingehender Erläuterung. Und bei Adjektiven wie *heutig, ehemalig* und *gewöhnlich* stellt sich schon die Frage, ob man hier überhaupt noch von Eigenschaften sprechen kann.

Beobachtungen wie diese haben zu der Überzeugung geführt, daß im Bereich der Adjektive verschiedene semantische Klassen angesetzt werden müssen. Insbesondere die Unterscheidung von absoluten vs. relativen Adjektiven ist in der Literatur weit verbreitet. So schreibt etwa Admoni: „Gewöhnlich stellt man [...] zwei Hauptklassen der Adjektive einander gegenüber: qualitative (absolute) Adjektive – relative Adjektive." (Admoni 1982, 141) Allerdings ist eine derartige Klassifikation nur dann nachvollziehbar, wenn die Bedeutung von Adjektiven repräsentationistisch gedeutet wird, d. h. wenn versucht wird, die Bedeutung über Wahrheitswerte zu beschreiben. Sehen wir uns deshalb genauer an, wie die Unterscheidung 'absolut vs. relativ' begründet wird.

Zu den absoluten Adjektiven schreibt Rachidi: „Absolute [...] Adjektive (z.B. *blau, rund, verheiratet, kahlköpfig*) verfügen über eine feststehende vom Kontext (z.B. dem Wortinhalt des Bezugsnomens) unabhängige Bedeutung, sie bestehen daher auch folgenden von Zuber angeführten Test:

X ist Adj. Nomen	*X ist Adj.*
z. B. *Peter ist ein kahlköpfiger Student*	*Peter ist kahlköpfig.*

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[1] Die entsprechenden Adjektive sind der Datensammlung entnommen, die im Rahmen des DFG-Projekts „Der Sprachgebrauch der Goethe-Zeit im Vergleich zu dem der Gegenwart" erstellt wurde. Gegenstand dieser Untersuchung sind sämtliche Adjektive, die Goethe in seinem Werk „Dichtung und Wahrheit" verwendet. Ziel der Untersuchung ist, für einen Sektor der deutschen Sprache, den Adjektivwortschatz, ein möglichst vollständiges Bild über die Art und die Geschwindigkeit semantischer Veränderungen zu erhalten.

In der Regel läßt sich auch ohne große Schwierigkeiten entscheiden, ob dem Bezugs-substantiv die im Adjektiv ausgedrückte Eigenschaft zukommt oder nicht. Die Bedeutung dieser Adjektive ist präzise (z.B. *verheiratet, rechteckig*), allenfalls randbereichsunscharf (z.B. *blau*) (Pinkal 1985, 54). In jedem Falle ist jedoch ihre Interpretation (weitgehend) unabhängig von der durch das Nomen denotierten Bezugsklasse."[2] An der Formulierung, die Bedeutung sei präzise bzw. randbereichsunscharf, läßt sich ablesen, welcher Bedeutungsbegriff zugrunde gelegt wird. Es ist offensichtlich, daß Bedeutung hier extensional bestimmt wird. Eine „präzise Bedeutung" scheint dann vorzuliegen, wenn sich die Extension des Ausdrucks wahrheitsfunktional beschreiben läßt; eine „randbereichsunscharfe Bedeutung" läge dementsprechend dann vor, wenn sich die Extension des Ausdrucks wahrheitsfunktional beschreiben läßt, es jedoch einen Grenzbereich gibt, in dem die Zuschreibung Schwierigkeiten bereitet. Fazit ist: Ein solches Modell setzt Bedeutung mit Extension gleich. (In dem instrumentalistischen Modell, das ich unter Punkt 3 vorstellen werde, sind Bedeutungen immer eindeutig und präzise. – Was von Verwen-dung zu Verwendung variieren kann, ist der Sinn. Doch ist dies etwas kategorial Verschiedenes!)

Zurück zu den beiden Adjektivtypen: Wie verhält es sich mit der zweiten Gruppe, den relativen Adjektiven? Rachidis Ausführungen entsprechend sollten sie bezüglich der Zuschreibung von Eigenschaften Schwierigkeiten bereiten, sie sollten nicht präzise sein, und ihre Interpretation sollte von der Bezugsklasse abhängig sein. Und genau dies ist ihrer Ansicht nach der Fall: „Die relativen [...] Adjektive (z. B. *groß, klein, gut, schlecht*) zeichnen sich [...] dadurch aus, daß sie je nach Verwendung Unterschiedliches auf der Objektebene denotieren. Ihre Bedeutung variiert je nach Kontext. Das isolierte prädikative Adjektiv hat daher – referenzsemantisch gesprochen – nicht notwendigerweise dieselbe Bedeutung wie das mit einem Nomen verbundene und von dessen Bezugsklasse in seiner Denotation beeinflußte Adjektiv." (Rachidi 1989, 115f.) Dementsprechend bestehen sie den Test nicht (Rachidi 1989, 116):

> „z. B. *Peter ist ein kleiner Basketballspieler*   *Peter ist klein*
>
> *Peter ist ein guter Fußballspieler*   *Peter ist gut*"

Auch hier tritt das zugrunde liegende Bedeutungsmodell deutlich zu Tage. Wer die Bedeutung eines Ausdrucks mit der Extension gleichsetzt, der kann zu keinem anderen Schluß kommen als zu dem, die Bedeutung (= Extension) der sogenannten relativen Adjektive variiere je nach Ko- bzw. Kontext. Denn es läßt sich nicht ein für allemal entscheiden, unter welchen Umständen etwas als klein bzw. als gut bezeichnet werden kann. Eine derartige Auffassung hat jedoch eine problematische Konsequenz: Sie führt dazu, daß die Bedeutung dieser Adjektive immer nur in Abhängigkeit vom jeweiligen Ko- bzw. Kontext bestimmt werden kann. Dies ist ein klarer Verstoß gegen das Prinzip der Kompositionalität (auch Frege-Prinzip genannt).[3] Frege schreibt, der Wahrheitswert müsse „unverändert bleiben, wenn ein Satzteil durch einen Ausdruck

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[2] Rachidi 1989, 114f; sie bezieht sich auf: Zuber, Rysard (1973), „La categorematicité et les adjectifs en polonais", *Language* 30, 125-131.

[3] Frege verwendet die Termini *Sinn* und *Bedeutung* idiosynkratisch (s. dazu Radtke 1998, 49 und 221ff.).

von derselben Bedeutung, aber einem anderen Sinne ersetzt wird." (Frege 1966, 50) Wenn die Bedeutung eines komplexen Ausdrucks sich zusammensetzt aus der Bedeutung der Bestandteile, so muß man in der Lage sein, die Bedeutung der einzelnen Bestandteile anzugeben. Man muß also genau angeben können, welcher Bestandteil welche Bedeutung einbringt und wie sich daraus die Gesamtbedeutung ergibt. Genau dies wird in der Diskussion hinsichtlich der Gruppe der relativen Adjektive unterlassen. Gegenstand der Untersuchung ist immer nur die Bedeutung der Nominalphrase, nicht aber die des Adjektivs selbst.

Bierwisch, der sich in seiner Untersuchung auf die sogenannten Dimensionsadjektive konzentriert, hat die Typisierung um zwei Hierarchiestufen ergänzt, wobei sich 'absolut vs. relativ' auf der mittleren Ebene wiederfindet. Auf der oberen Ebene unterscheidet er zwischen restriktiven und nicht-restriktiven Adjektiven. Insgesamt kommt er auf vier Klassen von Adjektiven[4]:
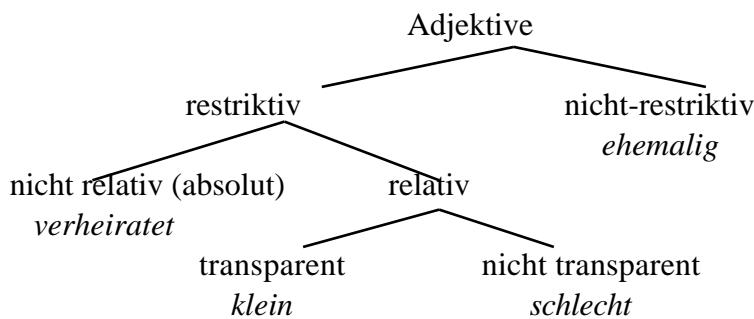
Zu den nicht-restriktiven Adjektiven zählen neben *ehemalig* auch *scheinbar* und *angeblich.* Bierwisch erläutert: „Die absoluten Adjektive sind in diesem Schema als restriktiv und nicht relativ klassifiziert. Zu ihnen gehören u.a. die Farbadjektive, Form- und Substanzbezeichnungen wie *rund, quadratisch, sechseckig, eisern, golden, hölzern,* aber auch eine Vielzahl konkreter und abstrakter Qualifizierungen wie *flüssig, teilbar, männlich, griechisch, kubistisch* usw." Auf der anderen Seite steht dagegen „[...] die Gruppe der relativen Adjektive, die näherungsweise mit den graduierbaren Adjektiven zusammenfällt." (Bierwisch 1987, 14) Ganz generell gesprochen handele es sich dabei um „[...] eine Klassifikation der Adjektive hinsichtlich der Art, in der sie ein Bezugselement qualifizieren." (Bierwisch 1987, 13) Was damit gemeint ist, wird an seinen Beispielen (18) – (21) deutlich.

(18) *ein unverheirateter Tennisspieler*
(19) *ein kleiner Tennisspieler*
(20) *ein schlechter Tennisspieler*
(21) *ein ehemaliger Tennisspieler*

Dem oben eingeführten Testverfahren gemäß impliziert dies bzw. impliziert dies nicht die folgenden Aussagen:

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[4] Vgl. Bierwisch 1987, 14; aus Gründen besserer Anschaulichkeit von mir leicht abgewandelte Grafik.

