Grammaticalization and Semantic Change

1. Solving semantic equations

The meaning of natural language sentences obeys the principle of compositionality. The denotation of a sentence is determined by the meanings of its parts and the way in which they are combined. Grammaticalization refers to language change where words and constructions change their morphosyntactic status. We will therefore predict that semantic composition will change as well, if only in the combination of items.

In actual fact, the principle of compositionality is a driving force in grammaticalization in yet another respect. Turning points in language change are often defined by utterances (quotes) of a double-faced nature. Such quotes would make sense in terms of the older language stage (= older literal sense), even if a bit forced or incongruent. However, they also could convey a *new* message (= not based on the older literal sense of words), not only for the modern reader but, plausibly, also for the contemporary audience. The new message can arise by pragmatic inferencing, generalization processes, but sometimes also simply situational "guesswork".

How was the contemporary hearer to make sense of these new messages? They, as we all do, trusted the principle of compositionality. Hence, they assumed that this new message came about by combining the meaning of the parts of the utterance in the regular way. They tried to figure out (a) which word or morpheme was most likely the carrier of the new pieces of meaning, and (b) what exactly this new piece of meaning must be. In brief, they had to solve a semantic equation with one unknown. Given that language changes occur without severely impeding communication, we can infer the following corollary version of the principle of compositionality:

> *Speakers (of one cultural/social community) will solve semantic equations in one unknown in a more or less uniform manner.*

The results of solving the semantic equation can be denotations that are abstract in the sense that they could not be defined by ostension. This contrasts with typical denotations of (simple) lexical words. To define the meaning of '*chair*', all you need is a chair to point at, but you can not define the meaning of a past tense morpheme by pointing anywhere.

For this reason, meaning changes in grammaticalization can best be investigated in a semantic framework that does justice to compositionality, both at the lexical and the grammatical level. Any framework that offers this feature will be suited, but for various reasons I will rest the discussion of micro steps of semantic change in this article on truth conditional semantics and its extensions into pragmatics. In the summary, I will relate them to macro trends in grammaticalization that have been proposed in the literature, notably trends like *bleaching*, *subjectification*, *generalization* and *pathways of grammaticalization*.

I will restrict attention to a small number of cases which will serve to illustrate the main types of semantic change. In the verbal domain, we will investigate the emergence of German passive *werden* + past participle, take a look at the Romance/Germanic perfect: *have* + past participle, and briefly review the classical example of English future *going to* + infinitive. Another classic in the field is the development of modals. The emergence of scalar degree modifiers shows how semantic reanalysis leads from concrete to abstract content. Loss of presuppositions is

characteristic for the stages of negation particles along the Jespersen cycle. I will then argue that modal, emotive and discourse particles also emerge by semantic reanalysis and hence show "grammaticalization" in a semantic sense, even though they are more "extragrammatical" in a morphosyntactic sense (see the parameters in Lehmann 1982[1995]). Finally, we will take a look at paradigmatization from a pragmatic viewpont.

2. Micro steps of change

2.1. Argument structure

The emergence of the German passive *werdan* + $V_{past.participle}$ rests on a minimal semantic change in the choreography of tense and aspect indexicals *S* (speech time), *R* (reference time) and *E* (event time; Reichenbach 1947, Kamp + Reyle 1995, Klein 1994). I will use Behaghel's (1924: 199ff.) data record of the change. He reports that $werden_{present}$ + $V_{past.participle}$ regularly convey futurate meanings in early OHG sources.

(1) *arslagan uuirdit Christ*
slaughtered become Christ = 'Christ will become (a) slaughtered (one)'
translates Lat. *occidetur* 'will be slaughtered'
Isidor 27,12; Behaghel (1924, II: 200)

Sentences in the Latin present passive are regularly *not* translated by the $werden_{present}$ + $V_{past.participle}$ construction but by more present-oriented constructions, notably the present tense active. So, for instance, Lat. *illud quaeritur* 'this is being searched' is translated as *dhaz suochant* '(they) search for this' (Behaghel 1924: 201).