(18)   x ist unverheiratet

(19)   x ist klein

(20)   x ist schlecht

(21)   x ist ein Tennisspieler

Mit *unverheiratet* in (18) liegt somit ein absolutes Adjektiv vor. Eine parallele Formulierung des Tests ist mit *ehemalig* in (21) nicht möglich, da es – ebenso wie *scheinbar* und *angeblich* – keine prädikativen Aussagen erlaubt: **x ist ehemalig.* Erhellend ist, was Bierwisch zu den beiden Typen von relativen Adjektiven schreibt. Sie unterscheiden sich wie folgt: „In (19) und (20) ist die Geltung der Adjektive jeweils durch eine Zusatzbedingung relativiert. In (19) ergibt sich diese Zusatzbedingung aus der Klasse der betrachteten Individuen. Diese Klasse wird hier zunächst durch das Bezugsnomen festgelegt. Ein kleiner Tennisspieler ist deshalb zwar mit Sicherheit ein Tennisspieler, aber er ist nicht notwendigerweise klein, wenn die Bezugsklasse geändert wird. In (20) ist diese Zusatzbedingung nicht durch die Klasse der betrachteten Individuen, sondern durch eine bestimmte bewertbare Eigenschaft dieser Klasse gegeben. Relevant ist deshalb in (20) nicht die Klasse der Tennisspieler, sondern die Fähigkeit oder Fertigkeit, Tennis zu spielen. Ein schlechter Tennisspieler ist deshalb zwar jedenfalls ein Tennisspieler, aber nicht notwendig in anderer Hinsicht schlecht." (Bierwisch 1987, 13) Es zeigt sich auch hier: Die Bedeutung der Adjektive wird nicht unabhängig formuliert, sondern über die Nominalphrase. Die Rolle des Nomens bestehe darin, die Klasse der betrachteten Individuen zu benennen, wodurch Zusatzbedingungen ins Spiel kämen. Damit wendet man sich der Bedeutung der Nominalphrase zu.

Doch worin besteht die Bedeutung von relativen Adjektiven wie beispielsweise *klein* und *schlecht*? Ich möchte diese Frage detaillierter anhand von *schlecht* diskutieren, wobei ich auf ein anderes Bezugsnominal zurückgreife, um deutlich zu machen, daß die Zusatzbedingungen keineswegs immer so klar und eindeutig vorgegeben werden wie im Falle von *schlechter Tennisspieler*. Nehmen wir an, ein Sprecher äußere den Satz *Das ist schlechter Kaffee.* Woher wissen wir eigentlich, was gemeint ist? Bierwisch selbst nennt die „variierende Interpretation von *gut / schlecht*" als Beispiel und beantwortet die Frage sowohl für die transparenten wie auch für die nicht transparenten Adjektive mit einem Verweis auf das Bezugsnomen: „Ein Adjektiv ist, etwas vereinfacht gesprochen, transparent, wenn es eine konstante Bedingung festlegt, in Bezug auf die eine vergleichende Wertung vorgenommen wird. Nichttransparente Adjektive binden diese Wertung an wechselnde Eigenschaften des qualifizierten Objekts, sie enthalten mithin einen weiteren Parameter, dessen Wert kontextuell – in der Regel durch eine entsprechende Bedingung, die das Bezugsnomen angibt – festgelegt wird." (Bierwisch 1987, 17) Doch ergibt sich hier das Problem der korrekten Interpretation, denn es ist keineswegs offensichtlich, welche Eigenschaft von *Kaffee* der Sprecher gemeint hat. Meinte er wässrigen, verkochten, verschimmelten oder minderwertigen Kaffee? Die Antwort ist: Das können wir gar nicht entscheiden. Was wir wissen ist: Der Sprecher hat den Kaffee bewertet, und zwar als unter der zu erwartenden Norm liegend. Mehr wurde nicht gesagt. Die Gründe für diese Einschätzung können vielfältig sein, die Bedeutung von *schlecht* ist es nicht! Sie ist

präzise und fest umrissen. Die Bedeutung des Adjektivs besteht genau in dieser Bewertung.

Doch *schlecht* ist nicht der einzige Fall, bei dem die Klassifikation ungewiß ist. Bierwisch räumt ein, daß bestimmte Adjektive Schwierigkeiten bereiten, indem sie sich der Klassifikation entziehen. Es gäbe „eine Fülle von Grenz- und Übergangsfällen" (Bierwisch 1987, 14). Auf zwei seiner Beispiele möchte ich eingehen, zum einen ist dies *bissig*, zum anderen ist dies das Wertungsadjektiv *dumm*. Bei *bissig* stellt sich das Problem der Klassifikation, wie sich anhand des folgenden Beispiels zeigen läßt (Bierwisch 1987, 14):

(22)   *ein bissiger Hund*

Wendet man das Testverfahren an, so muß man zu dem Ergebnis kommen, *bissig* sei absolut, denn aus *ein bissiger Hund* läßt sich folgern ‚x ist bissig'. Sieht man hingegen das Merkmal der Graduierbarkeit als zentral an – vgl. *Das ist der bissig_ste Hund, den ich je hatte* –, so bleibt einem nichts anderes übrig, als das Adjektiv der Gruppe der relativen zuzuschlagen. Bierwisch hält fest, „daß der wesentliche Faktor, der den Charakter der relativen Adjektive bestimmt, die Graduierbarkeit der durch sie wiedergegebenen Bedingungen oder Eigenschaften ist." (Bierwisch 1987, 15) Ganz allgemein gelte: „restriktive Adjektive sind absolut, wenn die durch sie ausgedrückte Bedingung nicht graduiert werden kann. Das heißt aber, daß absolute Adjektive sich wie relative verhalten, wenn sie als graduierbar interpretiert werden." (Bierwisch 1987, 15) Diese Ambivalenz zeige sich nicht nur an *bissig,* sondern auch an Farbadjektiven mit ihrer bedingten Graduierbarkeit. „Faßt man Bissigkeit als graduierbare Eigenschaft auf, dann ist *bissig* in (22) relativ, andernfalls ist es absolut. Unklar ist, ob es im ersteren Fall als transparent oder nicht-transparent zu klassifizieren ist." (Bierwisch 1987, 14) Diese Unklarheit beruht darauf, daß sich nur schwer entscheiden läßt, welche Dimension bzw. Skala hier relevant wäre. Auf dieses Kriterium verweist Hamann bezüglich der Unterscheidung 'transparent vs. nicht-transparent': „Relative adjectives [...] must be divided into two subclasses: 1) dimension adjectives and 2) value adjectives. These classes differ importantly in the areas of grading and comparison. The main difference is that dimension adjectives inherently carry the identification of their comparison scale while it is context which identifies the scale for value adjectives. This implies that dimension adjectives always have the same scale while scales vary for value adjectives." (Hamann 1995, 668) Ist *bissig* ein Dimensionsadjektiv, weil es die Skala – das Maß der Bissigkeit – mit sich trägt oder ist es ein Wertungsadjektiv, was intuitiv einleuchtender wäre? Aber welche weiteren Skalen spielten dann eine Rolle? Oder sprengt *bissig* als Dispositionsadjektiv – ein Hund ist auch dann bissig, wenn er gerade niemanden beißt – die bestehende Klassifikation?

Schwierigkeiten bei der Einschätzung bereitet auch *dumm.* Bierwisch bezeichnet Adjektive wie *dumm* und *faul* als „(negative) Wertungsadjektive", da sie sich „in wichtigen Punkten" wie *schlecht* verhalten; in bezug auf die Folgerungseigenschaften sei *dumm* jedoch – wie das Dimensionsadjektiv *klein* – transparent. (Bierwisch 1987, 15) Als transparent muß man es einstufen, weil es immer auf einer Skala operiert, nämlich dem Grad der Intelligenz. Allerdings zeigt sich, daß dieser Ansatz Schwierigkeiten bereitet, sobald andere Faktoren als die reine

Wahrheitsfunktionalität eine Rolle spielen. Wenn ein Sprecher *Peter ist dumm* äußert, so schreibt er damit Peter einerseits eine Eigenschaft zu – wahrheitsfunktional möglicherweise beschreibbar als ein IQ, der unter der erwartbaren Norm liegt. Andererseits – und das ist entscheidend – drückt er damit seine Haltung zu diesem Sachverhalt aus. Neben der wahrheitsfunktionalen Komponente haben wir es hier mit einer evaluativen Komponente zu tun. Diesem zweiten Aspekt wird eine repräsentationistische Bedeutungstheorie – und genau eine solche liegt hier vor – nicht gerecht.

Das Zwischenfazit lautet: Es gibt gute Gründe, die Dimensionsadjektive als besondere Gruppe innerhalb der sogenannten relativen Adjektive anzusehen. Alle anderen Adjektive werden jedoch mit Hilfe des herkömmlichen Klassifikationsmodells nicht angemessen beschrieben. Der Grund dafür ist der zugrunde liegende Bedeutungsbegriff. Ein repräsentationistisches Modell sieht die Extension (bzw. die Wahrheitswerte) als die Bedeutung des Ausdrucks an. So gesehen haben aber nur die absoluten Adjektive eine vom Bezugselement unabhängige Extension. (Diese Kritik gilt in analoger Weise für kognitivistische Modelle wie die Prototypentheorie – nur daß hier Bedeutung mit Konzept gleichgesetzt wird.) Bei den anderen Adjektivtypen wird das Kompositionalitätsprinzip außer Acht gelassen. Wenn die Bedeutung eines Ausdrucks sich zusammensetzt aus der Bedeutung seiner Bestandteile, so müssen alle Ausdrücke – also auch die sogenannten relativen Adjektive – über eine Bedeutung verfügen, und zwar eine Bedeutung, die sich unabhängig formulieren läßt.

3.

Ein Ausweg aus den soeben dargelegten Schwierigkeiten kann nur darin bestehen, strikt zwischen der Bedeutung eines Ausdrucks und dem Sinn einer Verwendung zu unterscheiden. Beides ist etwas kategorial Verschiedenes. Die Bedeutung von *klein* ist ebenso wie die von *blau* immer klar und eindeutig. Sonst wäre kein Sprecher dazu in der Lage, diese Ausdrücke zu verwenden, und kein Hörer dazu in der Lage, sie zu interpretieren. Repräsentationistische Modelle suchen jedoch immer nach etwas, wofür der Ausdruck steht – etwas in der Welt oder ein Konzept –, daher können sie mit den meisten relativen Adjektiven, aber auch mit denen, die der Gruppe der nicht-restriktiven zugerechnet werden, nicht angemessen umgehen. Dieses Modell ist, wie wir gesehen haben, verantwortlich für eine Reihe von Ungereimtheiten bei der Bedeutungsbeschreibung von Adjektiven und ist nicht in der Lage, eine exhaustive Klassifikation der verschiedenen Adjektivtypen zu leisten. Erschwerend kommt hinzu, daß ein solcher Ansatz bei der Beschreibung von semantischem Wandel scheitern muß. Ich möchte nun eine Bedeutungskonzeption vorstellen, die zum einen die Bedeutung nicht mit der Extension eines Ausdrucks gleichsetzt, und die zum anderen das Kompositionalitätsprinzip ernst nimmt: das instrumentalistische Zeichenmodell.