In its older reading, *werdan* introduces its own referential argument. It refers to phases *E* of change between a state non-*p* and a state *p*. The surrounding constituents of the sentence describe *p*. Tense/aspect specify *E* as usual, and specifically present tense locates *E* (via *R*) at the time of speech *S*. A sentence like *Christ wirdit arslagan* hence denotes the proposition 'there is a phase of change *E* located at *S* which leads to the state *p* = Christ is (a) slaughtered (man)'. It is open what kind of change *E* the speaker had in mind.

In the newer interpretation of such sentences, however, speakers specifically assumed that these pre-phases are phases where someone *<verb>-s <subject>* ('slaughters Christ'). The verb *werden* no longer introduces an event *e*. The complex [*werden* + $V_{past.participle}$] is interpreted as *the* finite verb of the sentence. The event argument of the sentence is described by the main verb (lexical content of $V_{past.participle}$). Specifically, present tense locates *E* at speech time *S*. Examples like the following mark the turning point. Being generic in character, they refer to a series of events *E* which might in part be in the future, in part at present, thus blurring the former future reference of *werden* + $V_{past.participle}$.

(2) *wirdit thaz ouh ana wan ofto in sambazdag gidan*
becomes this also without doubt often on saturday done
Otfried III, 16,37; Behaghel (1924, II: 201)
'this will / is regularly also often done without doubt on Saturdays'

Final evidence for the shift is offered by the fact that "true" future passives now get an extra future marking, e.g. by *shall* (Behaghel 1924: 201).

(3) *than scal Judeono filu theses rîkeas suni berôƀote uuerđen*
then shall Judes' son of-these kingdom his' robbed become
Hel. 2138, 2139

Our next case is the emergence of perfect. Perfect constructions in European languages mostly pattern after the Latin *habeo* + $V_{past.participle}$ construction (de Acosta 2006 offers a survey) which took its origin from small clause constructions of the form *Subj has* [Obj_{acc} $V_{past.participle}$.]$_{SC}$. Such small clause constructions generally require some relational link between the matrix subject referent and the embedded small clause. (4) suggests a plausible link while (5) is harder to interpret. This difference can be found in all (living) languages that have the respective construction.

(4) *Joanna has her daughter living close to her.*
(5) *#Joanna has Mr. Smith's daughter living close to him.*

Sæbø (2009) proposes that *have* can take small clause complements only if the meaning of the small clause offers an implicit parameter which is instantiated by the matrix subject. In an early stage of proto-perfect, this general pattern could be exploited by selecting the AGENT parameter of the participle verb for this implicit link. *"Joanna has* [*a mouse killed*]$_{SC}$*"* with the role of **Joanna** being that of the killer of the mouse. The resulting messages, however, could be derived in a much simpler composition: Morphosyntactic reanalysis leads to re-grouping *have*+$V_{past.participle}$ to one complex verb form where the subject of the clause (formerly: matrix clause) does what it usually does: instantiate the highest argument of the verb. This type of morphosyntactic construction no longer requires the object DP as a hinge between matrix verb and small clause. This new composition therefore is also meaningful for the past participle form of intransitive verbs (*have smiled, have slept* ...), which allows the pattern to spread. Sæbø (2009) devises a specific version of the intermediate step of what we might call "fossilized parameter short-cutting" as part of his panchronic analysis the varied uses of *have*.

The track record of emerging futurate *going + to* V_{inf} has been investigated more intensely than perhaps most other tense/aspect forms of English (Visser 1973, Hopper + Traugott 2003, Eckardt 2006 among others). Authors however agree that at a certain point, speakers/hearers saw reason to believe that a word string like

(6) *A is going to talk (to the king)*

no longer conveyed the (older) message: '*A* is presently moving (*e*) somewhere with the intention: *A* talks (to the king) there'. Instead, they believed that the intended literal message was, more simply, '*A* will talk (to the king) soon'. Structural reanalysis led from a small clause construction to a simple clause with a complex verb form:

i. *A is going* [*to talk (to the king)*]$_{SC}$
ii. *A* [*is going to talk*] *(to the king)*

The following avalanche of semantic changes takes place: First, speakers loose the notion of a movement event *e*, namely the referential argument of the (former) verb *go*. This leaves the sentence with one event to report about, here: the event *E* of *talk*. Tense and aspect information will hence refer to that event *E*. *E* is understood to happen in the future, but the message of the sentence is actually richer. Present tense still locates reference time at speech time *R*=*S*, but speakers understand that at *R*, subject *A* is already doing something which will lead to *E* almost certainly. We might dub this as '*A* is in a pre-phase *pre*(*E*) of *E*'. Taking up as much as possible of the older progressive message, the sentence is reanalysed to report that this pre-phase surrounds the reference time *R*. In our present example, $S{=}R \wedge R{\subset}pre(E)$ and consequently, *S* precedes *E*. The event *E* of talking happens in the future. Taking this to be the literal message of (7), the speaker/hearer faces the task to identify (possible) parts of this message as the literal meaning contribution of parts of the sentence (in the new chunking). The grammar of Modern English shows the equations that survived over time (formal proposal in Eckardt, 2006).

i. ⟦ *going-to* ⟧ : Takes a predicate *V* of events as its argument. States that reference time R is in a pre-phase of an event described by *V*.
ii. ⟦ *be* ⟧ : Carries the tense information. Present tense states that *R*=*S*, past and future refer to *R*<*S* and *S*<*R* respectively.

Note that *going* is no longer interpreted as carrying progressive morphology, and *to* is no longer part of an embedded clause. This explains why phonological reduction '*gonna*' is possible.

2.2. Modals and Modality

The previous cases illustrated how grammaticalization may involve a reorganization of argument structure, loss of referential arguments (specifically of verbs, when they shift to an auxiliary status) and rearrangement of tense/aspect structure. These processes can also be diagnosed in the diachronic development of modals, but the case of modals is more intricate. In descriptive terms, modals show an ever increasing range of uses, ranging from the so-called root modals to more abstract, futurate and epistemic readings. Clines like the two below are typical, as argued by Traugott (1989), but standard dictionaries like OED or DW are likewise good initial sources for examples.

OE *sculon* ('owe') > *shall* (deontic) > *shall* (metaphysic)
OE *cunnan* ('have the physical ability to') > *can* (deontic) > *can* (epistemic)

Semantic analyses of modals treat them as quantifiers over possible options ('worlds', 'situations'; Lewis 1973). *shall* generates a universal statement, whereas *can* makes an existential statement. *must, will, ought to, need* pattern with *shall*, whereas *may, might* are analyzed like *can*. The backbone of the analysis is as follows:

x *shall VP* : $\forall w$ (w is a relevant option $\rightarrow$ x does *VP* in w)
x *can VP* : $\exists w$ (w is a relevant option $\wedge$ x does *VP* in w)

Different modal flavours are attributed to different choices of what counts as a relevant option. Quantification over worlds where *x* behaves according to the law will

create a deontic reading, worlds where *x* acts according to her desires will create a bouletic reading and so on. Choices are in part lexically restricted, in part driven by the conversational background (Kratzer 1981; for an introduction see Kaufmann et al. 2004).

Thinking in terms of meaning change, we find that the logical backbone of modals remained the same over time, but they were transferred from source domain to target domains. This view offers a beautiful link to Sweetser (1990) who argues that the development of modals should be viewed as *metaphoric extension*.

A closer look at the new kinds of "relevant option" reveals that the most recent, epistemic readings generally rest on a speaker-subjective choice of relevant option. I will confine myself to one example.