Der entscheidende Unterschied zwischen einer repräsentationistischen Bedeutungskonzeption und einer instrumentalistischen besteht in dem Bedeutungsbegriff. In repräsentationistischen Modellen wird die Bedeutung eines Ausdrucks gleichgesetzt mit der Extension (bzw. mit Wahrheitswerten). Bezogen auf die Adjektivsemantik stellt sich das Problem, daß eine ganze Reihe von Adjektiven

nicht über die Extension bestimmt werden können, nämlich alle, die zu den nicht-absoluten gehören. Haben diese Ausdrücke keine Bedeutung? Die Antwort lautet: Natürlich haben sie ebenso eine Bedeutung wie die absoluten Adjektive. Bedeutung muß instrumentalistisch erfaßt werden. Einer solchen Auffassung gemäß symbolisieren Zeichen dadurch, daß ihre Verwendung konventionell geregelt ist. „Die Bedeutung eines Wortes ist sein Gebrauch in der Sprache", schreibt Wittgenstein. (PU § 43) Innerhalb dieses Modells ist die Bedeutung eines Zeichens genau das, was das Zeichen für den Sprecher verwendbar und für den Hörer interpretierbar macht. Beides ergibt sich aus der Regelhaftigkeit des Gebrauchs in der Sprachgemeinschaft. Zeichen symbolisieren also nicht dadurch, daß sie für etwas stehen, sondern dadurch, daß sie bestimmten Gebrauchsregeln folgen. Formuliert man die Gebrauchsregel aus, so erhält man eine Formulierung der Bedeutung des Zeichens. Jeder sprachliche Ausdruck ist gerade deshalb – weil es eine Konvention der Verwendung gibt – für Zwecke der Kommunikation geeignet. (Daß wir als Sprecher einer Sprache außerdem über ein mentales Lexikon verfügen und daß wir wissen, wie die Welt beschaffen ist, bleibt davon unberührt.) Entgegen weit verbreiteter Interpretation ist damit gerade nicht gemeint, daß sich die Bedeutung eines Ausdrucks in Abhängigkeit vom jeweiligen Kontext verändert und mithin ein Parole-Ereignis sei. Die *Bedeutung* eines Ausdrucks ist – synchron betrachtet – konstant, der *Sinn* kann von Verwendung zu Verwendung variieren. Die Bedeutung (d. h. die Regel des Gebrauchs) ist rekonstruierbar aus den konkreten Verwendungsweisen; sie ist jedoch keinesfalls identisch mit den verschiedenen Verwendungsweisen, und sie ist auch nicht die Summe aller Verwendungsweisen.

Innerhalb dieses Modells ist die Bedeutung eines Adjektivs wie *rund,* das man aus den gleichen Gründen wie *bissig* sowohl zu den relativen wie auch zu den absoluten zählen könnte, eindeutig; seine Bedeutung erhält man, wenn man die Konvention seines Gebrauchs beschreibt, d. h. die Kriterien der Verwendung von *rund* ausformuliert. Eine mögliche Bedeutungsformulierung wäre etwa: „Verwende *rund*, um etwas über die Form eines Objekts auszusagen. Etwas kann *rund* genannt werden, wenn es sich in mindestens einem Schnitt der Kreisform annähert." Eine solche Regel würde Verwendungen wie *runder Tisch* und *runder Apfel* abdecken. Allerdings wird noch eine Zusatzregel benötigt, die Dimensionswechsel verbietet (vgl. **Was ist runder – der Tisch oder der Apfel?*).

4.

Nachdem ich nun beide Konzeptionen umrissen habe, möchte ich klarstellen, daß sie – auch wenn es auf den ersten Blick so scheinen mag – nicht unvereinbar sind. Die Kenntnis von Wahrheitsbedingungen läßt sich nämlich als ein Spezialfall der Kenntnis von Gebrauchsbedingungen ansehen.[5] Allerdings können in die Gebrauchsregel weitere Parameter eingehen – neben (i) wahrheitsfunktionalen auch (ii) epistemische, (iii) soziale, (iv) diskursbezogene und (v) innersprachliche; Kombinationen sind ebenfalls möglich. Mittels eines solchen Bedeutungskonzepts können nicht nur sämtliche Adjektivtypen bedeutungstheoretisch einheitlich behandelt werden, es

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[5] Vgl. Keller 1995, 67. Zu den Parametern der Bedeutung s. Radtke 1998, 49f.

lassen sich darüber hinaus historische Prozesse wie beispielsweise der Bedeutungswandel problemlos darstellen. Diesen Gedanken werde ich nun anhand von Beispielen erläutern.[6]

Zu (i): Der wohl bekannteste Parameter, der oftmals verabsolutiert und als Bedeutung schlechthin angesehen wird, ist der wahrheitsfunktionale. Die Gebrauchsregel gibt an, wie die Welt beschaffen sein sollte, damit der Ausdruck sinnvoll verwendet werden kann. Bei den Gebrauchsregeln für die bereits angeführten absoluten Adjektive sind wahrheitsfunktionale Gesichtspunkte relevant. Ein klassisches Beispiel ist etwa der Ausdruck *verheiratet.* Er dient üblicherweise dazu, eine erwachsene Person dahingehend zu charakterisieren, daß sie mit einer anderen erwachsenen Person einen speziellen Vertrag abgeschlossen hat. Doch ein Beispiel aus sprachgeschichtlichen Entwicklung belegt, daß Wahrheitsfunktionalität alleine zur semantischen Beschreibung von Adjektiven nicht ausreicht.

Zu (ii): Das Adjektiv *brav* hat im Laufe der Sprachgeschichte einen Bedeutungswandel vollzogen. Goethe verwendet es nahezu ausschließlich in bezug auf männliche Personen; er spricht von *braven Männern*, vom *braven Künstler, braven Freund, braven Zimmermann, braven Lehrer* etc.[7] Der Duden (1993) verzeichnet zwei Verwendungsweisen:[8]

Duden: 1) *ein braves Kind, sei brav, brav sitzen bleiben*
         2) *das Kleid ist für den Ball zu brav, in diesem Kleid sieht sie brav aus*

Zur Goethe-Zeit wurde *brav* gebraucht, um auszudrücken, daß eine Person seine soziale Rolle in angemessener, wenn nicht gar vorbildlicher Weise ausfüllt. Heute ist diese Gebrauchsregel nur noch mit Einschränkung gültig. *Brav* dient heute zum einen dazu, das Verhalten von Kindern (und auch von Haustieren) als angemessen, d.h. nicht störend und somit unauffällig zu charakterisieren. Zum anderen – und dies belegt die Verwendungsweise (2) – hat es eine evaluative Komponente hinzugewonnen: Es dient in bezug auf Artefakte, die als Ausdruck der Persönlichkeit angesehen werden können (Kleidung, Wohnungseinrichtung etc.), dazu, diese als unauffällig und damit als wenig ausdruckskräftig zu bewerten. Deutlich wird diese evaluative Komponente daran, daß man sich nicht sinnvoll über die Bravheit eines Kleides streiten kann. Dieselben Eigenschaften, die einen Sprecher A dazu veranlassen könnten, ein Kleid oder ein Aussehen als *brav* zu bezeichnen, könnten einen Sprecher B zu einem ganz anderen Urteil veranlassen (beispielsweise *schlicht*). Dieses Beispiel belegt, daß nicht ausschließlich Objekteigenschaften für die Formulierung der Gebrauchsregel eine Rolle spielen; die Gebrauchsregel kann auch epistemische Bedingungen zum Gegenstand haben. Für die Bedeutung von evaluativen Adjektiven wie *gut* und *schön* sind

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[6] Für den fünften Parameter, den innersprachlichen, gibt es im Bereich der Adjektive keine Beispiele. Man benötigt ihn etwa dann, wenn man die Bedeutung von Relativpronomina explizieren möchte. Für die Verwendung des Relativpronomens *der* ist die sprachliche Umgebung, d.h. der Kotext, relevant – es muß ein Nominal auftreten, auf das es sich beziehen kann. Ich habe ihn an dieser Stelle nur der Vollständigkeit halber erwähnt.

[7] Belege für *braven Mann* finden sich in „Dichtung und Wahrheit" beispielsweise an den folgenden Textstellen: Band I, Seite 103, Zeile 4; Bd. II, S. 292, Z. 31; Bd. III, S. 506, Z. 8 sowie Bd. IV, S. 91, Z. 4. Die weiteren Beispiele befinden sich an den folgenden Stellen: Bd. I, S. 112, Z. 31; Bd. I, S. 211, Z. 37; Bd. III, S. 67, Z. 20 und Bd. III, S. 458, Z. 18.

[8] Es handelt sich bei den Textstellen jeweils um sinngemäße Wiedergaben.

Objekteigenschaften sogar weitgehend irrelevant; vielmehr müssen die jeweiligen Bewertungen und Einstellungen des Sprechers in die Gebrauchsregel eingehen. In den beiden folgenden Beispielen betrifft der Wandel – in unterschiedlicher Weise – die epistemischen Bedingungen.

Goethe: *tollste Willkür, Bist du toll! ein tolles Fratzenwesen, etwas erscheint toll und abgeschmackt[9]*

Duden: *eine tolle Geschichte, ein toller Zufall, tolle Möglichkeiten; eine tolle Sache, eine tolle Figur haben, eine tolle Party; das Spiel / die Feier / der Film war toll; toll aussehen / eingerichtet sein, die Mannschaft hat toll gespielt*

Goethe: *loses Leben, eine Lebensweise erscheint gar zu lose[10]*

Duden: 1) *loser Nagel, loses Gestein, der Knoten ist zu lose*
  2) *loses Papier, lose Zigaretten, das Geld lose in der Tasche tragen*

Während der Gebrauch von *toll* zur Goethe-Zeit noch wahrheitsfunktional beschreibbar war – es diente dazu, eine Person (bzw. deren Äußerungen) dahingehend zu charakterisieren, daß sie sich in einem abweichenden Geisteszustand befindet –, hat es heute rein evaluative Funktion. Genau umgekehrt scheint die Entwicklung beim Adjektiv *lose* gelaufen zu sein. Während es zur Goethe-Zeit dazu diente, Personen und deren Verhaltensweisen als moralisch nicht ganz einwandfrei zu bewerten, spielen heute nur noch spezielle Objekteigenschaften eine Rolle, die sich rein wahrheitsfunktional beschreiben lassen.