(8) *Epistemic 'could': My purse could be in the car.*
Relevant options: *worlds w that are such that I, the speaker, think that they could be the real world where I actually live in*
Meaning:
∃*w* (*w* is such that I think it could be the real world
∧ in *w*: my purse is in the car)

Traugott + Dasher (2002) describe this final step as subjectification, a view which again coheres well with this analysis.

Yet, the meaning of some modals underwent another, more serious reanalysis. The universal modal *must* emerged from OE / OHG *motan* which meant 'may, is allowed to'.

(9) *'Licet' is alyfed is word: 'mihi licet' ic mot, 'nobis licet' we moton; 'tibi licuit' ðu mostest*
Ælfric Gram. (St. John's Oxf.) 264.

(10) *mir gesciehet noh mînero persecutionis oblivio (âhto âgeȝ),*
'to me happens after my outlawry's oblivition (outlawry's oblivition)
so ih in pace (in fride) muoȝ pûen.
so I in peace (in peace) may rest.
Notker ps. 59, 9; (DW 12; 2750,1)

Hence, an existential modal ('there are worlds …') changed into a universal ('in all worlds …'). The opposite direction is also attested, in the case of German *dürfen.* OHG/MHG shows *darf* in the sense 'need (to have/to do)'.

(11)

mein	*herr*	*der*	*apt*	*der*	***darf***	*dein*
my	lord	the	Abbott	he	**needs**	you.GEN

Fastnachtsp. 203, 14. (DB, 2; 1721,8)

In late MHG, the verb developed a second sense 'may, is allowed to' in which it is exclusively used in ModHG. Hence, a universal modal changed into an existential. Traditional scholars favour the hypothesis that the change was initiated specifically in negated contexts (DW *dürfen*; see also OED *must,* v.[1]). The logical analysis of modals can help to understand the nature of the change. Negated universal statements are equivalent to existential negatives, and schematic paraphrases of the relevant type of example are as follows:

(12) Not all relevant worlds *w* are such that *p* holds true in *w*.
⇔ There are relevant worlds *w* such that *not-p* holds true in *w*.
All relevant worlds *w* are such that *not-p* holds true in *w*.
⇔ There isn't a relevant world *w* such that *p* holds true in *w*.

Here is the effect of this equivalence with *dürfen*. A negated statement like (13) can be the result of two different, semantically equivalent compositions.

(13) *in dem winter henkt man das fleisch hinausz daz es gefrier und mürb werd,*
('in winter, you hang the meat outdoors to freeze it and make it soft …')

und	*man*	*darf*	*es*	*nit*	*salzen*
and	one	'darf'	it	not	salt

'… and you needn't salt it'
Keiserb. 79b. (DB, 2; 1721,8)
i. Not [must (one salts the meat)]
ii. May [not (one salts the meat)]

Speakers who analysed (13) as in ii. would assume the (newer) meaning 'may' for *dürfen.* Speakers who analysed (13) as in i. would use the (older) meaning 'be obliged to'. What we see here is a particularly transparent case of semantic reanalysis, leading from universal to existential modal. This reanalysis can operate in both directions (as witnessed by *must*), so it is not a unidirectional change.

2.3 From content to degree: Reanalysis of particles

Semantic reanalysis can be more involved in that the speaker/hearer reassesses the divide between literal content of a sentence, and inferred information in a new way. This can be illustrated with the semantic development of numerous scalar particles. The adjective/adverb *sere* originally meant 'painfully'. This use is widely attested up to MHG and quotes like the following are typical.

(14) *so ist maniger geheilet, der nv vil sere wnd lit*
so is some/many healed who now very painfully wounded lays
'… when many are healed who now lay wounded very painfully'
Nib. C, Av. 4, 258.

The combination with *vil* ('very') offers evidence that *sere* is used in the sense 'painful' here, the author did not intend to write 'very very wounded'. However, the verb 'wounded' (and others) denotes a gradable state, wounds can be more or less severe. Generally, though not necessarily, severe wounds are also painful, and vice versa. Hence, speakers could perceive the overall information 'he was wounded severely, and it hurt' as coming about in two ways:

i. lit.: 'he was wounded painfully + inference: it was a severe wound
ii. lit.: 'he was wounded to a high degree' + inference: 'it hurt'

Speakers who hypothesize semantic composition as in ii. will assume that *sere* contributes the degree adverb 'high degree'. Later, and modern uses of *sehr* attest this

reanalysis. In ModHG, *sehr* is a degree adverb and can instantiate the degree argument of a gradable predicate. In this function, it competes with other degree modifiers.

(15) *30 Jahre / sehr alt*
30 years / very old
'30 years old'/'old to a degree *d* which is considerably above the contextual average'
**sehr 30 Jahre alt, * very 30 years old*

Kennedy (1999) can be consulted for the details of an integrated analysis of gradable predicates and degree modifiers, including an analysis of *sehr* (=*very*) in its new sense. Semantic reanalysis starts from a lexically rich, functionally simple manner modifier ('it hurts') and leads to a modifier of an abstract functional nature.

Similar developments occur with high frequency. German *bloß* = 'naked, bare' underwent reanalysis to become a scalar particle like modern English *only*. Turning examples could be of the following kind.

(16) *wan Êrec was blôz als ein wîp*
because Erec was bare(ly) like a woman
H.v.Aue, Erec, 103
i. he went bare (= without any weapon) like a woman
ii. he went barely like an (unarmed) woman; this manner is inferior to other manners in which you could enter a fight (e.g. fully armed).

Earlier *bloß* denotes a simple quality. Analyses of modern *only / nur / bloß* particles can be found in Rooth (1991). These particles associate with focus and create rich scalar messages by combining presuppositions and assertions. A final example of a word that moved from 'physical effort' to 'low degree' is English *hardly* = 'with energy; vigorously' (OED, *hardly*, 1.). It was reanalysed as 'little, to low degree', plausibly in collocations with verbs of perception.

(17) *hardly perceive something*
i. to perceive only with an effort
ii. not perceive very well at all; barely perceive

This example demonstrates that scalar particles can change their meaning from a high degree adverb to a low degree adverb and vice versa. We see that the changes in question rest on the reanalysis of specific examples, they are not metaphorical shifts where degrees would be transfered from one domain to another.

2.4. Negation: As presuppositions come and go

Grammaticalization involves not only changes in the literal content of words but frequently also changes in presuppositions. Frequently, negation particles start as negative polarity items (Ladusaw, 1996). OE/OHG *wight/wiht* 'being, thing' in emphatic uses of the type 'not a THING, not a SOUL' (attested since Gothic *ni…waith*) can serve as illustration. Polarity sensitivity is caused by a special lexical feature which requires that the word be always used in so-called emphatic focus. The

logic of emphatic focus reinforces the well-known licensing conditions, because all utterances with *wight*$_{FOC}$ presuppose that the reported proposition is "extremal" in some sense (for a detailed exposition see Krifka 1995, Eckardt 2006). At that stage, the negation-to-be can be used in all downward-entailing contexts which include negated contexts but are more general. The data for this stage are sparse in Germanic languages, but for instance the younger negation "companions" of French (*point, personne, rien*) exhibit the full range of uses in downward-entailing contexts before they foster into negation particles (data record Eckardt 2003). Returning to Germanic, *wight/wiht* can occur alone, or with the older negation particle *ne* by negative concord, depending on the variety in question.