Zu (iii): Eine ganze Reihe von Ausdrücken folgt sozialen Parametern. So kann beispielsweise der Gebrauch des Adjektivs *billig* in Konstruktionen wie *recht und billig* nur erläutert werden, wenn man die Existenz einer juristischen Fachsprache – im Kontrast zur Allgemeinsprache – in die Erklärung einbezieht. *Billig* dient in diesem speziellen Fall nicht dazu, eine Aussage über den Preis oder die Qualität einer Ware zu treffen; die Gebrauchsregel lautet vielmehr: „Verwende *billig*, um Handlungen als angemessen zu charakterisieren."[11] Diese besondere Verwendungsweise spiegelt die zur Goethe-Zeit allgemein übliche Bedeutung wider:

Goethe: *„Besonders trug er mir auf, die Handwerker [...] zu mahnen, da sie ihn gewöhnlich länger als billig aufhielten"*
  „daß die Ältere an einigen Stellen, mehr als billig, lachte"
  „Auch dieses Verhältnis war durch Gewohnheit und Nachsicht leidenschaftlicher als billig von meiner Seite geworden"[12]

Zur Kenntnis des Ausdrucks *billig* gehört heutzutage das Wissen, daß es in bestimmten sozialen Gruppen eine spezielle Bedeutung hat, d.h. einer anderen als der üblichen Gebrauchsregel folgt. Ähnliches trifft auch auf die sprachgeschichtlich noch junge Verwendungsweise von *breit* zu.

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[9] Vgl. Bd. I, S. 108, Z. 13; Bd. II, S. 438, Z. 6; Bd. IV, S. 123, Z. 11; Bd. IV, S. 157, Z. 18.
[10] Vgl. Bd. III, S. 580, Z. 9 und Bd. IV, S. 123, Z. 11.
[11] Zum Wandel von *billig* s. Keller / Radtke (1997).
[12] Bd. I, S. 151, Z. 17; Bd. III, S. 450, Z.1 und Bd. III, S. 555, Z. 29.

Duden: *Es ist Viertel nach zehn, und Karl ist schon breit wie immer.*

Die Gebrauchsregel müßte wohl etwa wie folgt lauten: „Verwende *breit*, um eine Person dahingehend zu charakterisieren, daß sie Blutalkoholwerte aufweist, die bereits Auswirkungen auf ihr Verhalten haben." Dies ist jedoch lediglich der wahrheitsfunktionale Aspekt. Die Gebrauchsregel von *breit* folgt zusätzlich sozialen Parametern. Der Ausdruck dient nämlich auch dazu, die Zugehörigkeit zu bestimmten Gruppen und ihrer Redeweise anzuzeigen. Wird der soziale Parameter bei der Regelformulierung nicht berücksichtigt, käme man zwangsläufig zu dem Ergebnis, daß *breit* und *betrunken* synonym seien (was natürlich nur in bezug auf die wahrheitsfunktionale Komponente zutrifft).

Zu (iv): Der letzte Parameter, der für die Bedeutungsbeschreibung von Adjektiven relevant ist, ist der diskursbezogene. So hat beispielsweise das Adjektiv *richtig* – ausgehend von dem rein wahrheitsfunktionalen Aspekten wie etwa in *„er schilderte sie sodann treffend, aber nicht ganz richtig"* (Goethe Bd. IV, S. 128, Z. 24) – im Laufe der jüngeren sprachgeschichtlichen Entwicklung Funktionen hinzugewonnen. Einerseits kann es dazu dienen, als Intensifikator ein Adjektiv zu modifizieren: *Du bist richtig nett.* Andererseits läßt es sich im Diskurs dazu verwenden, eine Aussage zu bestätigen:

Wahrig: *Sie haben ihn gesehen, richtig? – Richtig.*
Duden: *Ja richtig, ich erinnere mich.*

Eine wahrheitsfunktionale Semantik muß zwangsläufig an der Beschreibung derartiger Ausdrücke scheitern, da Intensifikatoren sich gerade dadurch auszeichnen, daß sie den Wahrheitswert einer Aussage unberührt lassen, und Antwortpartikeln mit ihrer diskurssteuernden Funktion sich ebenfalls nicht wahrheitsfunktional beschreiben lassen. Beide Verwendungsweisen ergeben sich aus der Semantik des Adjektivs *richtig*: „Verwende *richtig* um das Zutreffen eines Sachverhaltes zu bestätigen." Unter rein formalen Gesichtspunkten muß man allerdings feststellen, daß der Ausdruck die Wortart gewechselt hat. Da jedoch in beiden Fällen die Semantik noch aus der des Adjektivs (mit seinen syntaktischen Funktionen als Attribut, Prädikatsnomen und Adverbial) herzuleiten ist, habe ich sie hier berücksichtigt.

5.

In diesem Beitrag habe ich versucht zu zeigen, daß in der Diskussion um die Semantik der Adjektive ein unangemessenes Bedeutungsmodell vorherrscht. Dieses weist im wesentlichen zwei Mängel auf: (i) Die Bedeutung eines Ausdrucks wird mit rein wahrheitsfunktionalen Begriffen beschrieben. Viele Adjektive lassen sich jedoch nicht – bzw. nicht alleine – über ihre Extension beschreiben. (ii) Ein Blick in die Sprachgeschichte macht deutlich, daß sich semantische Veränderungen ergeben, die ganz andere Aspekte der Gebrauchsbedingung betreffen. Ein wahrheitsfunktionaler Ansatz greift hier zu kurz. Beide Mängel werden behoben, wenn ein instrumentalistisches Bedeutungsmodell gewählt wird, das an die Stelle von Repräsentationen Gebrauchsregeln setzt. Wahrheitsfunktionalität ist innerhalb dieses Modells nur ein Parameter neben weiteren. In die Bedeutungsbeschreibung (d. h. die

Gebrauchsregel) können nämlich auch epistemische, soziale, diskursbezogene und innersprachliche Parameter eingehen. Werden diese berücksichtigt, so läßt sich zum einen die Bedeutung der Adjektive adäquat beschreiben, zum anderen läßt sich semantischer Wandel systematisch erfassen. Und nicht zuletzt wird anhand der verschiedenen Parameter-Kombinationen eine exhaustive Klassifikation der Adjektive möglich.

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Meaning in the Lexicon: Cultural Implications

GABRIELLA RUNDBLAD & DAVID B. KRONENFELD

(Kfeld@citrus.ucr.edu
G.Rundblad@sheffield.ac.uk)

Introduction

In this paper, we will put forward an explanation of the processes involved in semantic change and variation using Kronenfeld's theory on semantic extension (1996) and Rundblad's model of markedness (1998). It is also our intention to try to illustrate the impact socio-cultural factors have on language and what instances of semantic change can convey about the culture of a speech community.

Extension

A word's referential meaning is directly linked to a core or focal referent, and the word's application extends out from this referent to a range of potential referents. This explains why and how words can appropriately and correctly apply to new things as new referential meanings are created continuously by means of literal and figurative semantic extensions. Literal extensions are within the focal domain, whereas figurative semantic extensions move the reference outside the focal domain.

Each word has semantic relations of contrast (or opposition) and inclusion. A set of contrasting words is distinguished from one another by sets of semantic distinctive features, the words' meaning relations. These meaning relations map onto the set of focal referents of terms in the contrast set, and can be inferred by learners from those focal referents. A word's meaning is as dependant on what the word may not refer to as it is on what the word may refer to. Figurative extensions are usually grounded in some *similarity* or *contiguity* between the core referent and the new referent[1] within the framework provided by an application of the semantic oppositions of the source domain to the realm or domain of the target referents (Kronenfeld 1996, Ch 10).

The set of contrasting and inclusive meaning relations is embodied in the word's *signified* (that is, the concept signified by the word - distinct from the word's set of actual referents). The signified is linked to a *world schema*, which is a schematic representation of the functional situations that brought about the existence of the word in question, and which is not an intrinsic part of the meaning of a word (Kronenfeld 1996: 189). The world schema, by representing knowledge automatically evoked by the use of a word, helps the signified of that word point out to actual referents (whether new or old, whether literal or figurative) in the extra-linguistic

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[1] For a detailed account of various traditional theories on and approaches to similarity/metaphor and contiguity/metonymy and as well as an outline of semantics in general, see Nerlich 1992 and Warren 1992.

world of experience and thought. Language users, when faced with the task of picking out the word most apt in a given communicative situation (for example, the choice between a word with a literal and one with a figurative meaning), consider the world schemas associated with the alternative words.

Variation

Semantic variation (polysemy) is the result when new referents (and hence new meanings/senses) are added to a word; or rather an expanded semantic variation is the result of the adding process, since most words are polysemous - polysemy being the natural state for words as is variation the natural state for most linguistic components (that is, depending on the language/dialect(s), spelling, pronunciation, word order etc.).[2]

Even though polysemy is natural to language, there is still the question why certain figurative semantic extensions catch on whereas others do not. We will postulate that the continued usage of a metaphor or metonym is governed by how established the original (usually literal) sense of a word is; that is the more the original (literal) meaning is used, the more likely it is that the figurative extension of it will be understood, accepted and established in the same way as morphologically derived words rely on the words they were coined from in order to stay in use. Our claim is based on the fact that we can only rely on people being familiar with the original sense if that sense is commonly used, and thus it is only under such circumstances that we can presume that a figurative extension of that sense can be understood. For example, the use of the verb *surf* as in *surf the net* is a figurative extension of *surf* as in *surf the waves*, and the understanding and usage of it depends very much on people knowing about and using the original sense.[3]

In her study of lexical and semantic change in the semantic field 'natural watercourse'[4], Rundblad found that metonyms and de-verbal nouns were far better at surviving from one time period to another (here Old English, Middle English and Modern English) than, for example, de-nominal nouns, de-adjectival nouns and metaphors.[5] Additionally, the study revealed that the nouns created during the Proto-Germanic period as opposed to those created during the Old English period had higher survival rate[6]; and not surprisingly the Proto-Germanic de-verbal nouns and metonyms were the nouns with not only the highest survival rates, but also the highest frequency rates. The results of the study brought forth the conclusion that, at the initial stage of the introduction of a new word/meaning, the word creation device to a certain degree guaranteed that the word/meaning would be used for the simple reason that, in the case of metonymy and de-verbal nouns, the connection in contiguity or appearance between the new and the old word/meaning was (and, in most cases, still is) very clear and easily reconstructable. Hence, the new word/meaning is reinforced by the old meaning/word.

However, after the initial stage of introduction, the word's (or meaning's) survival is dependent on how frequently and regularly it has been just during the first

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[2] On the naturalness of (semantic) variation, see Rundblad forthcoming and Mufwene 1996.

[3] This dependency obtains, at least, until (if at all) the new expression becomes frequently enough used to support an independent existence of its own--and thus to become a new focal referent.

[4] For a detailed account of the study, see Rundblad 1998 and forthcoming.

[5] The survival rates for the metonyms and the de-verbal nouns were 42% and 20% respectively.

[6] 83% for Proto-Germanic nouns compared to 24% for Old English nouns.

stage; that is, if the word/meaning has been frequently and regularly used it will most likely survive. Based on the results of the study, a model of markedness was constructed.[7]

Markedness

The markedness model is grounded in the presumption that all variation situations can be viewed as markedness situations.[8] Among other things, the model of markedness to be utilised here emphasizes the interrelation between language and culture. It is our aim to explore this interrelation by trying to establish what impact culture has on language and how this impact can be perceived in language and especially in instances of semantic change.

The model is made up of two "mated" systems, *the linguistic system* and *the extra-linguistic system*, where the first stands for language and the second for culture, and where the former is part of the latter, as seen in Figure 1. We will begin by outlining and exemplifying the structure and functions of the linguistic system.
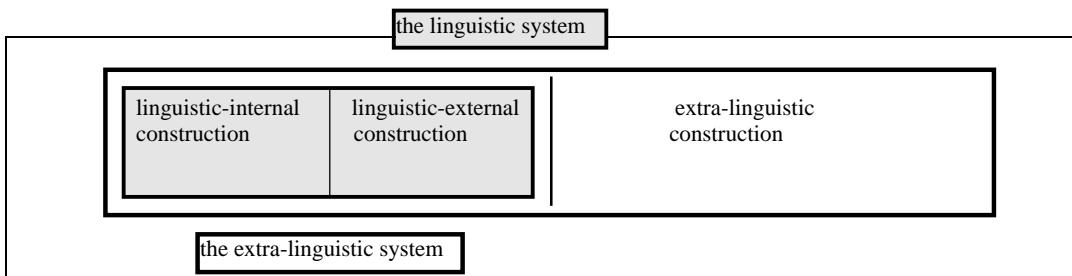

Figure 1. The correlation between the two systems governing a markedness situation (from Rundblad forthcoming).

The linguistic system (language) contains two components: *linguistic-internal constructions* and *linguistic-external constructions*. The first of these constructions (the linguistic-internal construction) comprises, in the case of lexical items, the semantic content and form of the word(s) and, in the case of meanings, the meaning structure (including the actual extension process, for example metonymy).

In dealing with markedness in semantics, many linguists would fall back to the notion of *privative opposition*, which proclaims an opposition between words with a (more) specific meaning and words with a (more) general meaning, where the former is less applicable as the latter. In the competition between the words *dog* and *bitch*, we can accurately state that a bitch is a kind of dog and can hence be called *dog*, whereas a dog not necessarily is a bitch; other examples include *duck – drake, river – rivulet* and *bad – worse – worst*. In privative oppositions, the specific word is regarded as the

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[7] The model of markedness is outlined in detail in Rundblad 1998 and Rundblad forthcoming.

[8] It should be noted that the model put forward here does not subscribe to the over-generalised view on markedness proclaiming that a markedness situation contains one marked variant and one unmarked variant; rather, a markedness situation can embody any number of variants, where one (or possibly more than one) of the variants is experienced as less marked (more unmarked) than the other variants, which are hence seen as more marked.

marked variant and the general word as the unmarked one. Hence, *dog* is unmarked, whereas *bitch*, given its more specific meaning, is marked.

Because of the apparent wider applicability of the unmarked variant, in discussions of usage of marked and unmarked variants, we often find comments to the effect that the marked variant is not used as often as than the unmarked variant (as in Greenberg's discussion on text frequency (1966)). In the case of privative opposition, this is not terribly strange, since usage of words that are more specific relies more heavily on the speakers' and hearers' world knowledge – specificity requires detailed knowledge – than does usage of general words.[9] Similarly, for markedness pairs, such as, *actor – actress*, *many – few* and *wide – narrow*, we find that the unmarked members, *actor, many* and *wide*, are used far more than the marked ones.[10] The usage and the frequency rates of a variant, where an unmarked variant is significantly more frequently used than a marked one, are governed by the variant's linguistic-internal construction and the markedness value subsequently generated by that construction.

The second type of construction in the linguistic system, the linguistic-external construction, relate to how much and how often (the actual usage) a word/meaning is used. The markedness model asserts that, in the eyes of the speakers (and presumably the hearers), the variant most frequently used is unmarked, whereas the variant least frequently used come to stand out, hence being regarded as marked. Nevertheless, we just stated that the unmarked word is used more frequently than the marked one just because it is unmarked, and thus the present claim does sound a bit circular. It is indeed the linguistic-internal construction that <u>initially</u> gives rise to a certain usage and a certain frequency. After some time, however, people will no longer base their perception of, for example, a word on what the precisely received or derived meaning of the word is, but rather on how the word is used by others and themselves. The frequency rate of the word is an immensely significant part of the usage - and speakers will construct new rules of usage based on the present usage, rules that will guide the future usage of the word in question.

We can illustrate this by means of a comparison of the two synonyms, *streamlet* and *rivulet*. Both words are de-nominal nouns (created by means of the suffix *–let*), the meaning for both words is 'a small stream' and they were both created sometime during the 16th century. Thus, apart from the difference in form, the linguistic-internal constructions of the two synonyms are more or less identical. Basically, the only thing that does differ between them (apart from the form and etymology of the words) is their present-day usage; *rivulet* is used far more than *streamlet*, which is then to be recognised as the more marked variant of the two. However, there is absolutely nothing in the their present-day linguistic-internal construction that could possibly result in one being marked rather than the other. This would then clearly support our view that it is the present usage and frequency rates of the two competing variants that regulate the present-day markedness situation and any future usage.[11]

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[9] Naturally, the degree of difficulty involved in specificity vary depending on the variants and referents involved; it is (usually) easy telling a man and a woman apart, and grown cows and bulls offer few problems whereas younger ones might be harder to distinguish, but few non-zoologist people can distinguish between a duck and a drake.

[10] *Actor* 2,039 - *actress* 1,115; *many* 90,283 - *few* 45,015; *wide* 12,131- *narrow* 5,024 (BNC).

[11] It should be noted that it is possible that *river* (which is <u>the</u> most frequently used word for 'watercourse' (cf. Rundblad unpublished 1996) in being used more frequently than *stream* (9,418 – 2,573 in the BNC) might direct the choice between *rivulet* and *streamlet* in favour of the former; even so, the markedness situation would still have to treated as primarily governed by the linguistic-external constructions, the frequency rates, rather than the semantic content, word form, etymology etc.

The asserted importance of frequency and regularity for markedness follows from some cognitive consequences of frequency. Unmarked variants, by being used more often and subsequently by being experienced earlier, are learnt earlier than marked variants by the newer generations (and by non-native speakers). Therefore, the unmarked variants will become part of the speakers' vocabularies earlier than the marked variants, which in one way or another and at various degrees will be learnt in contrast to the unmarked variants. That is, the unmarked variants will become the reference points for the marked variants and will become part of the apprehension of the marked variants' constructions. For example, the word *brook* is more frequently used than *rill*, even though they have the same meaning, 'a little stream'. However, whereas *brook* is a Proto-Germanic word that has not only been in use in English since the Old English period but also has been one of the most frequently used watercourse nouns ever, *rill* is German (or possibly Dutch or Frisian) loan word borrowed sometime during the 16th century (Rundblad 1998, unpublished 1996; OED). When *rill* was borrowed into English, its linguistic-internal construction cannot have been more marked than that of *brook*'s, but the linguistic-external construction that it went on to acquire must have been ruled by the unmarked linguistic-external construction of *brook*. That *rill* would become (and still is) linguistic-externally marked was from the very beginning apparent and unavoidable. Today, when *rill* is learnt, it is still learnt after *brook* (and *stream*), it is still learnt in contrast to *brook* (and *stream*) and it is still learnt as the marked variant.

As mentioned earlier, the markedness model proclaims two systems, the second of which, that is, the extra-linguistic system, we will now turn to. The extra-linguistic system focuses on the interrelation between language and culture and consists of two parts, the previously discussed linguistic system (which is here seen as one joint item) and *the extra-linguistic construction*, which, to put it briefly, consists of the socio-cultural contexts in which the variants occur. The extra-linguistic construction and its importance in a variation and markedness situation are best illustrated by means of an example.

During the Old English and Middle English periods a markedness shift occurred among the words used to denote 'natural watercourse', a shift from Old English *burna*/Middle English *burne* to Old English *bröc*/Middle English *brooke* (Rundblad 1998, Ch 15.1). The original sense of Old English *burna* was 'a bubbling or running watercourse' and that of Old English *bröc* was 'muddy, deep-cut, opaque watercourse with clayey riverbed' (Rundblad 1998: 54-57). Despite the fact that both words had highly specific meanings and, following the previously discussed notion of privative opposition, ought to be marked, both words came during different periods to be the default/unmarked word for 'natural watercourse' being the most frequently used nouns, far more frequent than any of the general words or other specific words. The reasons for this can be found in the words' extra-linguistic constructions, in the colonisation patterns for the two periods in question.
Cole (1991) has shown that the areas that were first colonised in England were areas where the river water was clear and the riverbed was sandy or gravelly (cf. Rundblad 1998, Ch 15.1). This would then mean that during this colonisation period the watercourses people came into contact with most and referred to most had an appearance that best corresponded to the meaning of *burna*. We can say that the *burna* watercourse was the default type of watercourse, which would then mean that within the extra-linguistic system, the word *burna* must have been the culturally unmarked variant. Based on its unmarkedness, *burna* was the most frequently used

noun, thus, becoming the linguistic-externally unmarked variant as well. All in all, *burna* was the unmarked variant during this period - despite its specific meaning.