Presupposition loss is a common process in language change. In time, the requirement to interpret the (prospective) negation particles with an emphatic focus will get lost. In the data, we see this where the former scalar undertone of sentences with *wight/wiht* or *ne-wight/ n-iht* is relaxed. At such a point, speaker communities will usually retain a syntactic restriction on the use of the item, and restriction to the scope of an overt negation is one common choice. At that point, then, the particle gets syntactically tied to negation. If we return to our sample case, Germanic languages today show *nicht/not* or *it/et* (Alemanic dialects) depending on whether negative concord was common in the crucial period (OE, OHG) or not (Southern German).

The development of negative polarity items into negation has been in focus ever since Jespersen (1917). It may be worth noting that there are other ways in which polarity sensitive items can lose presuppositions and undergo reanalysis. Specifically, another common road leads to free choice pronouns ('any whatsoever' type) and universal quantifiers like *immer* 'always' = *je-mehr*. The latter has completely lost all presuppositions of the earlier polarity item *je*.

2.5. Guessing the speaker's mood: emotive particles

Words or constructions can require a rich conceptual background, based on which they contribute to the overall information of the sentence. When hearers are confronted with utterances where this background can not easily be reconstructed, they reanalyse the "bad" word as conveying some information in a more shallow manner. One typical result of such a reanalysis are particles of various kinds (discourse marking, speaker's attitude, speech act marking etc.). Again, let us look at one example.

German *eigentlich* can be used as an adverb where it is roughly synonymous to English *truely, in fact*. A detailed analysis reveals that *eigentlich*, in this use, serves to create a contrast between some *true* state of affairs and an *apparent* state of affairs (Eckardt, 2009). It's possible to devise a uniform semantic value for *eigentlich* in adjectival and adverbial use, in both questions and assertions. Speakers use *eigentlich* in this sense to express that they have come to a quite differentiated view of the world; another side effect can be to block default inferences (Schmitz 2004).

(18) *Eigentlich ist Peter klug.*
'eigentlich' is Peter clever
'In contrast to what matters may look like, Peter is really clever'

In addition to this use, *eigentlich* is used as a discourse marker. In these uses, it can not be stressed and fails to refer to a contrast between real/apparent. It is understood

to signal that "the speaker, after some reflection, feels yet inclined to assert *p*", often with an undertone of good-will. Hence, (19) in this sense is a friendly reply, whereas (20) with stressed *eigentlich* is the onset of reproach.

(19) *Eigentlich hast Du recht.* 'After some reflection, I think that you're right'
(20) *EIGENTLICH hast Du recht.* 'In one sense you are right (but in another...)'

Unstressed, emotive *eigentlich* apparently got its meaning in utterances with older *eigentlich* where the intended contrasts were hard to reconstruct, but the speaker's overall (compromising) attitude was understood by the speaker.

German speakers seem particularly prone to such reanalyses, but *lets* in English is a similar case (Hopper + Traugott 2003) and Brinton (1996) surveys particles in OE. Emotive and discourse particles emerge by semantic/pragmatic processes that are similar to those of our earlier cases, namely by hearers' guessing the meaning contribution of one word in an overall understood message. The result of this guesswork changes the grammatical status of the word (adverb > particle), along with its meaning. From a semantic point of view, therefore, discourse particles are instances of grammaticalization, even though the resulting words are, if anything, less part of the core grammar than the source words.

2.6. Pragmatic competition and paradigmatization

Frequently, speakers can choose between two expressions that convey the same idea. In recent years, the advent of optimality theory in pragmatics has led to specific hypotheses about the competition processes that lead to an optimal choice (Blutner 2000; Benz 2003, 2006). While these investigations are mostly concerned with lexical words, Levinson (2000) applies essentially the same ideas to grammaticalization. Unrolling the basics of Gricean pragmatics, he offers a pragmatic analysis of the emergence of the English *PRO-self*/*PRO* paradigm. The core idea is strikingly simple.

Levinson argues on psycholinguistic grounds that reflexive actions are perceived as more marked, less normal, than actions of an agent on a third object. Hence, sentences that report the former ('*x did something to x'*) carry a more marked message than sentences that report the latter ('*x did something to y'*).