The second colonisation occurred in areas that contained watercourses of the *bröc* kind, that is, muddy streams; hence, during this period, the extra-linguistically unmarked and neutral word must have been *bröc*, whereas *burna* slowly became more and more marked. This change in colonisation patterns caused *bröc* to be more and more used and *burna* less and less, until *bröc* finally became the linguistic-externally unmarked variant. Hence, despite its original unmarkedness and high frequency rates, *burna* was replaced by *bröc*, both with regard to markedness and frequency.
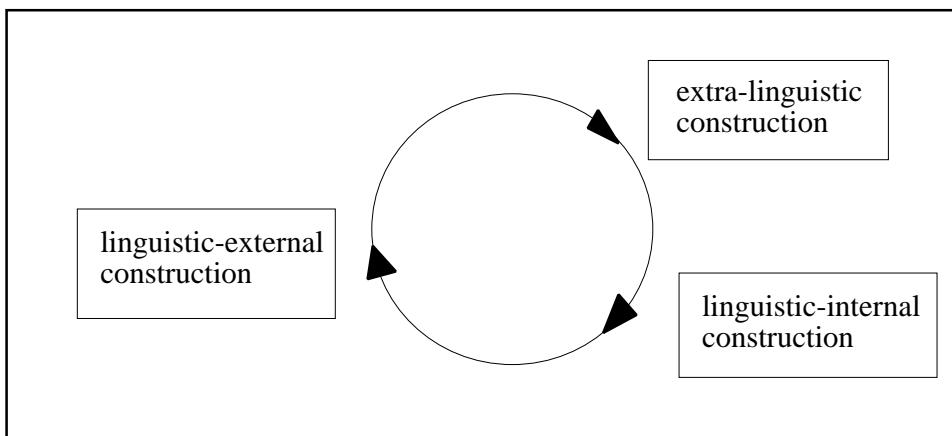

Figure 2. The markedness loop (from Rundblad forthcoming).

Markedness can be pictured as a loop where the linguistic-internal construction influences the linguistic-external construction, which influences the extra-linguistic construction, which influences the linguistic-internal construction and so on. The three constructions and the markedness value of each separate construction are constantly at play, so that each operates, iteratively, again and again and again. However, at any one point in time, the markedness situation is governed by only one of the three construction types, but the influence of each construction upon the overall markedness situation is brought into play because of the iterations of the markedness loop. This way the markedness values of the variants in question are constantly kept open to alteration enabling marked words to become unmarked and unmarked words to become marked.

Due to the lexical nature of the study from which the markedness model originates, our examples have so far been examples of lexical variation and lexical change. However, the model is as applicable to semantic variation and semantic change.

Meaning shifts and change

When a word (still with its core sense) is used in a certain way and/or in a certain linguistic and/or cultural context, the word easily becomes more and more associated with a referent specific for that special usage, a peripheral referent, rather than with the core referent. In some cases, the new referents become important or common enough or the old ones become unimportant or uncommon enough that the new (previously peripheral) referents come to replace the old core referents. The change

of core referent naturally causes a change of core sense. Thus, the possibility for changes of focal referents and changes in meaning to occur is ensured by the markedness loop where the various constructions are constantly re-evaluated and the slightest change in form/meaning, usage and/or cultural context may trigger subsequent changes in form/meaning, usage and/or cultural context.

Cultural implications

As mentioned earlier, one of the prerequisites for a new, figurative sense to succeed in becoming used is the usage of the original (here, literal) sense; a speaker wanting to use the figurative extension of a word can only rely on the hearer understanding the metaphor if the literal sense is known and in use. However, in some cases, the new figurative extension has taken over by becoming the core sense and the original core sense has become peripheral (for example, *launder*) and in some cases, the original core sense has died out completely (as in *bedroom*) and the figurative sense is the only remaining sense.

The word *launder* is today commonly associated with money laundering and similar activities; this sense was derived through a figurative extension from its original core sense, 'to wash clothes and linen', which took place during the Watergate inquiry in 1973-1974 (OED).

> A New York lawyer carrying $200,000 in his camera case to be 'laundered' in Switzerland. (*Publishers Weekly* 1973, OED)

The extension was very successful and caught on rapidly; it was so successful that it has continued into present-day English.

> The measure was designed to make it more difficult for crime syndicates to launder illegally acquired funds. (BNC)

The extension of *launder* was grounded on the similarities perceived between the illegal money transfers (that is, transferring illegally acquired funds between various accounts having it resurface as legitimate at its final destination, which usually is a legal account or business) and the cleaning procedure involved in laundering clothes. In a capitalist society, money and everything it is associated with is highly significant**, culturally as well as linguistically, as can be seen from expressions, such as *blood money, danger money, even money, new money* and *soft money*. The extension of *launder* is dependent on and grounded on the old saying "dirty money"; we can say that *dirty money* both paved the way for the extension as well as triggered it. The similarities between dirty (that is, illegal) money and dirty clothes and the extension of *launder* reveal the cultural connotations that we associate with money and especially money obtained through illegal trade.

> To overstate the attendance is both a good public relations exercise - making it look as if a team is better-supported than it is - and a possible outlet for laundering 'dirty money'. (BNC)

Exactly how successful the metaphor has been is evidenced by the fact that the use of *launder* has spread to neighbouring areas and can today be found contexts of various types of goods and merchandise as well as data, facts and information. Therefore, we can assert that the figurative meaning of *launder* has become generalised 'to make some material of illegal or dubious origin seem legitimate by (ab)using legitimate

sources'.

> What guarantees do we have that some of that imported coal is not part of the German coal laundered in Rotterdam with coal from other countries? (BNC)

> At least, it was so by those who were to write up family notes at a later date: the year of birth would be coyly laundered to read '1847', thus ensuring that a rather harmless skeleton stayed in its cupboard for a while. (BNC)

In fact, the success of the metaphor has been so great that the original sense of *launder* is more and more avoided, since the word has become too strongly associated with illegal money transfers and its usage might prove confusing. The need to avoid *launder* in the context of washing clothes can easily be accomplished as there is the synonymous *wash*. *Wash* has the same possibilities and can be used interchangably, and it is, even more importantly, less ambiguous. Today, people prefer speaking of *washing clothes, the washings, washing baskets, washing bags, washing machines, washers* and *washeterias* rather than *laundering clothes, the laundry, laundry baskets, laundry bags, laundromats, laundrettes* and *laundries*. Possibly, the decrease for use of *launder* was not only facilitated by *wash*, but it was also further speeded up by it.

 The word *launder* is today more commonly associated with money and illegal goods than clothes and washings, and *wash* is getting more and more commonly used as the only option for discussing the cleaning of clothes. Using the BNC, a comparison of the usage of the original literal sense as opposed to the figurative sense shows that in present-day English *launder* is figuratively used more frequently than literally.

	clothes, washings	illegal material
launder	11	18
launders	0	0
laundered	41	25
laundering	19	123

The result of the metaphorical extension of *launder* is (or will be) in a shift of focality, as the original core sense has been overtaken by the new metaphorical sense which now is the core sense, the sense regulating all the other senses, the sense to which all the other senses must conform. A brief summary of the events would be that the linguistic-internal construction of *launder* (the two senses) has undergone a markedness shift that was instigated by socio-cultural factors, such as the cultural significance of money and the cultural connotations of money stating that money is "bad". Due to the shift, the word's pattern of usage has changed and with it the linguistic-external construction values that ultimately has lead (or will lead) to a markedness shift here as well, since the use of the washing sense will decrease leaving the illegality sense the default sense. It is these markedness shifts that triggered the on-going (soon to be completed) shift in default term for 'washing clothes' from *launder* to *wash*.

 We will now move on to those changes where the original core sense for a word not only is superseded by a new peripheral one, but where the original core sense does not survive at all. One example of this type of change is *bedroom*. Most native speakers do not know that the original sense of *bedroom* in fact was 'sleeping room or space in a bed'.

> Then by your side, no bedroome me deny. (Shakespeare 1590, OED)

It was a figurative extension of *bedroom* that resulted in the present-day meaning, 'a room containing a bed or beds; a sleeping apartment', an extension so successful that the original sense has gone out of use completely.

> His room, a regular human bedroom, only rather too small, lay quiet between the four familiar walls. (BNC)

As in our previous example, the meaning shift of *bedroom* cannot be properly discussed without taking the word *bedchamber* into consideration. The word was at the time of the meaning shift of *bedroom* the default word for 'a bedroom', and had been ever since *chamber* was borrowed from French. Even though the two words had different (though related) meanings, they ought to have been more or less in complementary distribution, since, at the time of the introduction of *bedchamber*, people of the lower classes could not afford houses equipped with separate rooms for sleeping in, only the nobility, the clergy and the merchants could; the lower classes were forced to sleep wherever there might be room to spare, which nicely fits the original meaning 'bed-space' for *bedroom*. Hence, *bedroom* was used for the sleeping arrangements of the (English) lower classes, and *bedchamber* for the (French or French influenced) upper and middle classes.

Possibly due to the complementary distribution (complementary primarily with regard to social class) of the words, *bedroom* must have been more or less deliberately reinterpreted from meaning 'room in bed' to 'room with bed'. The reinterpretation, naturally, lead to an increased competition between *bedroom* and *bedchamber*. This competition was clearly regulated by socio-cultural factors, since in a society where bedchambers were associated mainly with the upper classes and the types of rooms (spacious and well- decorated) and beds (huge four-poster beds with bed curtains) and where the number of lower class families having bedrooms (modest rooms with modest beds) must have been on the increase, the use of *bedchamber* must have been seen as inappropriate and that of *bedroom* more befitting; a bedchamber is a kind of bedroom, but a bedroom is usually not a bedchamber. Following this, the use of *bedchamber* decreased, whereas that of *bedroom* increased. Eventually, *bedroom* succeeded in common use to replace *bedchamber*, and today *bedroom* is overwhelmingly more frequently used than *bedchamber*.

	BNC	WWW
bedroom	4,352	1,639,160
bedchamber	63	3,160

In present-day English, *bedchamber* is almost exclusively confined to the contexts of royalty and history, as well as to romance and fiction where the bedchamber usually contains a four-poster bed.

> He soon remarried and it appears that his second wife had no qualms about sharing the bedchamber with her predecessor. (Julian Litten *The English way of death - the common funeral since 1450*, BNC)

Once again, we can see how cultural factors have first triggered an extension of meaning (*bedroom*) which, after or during a shift of core sense caused by a shift in the linguistic-internal markedness values, has triggered a shift in default (from *bedchamber* to *bedroom*) The latter shift once again was caused by a markedness shift, a markedness shift in the linguistic-external construction of the words.

Conclusion

We have showed how markedness values and shifts in these values within the various linguistic and extra-linguistic constructions of words and meanings regulate shifts in focality for both core senses and default words. Our discussions of individual instances of semantic change have also exposed the significance of socio-cultural factors, as the extension of *launder* and the reinterpretation of *bedroom* as well as the subsequent replacements of *launder* ('wash clothes') and *bedchamber* must have been triggered by and completed due to cultural rather than linguistic factors.

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Meaning in Micro-Communities

Henk Zeevat
University of Amsterdam
henk@ai.hum.uva.nl[*]

1 Meaning

One way of describing the enterprise of natural language semantics is by analogy with interpreted formal languages, e.g. the language of arithmetic interpreted on the natural numbers. English is then the formal language consisting of the well-formed sentences of English interpreted on the structure we happen to find around us. The business of the natural language semanticist is to describe the correlation of the formal expressions with that structure. This paper is directed against this particular interpretation[1] of the enterprise of logical natural language semantics.

Formal semantics of natural languages is based on the claim that there is no significant difference between the interpreted formal languages that are studied in logic and natural languages. An important part of this claim is that it makes sense to say that words of natural languages have a determinate meaning, which can be articulated as a model-theoretic object.

Is this claim reasonable? It would appear that the literature contains only one account that makes the claim plausible for some words: the causal reference accounts (Kripke 1980, Kaplan 1971) for proper names and natural kind terms. These accounts come with a presupposition: the (ontological) reidentifiability of the bearers of names and the natural kinds through time. If we accept this presupposition, we have an account that predicts that a current use of a natural kind term or a proper name refers to the kind or object that was baptised by the term or name by the people who came up with the term or the name. If one is rather broad-minded, it is possible to extend the account to other categories of words: names of professions, activities, etc. But while we are reasonably confident that objects and natural kinds can be reidentified, this is more problematic for these other categories.

Extending the account to the functional words and syntactic constructions is even more problematic. In this paper however, I will take the main results of logical semantics for natural languages for granted and thereby the possibility

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[1]See e.g. R. Montague, English as a Formal Language.

of adequately dealing with those function words that have a logical analysis. It is after all the functional words on which the semantic tradition has most to say, though it should be obvious that asking for a full account of function words from logic seems misguided: there is serious scope for other disciplines as well, e.g. psychology. It should be clear however that a justification of the claim that function words have a meaning which can be articulated as a modeltheoretic object is not at all easy to find.

The problem with the causal account is that in its justification of the meanings for words in natural language, it clearly rules out that these meanings can change. The causal account has other problems: it works for successfully baptised entities, not in cases where no regular baptism has occurred or where there are unclarities as to what was baptised. The account also has no place for the information subjects may associate with a given word.

The causal theory makes it possible to justify meaning in the community of users of a language without having to attribute full knowledge of that meaning to each individual user. It is a social fact about the community that a name or a substantive word is associated with an object, a kind or a property, it is not a fact about the individual user. The attempts to conceive meaning as a property of the individual user run foul of the observation that competent users do not always have sufficient information to single out the object or the kind or property. And if there is sufficient information, it may be different information for different users.

My aim in this paper is to reinterpret formal semantics of natural language as part of a theory of the information flow that is typical for interpersonal communication. The theory starts from the intuition that in conversation there is an intention-governed information flow from one party to the other which is fully explainable in terms of properties of the individual language users involved in the conversation. The social nature of natural language is part of the explanation of why this information flow is possible, but there is no need for social meanings beyond the general rules of reference. The task of natural language semantics is to help explain the possibility of common grounds of linguistic knowledge for conversational partners that allow them to transfer information from one to the other according to the speaker's plan.

This leads to a more limited ambition for semantics. One is tempted as a semanticist to start from the concept of an ideal speaker that has full knowledge of the semantics of the language. In my proposal, the ideal speaker has a full knowledge not of social meanings but of the mechanisms of reference and of the functional part of meaning, i.e. of functional words and the meaning of syntactic combination. It is not required that she know the social meanings of each individual word.

My main thesis is the following: the analogy with an interpreted logical language is fruitful — though inaccurate— when it comes to considering micro-communication: two people engaging in linguistic communication and much less fruitful when it comes to accounting for the full community of English

speakers. For the micro-community, we —and the conversational partners— assume a common ground between the two speakers which is the basis for an explanation of why information flows.

Let us assume that A says to B:

(1)   John is happy

For this to work as a communication, it must be common ground between the conversation partners that "John" refers to some entity, "happy" to some property and that "is" means that the property is attributed to the entity. It is not required that the proper (or an effective) way of identifying John or of defining or showing the property happiness is common ground between them. They can each be ignorant of either or both and it can be common ground between them that one or both is ignorant of either or both.

Even in the worst case, information would still flow, information that would only be usable for B when B acquires more information about the person called "John" or about the property of happiness. This can be spelled out in a precise way: The sentence eliminates B's epistemic alternatives where the person called "John" does not have the property called happiness. Models of this common ground are models in which the following presupposition is fulfilled: "John" denotes an object and "happy" is related to application criteria and A and B have this belief *de re* about the objects and the criteria. Each of the worlds meeting the common ground is a world in which natural language semantics applies in the sense that it meets the requirement that the particular words involved have a meaning.

Rather than assuming that words have a meaning and explaining why this should be the case, communication presupposes that it is common ground between the conversational partners that the words have a meaning. Communication does not presuppose common ground meanings as such, though there is no reason to rule out communalities in the ideas of the two participants about the meaning of the words or even a common ground about aspects of the content.

We find the minimum degree of communality[2] in the communication between Johnny and his sister if Johnny has to pass on the message that Mr Smith is delayed to his father at the request of his sister who is equally unaware of the identity of Mr Smith or of the meaning of *delayed*. For successful transfer of real information between A and B something more is required.

What we should explain is how it comes about that interlocutors share —or appear to themselves to share— such a common ground with each other. The explanation of this fact is not very difficult: A and B are speakers within a larger community of speakers in which language is frequently used. A uses the word "John" and maybe even knows who John is in virtue of his being a participant in the use of the word "John". This is transparent to B, etc.

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[2] In terms of Haas-Spohn (1994) the two kids convey exactly the formal meaning of the sentence to each other.

In virtue of the use of words in the larger community, it may be a correct belief of A or B that x is called "John", or that "happy" is correctly applied to x_1 at t_1, to x_2 at t_2 etc. and that x at the time of speaking is sufficiently like their private samples in the relevant respects. In fact, normally A and B will have a sample of correct uses for "happy" and will know of various proper names which indeed are used as the names of people acquainted to them.

So it being common ground between A and B that each of them is a normal language user is sufficient for it being common ground between them that various semantic facts about the words obtain. It is also sufficient for assuming that further experience with language use may increase the information contained in the exchange. And of course, it is often ("normally") the case that the membership of the community gives a common ground of semantic facts relevant to the communication in question that goes well beyond the minimum requirement.

The inaccuracy of the claim that a natural language is like an interpreted logical language should now be clear. Rather than to a single model, the language used in the exchange is tied to the class of models of the common ground assumed in the conversation. Each of those can be thought of as containing a fuller version of English as an interpreted language. But they are all different and none of them can be described as the "true" English, if indeed there is such a thing. The speakers of English accept —as it were— the idea of English as a formal language, but they do not know which formal language it is.

From the perspective of the micro-community formed by speaker and hearer the causal theory does not find an anchoring point. What is called what depends on what others call what, not on facts of baptism that are not within the perspective of the two speakers. The success of the information exchange within the micro-community depends on the communalities between the speakers, not on their conforming to the norms of the larger language community.

2   Common Ground and Partiality

Semantics and semantic common grounds only are basis for or explaining information flow in conversation. That B accepts the information in A's message is dependent on B's assumption that A makes these sounds because A wants to convey a content to B, a content determined by the form of the message. And A produces the sounds because of A's plan to convey that message to B.

So in my requirement of a common ground within the micro-community, I am just following Grice. In Grice's conception the speaker intends us to realise a message on the basis of us recognising her intention to convey that message. Both the speaker and the hearer must reason about their common ground with the other in order to reach the conclusions that the hearer will recognise the intention and that the speaker intended the intention. In this reasoning, syntactic and semantic beliefs ("facts") play a crucial role.

The existence of such common grounds is not problematic, given the sort of facts that we want to have inside and the fact that they are partially based on the general use of language. Assuming a common ground is not necessary if one only wants to explain that information can flow. Some sort of decoding mechanism is then all that needs to be assumed. But common grounds are necessary if we want to explain successful communication and the fact that communicative behaviour has purposes. The speaker cannot think that her action is rational without assuming that there is a sufficiently large common ground, the hearer cannot take the word of the speaker unless she also assumes that the common ground between her and the speaker is sufficient.

The construal of semantics as above allows partiality of meaning. In particular, it allows ignorance of the meaning of words for language users. But it also leaves open the possibility that there is no complete meaning to be had: Even if we increase the number of possible semantic facts to the maximal extent possible, we will not be able to reach something that could be considered by the Fregean or by the Montagovian as a proper meaning. It is however not my view that this is the general case. On the contrary: A proper name of a real person would be a counterexample and, also, a natural kind term for a properly identifiable natural kind.

It is useful to try to characterise what is involved in these cases. There is a name, e.g. "Bill Gates" which has the syntactical properties of a proper name and which is used as a name. E.g. we can infer from a person x being called "Bill Gates" by somebody that "Bill Gates" is the name of that person x. Once we have found out that "Bill Gates" is the name of x, we can use "Bill Gates" to refer to x ourselves. The existence of a name is the fact that a certain sound pattern has the properties of a name, i.e. that it is used as a name. Next to the existence of the name, we need the existence of the referent. Now in the case of Bill Gates there does not seem to be any serious doubt that he exists. And finally we need evidence that "Bill Gates" is used for Bill Gates. Most of us share evidence for the facts that "Bill Gates" is a name, that Bill Gates exists and that "Bill Gates" is a name for Bill Gates.

The same three facts obtain around the word "gold". There are semantic and syntactic rules that make "gold" an existing natural kind term (or possibly something less specific, like a mass term), science tells us that gold really is an element and there is abundant use of "gold" as a name for gold.