On basis of his neo-Gricean reformulation of the maxims of manner and quantity, Levinson predicts that, generally, marked expressions will be interpreted as reporting marked messages whereas simple and common expressions are interpreted as reporting on the normal case.[1]

The older intensifier *self* at a certain point lost its former pragmatic qualities in many uses. Pro-forms like *him-self* could no longer sensibly be interpreted as intensifying constructions and instead were perceived as a marked variant of the simpler pronoun *him*. (For a semantic/pragmatic analysis of intensifying *self, selber* see Eckardt, 2001; Keenan 2002 offers comprehensive data that illustrate the pragmatic losses.) At that stage, the pair *PRO / PRO-self* entered into pragmatic competition. In the long run, the more complex element became obligatory when the speaker wanted to express the marked message (*co-reference with the clausal subject*) whereas the simpler element became the obligatory choice when the speaker wanted

[1] This is where Levinson (2000) and Blutner (2000) converge.

to signal the non-marked message (*reference to a different object*). Thus, complementary distribution was achieved as the result of pragmatic competition.

A crucial point for this analysis is the stage where two items—here the two pronoun variants—are perceived by speakers as competitors for a certain semantic space. While synchronic studies can not say much about why and how this happens, diachronic investigations can deepen our understanding of pragmatic competition. The link between bidirectional optimality theory and paradigmatization has hardly been explored so far. The paradigmatization of number terms and deictic pronouns into article systems (see Chapter xx) could offer a fruitful field of research in this direction. Likewise, pragmatic competition could help to understand the change of the *be + V-ing* construction from an optional way to describe ongoing events to an obligatory progressive form (see Chapter xx).

3. Micro and macro changes

The above case studies in grammaticalization exemplify a wide variety of changes both at the level of semantics and pragmatics. Grammaticalization can involve changes in the argument structure of predicates, including the loss of referential arguments (= event arguments of verbs, mostly), shifts from indirect instantiation to direct instantiation of arguments, and the restructuring of instantiation of tense/aspect indexicals.

Changes in content can follow from semantic reanalysis, where the same overall proposition ('sentence message') is computed on basis of a new underlying structure. In more complex instances, the reanalysis is more far-reaching and affects the division between implied and asserted information (*going* future, scalar particles). The two sides—gain and loss—have been described in the literature under the term *pragmatic enrichment* (Traugott 1988), more elaborately as *generalized invited inferences* (Traugott + Dasher 2002), and *bleaching* (since Meillet 1912).

A particular kind of loss is the loss of presuppositions, i.e. the failure of speakers to observe the proper informational background that is specified in the lexical entry of a word. This type of loss fits Hermann Paul's description of language change particularly well, who classed change as "part of our ordinary ways of talking". Presuppositions can indeed be violated, as long as the hearer is able to "accommodate" them, i.e. take the missing information for granted. However, when the missing piece is too substantial, the hearer can also resort to new interpretations of utterances (Eckardt, t.a.).

Metaphoric transfer can help to use words in new semantic domains without any intermediate uses for reanalysis. Apart from the single example that was discussed here, such transfers play a predominant role where spatial concepts shape our language for other relational concepts (explored in Heine 1993, 1996, Levinson et al. 2006).

Subjectification (Traugott 1989, 1995) can be seen as a cover term for all those instances where the hearer newly interprets an expression as stating something about the speaker's attitude or perspective on the proposition expressed. This may happen, specifically, when the hearer finds interpretation of the utterance on basis of the older meaning of that expression implausible. Regular *pathways* of change, finally, arise whenever words of similar meaning are also used in similar contexts which typically give rise to the same implicatures, opening the way for the same kinds of semantic reanalysis. In this paper, I used scalar particles to illustrate such a recurrent pattern.

Surveys like Heine + Kuteva (2002) offer many more such patterns, each one instantiated by sometimes fewer, sometimes more sample cases.

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