While facts about the existence of a word in a category are not difficult to ascertain, the existence of the entities to which a word seem to refer is often far less clear than in the two examples we considered. And evidence as to a word applying to an entity is conditional on the robustness of the existence of the entity.

While we may feel that there is no problem with the existence of a substance like bread, there is still a much harder problem in answering the question what precisely makes a piece of bread bread. Is it the ingredients, the way of preparation, the general look and feel, its qualities as a food? It is simply false that

in the use of bread in English an implicit answer to these questions is hidden. Moreover, from a linguistic point of view, there is little that distinguishes "gold" from "butter" or "bread".

This may be thought of as vagueness rather than as partiality. But the two are related: the lack of articulation of the concept of bread, or perhaps the impossibility of a precise articulation, is responsible for its vagueness and for the partiality of the meaning that an individual speaker has at his disposal, however well informed he is about the use of the term in question. Vagueness is partiality that cannot be overcome.

Let's consider another word, the adjective "groovy". It is not clear what the relevant attributes are that support the application of the word and it is equally clear that like "bread" it is a vague predicate. It is also clear that there may be serious differences of opinion as to who or what is groovy. And this happens not only with words from the realm of fashion and manners, but is pervasive with words from politics, religion and philosophy. The claim that the truth about the application of terms from these areas lies hidden inside their use in ordinary language should be denied, even while one should admit that testing a particular theory about the meaning of a word against ordinary usage or common sense can be very helpful. So I take it that partiality of meaning is an essential property of speakers of a normal natural language. Linguistic methodology cannot idealise away from it without distorting its object.

Is it possible to extend this account of information flow to the language community as such? Can we discover a common semantic ground for all the speakers of a natural language? This does not work. A language would have to be a generalisation over all the speakers. A common ground between them does not exist for the simple fact that they do not know each other. Can we assume a substantial amount of shared semantic knowledge? It seems that the communalities are rather restricted: Even in the words that are important in every-day life, divergences are frequent.

We have nowadays systems of language education, dictionaries and grammars. They increase shared knowledge, but do not principally change the situation. The importance of these developments for our culture is hard to overestimate, yet that is exactly what happens if one claims that they make a difference of principle. What they do is highly praiseworthy: They tend to increase the common ground over larger sections of the population and increase its content. Thereby they enormously increase the possibilities of linguistic communication and the quality of the information that we can obtain from it. But they do not recreate our natural languages as platonic objects for the semanticist to investigate. Small communities and fragments should be the domain for our reasoning about meaning as that what makes information go from one person to the other in linguistic communication.

One last point. I have talked about rules of use for names and natural kind terms and also about general mechanisms of reference. Let me try to make that clearer. My view is that substance words can be categorised in categories which

determine both how they can be used to form larger expressions and to what they can refer given experience of their use. Syntax can in principle be taken as our guide in determining what categories there are, especially if we take the perspective of the comparative syntactician and use syntactic distinctions in one language to distinguish categories everywhere. The question to what they refer must in principle be tackled per category. Let me as an illustration try to say something about the use of the words "bread" and "sleeping". Instances of bread are the sample which is acquired through experience of the use of "bread" and the rule for mass terms seems to say that something must be the same stuff as in the sample if "bread" is to be applied to it. If something is the same stuff, it must fit in with the sample in an unproblematic way: It must look, feel, taste, be made and used in a way which is more like the elements in the sample than things which are not bread (the negative sample). This is —I would claim— not a heuristics for identifying bread, it is the rule that governs how we use the word "bread". The category of "sleeping" identifies it as classifying a state of humans or animals. The sample of sleeping humans or animals (including oneself at certain times) determines a way of identifying new instances of sleeping, by judging appearance (closed eyes, regular breathing), inaccessibility to external stimuli, and suspension of waking activities. It is again a question of being more like the elements in the sample than like the elements in the negative sample in a number of relevant dimensions, the dimensions that hold the sample together. And this is again how we use "sleeping", not a heuristics, even though scientific concepts of sleeping have been given.

Sometimes we have more than similarity with a sample. This is a question of luck, deriving from the ontological status of its referent. We have this luck with the category of names for people and with mass terms that refer to proper elements. And in some other cases.

3   Language Change

An important aspect of natural language is the possibility to introduce new words, to make (temporary) agreements about the use of certain terms, to clarify one's meaning and to ask for clarification. There are special devices for doing so.

(2)   Let n be a natural number such that $P(n)$.
         Let us call this microbe Bertie.
         Some models will exhibit the properties P and Q. We will
         call these models nice models.
         I mean with partiality, the property of having an indetermi-
         nacy in the application of a certain word.
         What do you mean by "causal reference"?

It may be thought that these devices are typical for mathematics and scientific discourse in general and indeed they are. But several researchers have found

that the establishment of a terminology by metaphor and local convention is typical for situations in which the conversationalists move into a new area. E.g. work on the HCRC Maze Game Corpus (Thompson et al. 1993) (a task that was specifically designed to gain more insight in referential devices) shows that speakers —after a success— employ the same device over and over again and also explicitly introduce local conventions for reference.

Discourse Representation Theory (DRT) (Kamp & Reyle 1990) provides the means for a formalisation of these relations almost without further ado. We need a way of stating that "the N" is locally a name for the discourse referent x. Clarifications of relations, or of uses of relations can be encoded in a similar way. The local character of these conventions and determinations is guaranteed since the object we are building in DRT is a representation of the current common ground. Exportation to general knowledge, or to some database representing general semantic knowledge is thereby avoided. Like proper names, other substantive words should be thought of as presupposition triggers that resolve to objects and properties that are so-called in the current common ground or otherwise in general semantic knowledge or —in the last resort— by assuming an appropriate object or property (accommodation). The spreading of local conventions —when they are not obliterated by new local conventions using the same word— to the community at large is an important source of new words coming into the language and for giving new meanings to old words.

Another important source of language change is error. My great- greatgrandfather became a victim of error involving his own name —possibly without his knowing so— as he was born a Sefath and died a Zeevat. Ever since the error was made, we and the registrars have been using the mistaken spelling. There is no sense in which the old name still applies to us and the error seems to have created a new name. The error is made possible precisely because of the partiality of the knowledge of the name by the community at large: The clerk in question was not familiar with it or possibly confused it with another name.

There are also more natural processes that lead to change. The latin word for mistress *domina* has come to mean woman (*donna*) in modern italian without any of the associations of grandeur that are still associated with the french *dame* from the same root. Probably this is a question of politeness which causes overapplication. At the same time the word *femmina* (woman in latin) has become depreciative (like the word *wijf* in Dutch which also used to mean just woman, with the current *vrouw* denoting upper class adherence in the older days). Politeness leads to overapplication of the higher forms with automatic loss of meaning, while the continuing opposition with the neutral form makes the latter become depreciative.

Another subtle effect is illustrated by the following example.

(3)   Saturday promises to become a nice day

This is a standard dutch way of indicating that the speaker has evidence for the fact that Saturday might well be a nice day (it typically like real promises allows

for error). *Promise* is here a modal auxiliary and seems to derive from the possibility of underpinning the likelyhood of an action of x by the information that x has made a promise to do it. See e.g. Verhagen 1997.

In my opinion, error underlies all these changes. Overapplication is an error, though a deliberate one. It constitutes a change of use which changes the common grounds in particular situations. Apart from the factors which lead to a change in use (politeness, jumping to the wrong conclusion, the tendency to misunderstand the real message in the word) there is nothing to explain.

The concept of error presupposes a norm. The norm for correct language use can be given very simply: Use language as everybody else does. This is the rational kernel of the causal theory. It gives special case of the norm, for the cases where it is possible to do so. In this way, the correct way to use a name (or a correct way) requires an event in history where the name was assigned to its bearer and an assurance that our current use goes back to that event. Typically, a similar criterion cannot be given where the original use does not by itself provide a good criterion of use. The medieval butcher had quite a different profession from contemporary butchers. An application of "hip" is not impaired by the fact that none of the original users would have supported the application.

It seems that names and natural kinds are just the cases where by nature there is not much change and contemporary use reflects the intentions of the originators fairly accurately, as far as can be ascertained. It is however a *non sequitur* to infer that in this case the norm is given by the origin and faithful causal transfer. The norm can also in this case be stated as: use language like everybody else does. Conforming to the origin and faithful transfer is just what everybody else does in special cases.

Can semanticists carry out their tasks in the presence of semantic change and uncertainty on the part of language users? I can see no clear problems arising. Categorial knowledge of semantic properties of words and the meaning of certain functional words is what classical natural language semantics is good at.

There is no problematic idealisation involved in the assumption that a language user can have full categorial knowledge, since there is no reason for assuming a large set of categories. Moreover, many of the conceptual relations between words can also be reduced to categorial knowledge. So at least part of lexical semantics is unaffected by my reinterpretation.

Can natural language semantics make a contribution to the study of semantic change? Change is not part of the traditional concerns of natural language semantics.

Some areas come to mind. The first is the area of transfer processes by which new meanings for old words come about. Here special meanings (derived from transfer processes) are sometimes able to take the place of the original meanings. Formal theories of the transfer process are helpful in studying this change.

Second, one can expect a contribution for the study of stability. A word expressing a proper natural kind like "beech" or "man" has a far greater stability than a word expressing a profession like "grocer" or "major" or of a color word like "grey", which in turn is much more stable than fashion words like "hip" or "groovy". Whereas "human", "grey" and "hip" are not unlike in their categorial characterisation and in the way they are learnt, explanations are necessary for the different degree of stability one expects. It would seem however that this is more a question of the constitution of the world than of the constitution of language.

Conclusion

The incompatibility between natural language semantics and the phenomenon of semantic change is due to the attempt of defining meanings for the community of speakers of a natural language as a whole. I have tried to start at the other side: What does one person try to convey to another in a single communication. The meaning (in a successful communication) depends in that case on the semantic beliefs in the common ground between the two speakers.

It seems absurd to me to try to develop theories that will predict that where speakers are successful, they can yet have conveyed completely different things to each other because their use of words trangressed rules of meaning obtaining the community as a whole.

The use of language in the larger community is important as a source for the common ground in a communication, but it does not go any further than that. The source of semantic knowledge is not formed by the mythical baptisms and conventions, but by the use of language to which the communicators have been exposed.

Change of meaning is here any social process that changes the use of words, and thereby the common grounds that communicators will share. This will automatically lead to a change in the information that is normally expressed by the same sentence before and after the change.

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