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LETTER FROM THE EDITORS

Dear Readers,

'Gut Ding braucht Weile' ('Good things take their time'), according to a well-known German-language proverb, and so we are now happy to finally present you with a bountiful bag of 'goodies' just in time for the holidays, in the form of our *Views* double issue 2010! (- which, incidentally, includes a paper on proverbs.) Once more, we are covering an expansive array of topics, from idiom analysis to verb formation, by way of comment clauses, linguistic riddles, code choices, and language use in EU projects. And once more we are privileged to have this array peopled by national as well as international experts on these topics.

In the first article, Barbara Ebersberger takes on the question of whether the memorisation of idioms has something to do with their transparency and/or literalness, using an innovative empirical test design. Gunther Kaltenböck follows on her heels with a cogent account of the formal and functional development of comment clauses like *I think*, applying a Construction Grammar approach. Next, Philip Riley throws some light on the puzzle of how to reconcile the seemingly disparate incarnations of language as both a social and an individually subjective phenomenon, by juxtaposing the communicative practices of recounting proverbs and anecdotes. Claudio Schekulin then reports on a field study on the patterns of code choice among students in a Viennese German-English bilingual school, providing a rich quantitative assessment of his elicited data. Daniel Spichtinger subsequently takes us to the complex realm of EU-funded research projects, outlining, from an insider's perspective, patterns of language choice in an international network concerned with the monitoring of food safety. And finally, Sophie ter Schure investigates the productivity of Dutch strong verb patterns in past tense formation, with a diachronic as well as a synchronic empirical dimension. (While her topic might seem unusual for our journal at first glance, her study in fact replicates and directly informs research on English - and, what's more, it's of course all staying in the (West-Germanic) family!)

As always, we hope that you will enjoy the papers presented in this *Views* issue and find them stimulating and inspiring. And as always, we would love to hear from you with any comments you may have.

And thus we segue into the new year of 2011, fortified with good reads for long winter evenings, wishing our readers and contributors all the very best, and looking forward to a continued sharing of our *Views*!

THE EDITORS

The influence of transparency on the memorisation of idioms

*Barbara Ebersberger, Vienna**

1. Introduction

This paper discusses whether and how the transparency of idioms affects their memorisation.[1] For the purpose of this discussion, idioms are defined, broadly, as formulaic sequences whose meanings are not trivially derivable from the meanings of their constituents and which therefore need to be memorised. Transparency is likewise understood in broad terms as the relative difficulty with which the meaning of an idiomatic sequence can be inferred from literal interpretations of its constituents.[2] Although a lack of transparency is understood to be a defining property of all idioms in our sense, there can obviously still be great differences among them regarding the relative difficulty with which the meanings of idioms may be inferred from the literal readings of their constituent sequences. In other words, idioms can be placed on a cline of transparency with idioms where the speaker can easily infer the idiomatic meaning from the constituent words (e.g. *the early bird catches the worm* for 'the person who gets up early to work will be successful') at the top, and idioms where there seems to be no obvious synchronic relationship between literal and idiomatic meaning (such as *to kick the bucket* 'to die') at the bottom (cf. Cieslicka 2007: 39f.) To express this in a simple manner, this paper refers to sequences whose idiomatic meanings are

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1 This contribution is based on the author's MA thesis "Idiom memory & transparency" written at the English Department of Vienna University (2009) and supervised by Prof. Nikolaus Ritt.

2 Transparency, or actually its lack, i.e. semantic opacity is one of the three defining features of idioms proposed by Fernando (1996), who states that "the meaning of an idiom is not the sum of its constituents" (Fernando 1996: 3). The other defining properties he proposes are compositeness, i.e. the fact that idioms consist of more than one word while referring to a unified bundle of concepts, and institutionalisation, i.e. the fact that idioms are taken over into the general knowledge of a speech community (cf. Fernando 1996:3). The features crucial for this paper are compositeness and semantic opacity.

relatively easy to infer as (relatively) transparent, while sequences for which this is relatively difficult are called (relatively) opaque.

Regarding possible correlations between the transparency of an idiom and the ease with which it gets memorised, there seem to be two apparently contradictory possibilities, which both have a certain *a priori* plausibility. On the one hand, the greater transparency of an idiom may make it easier to learn and remember it simply because the relation between its literal reading and its idiomatic meaning is more obvious. On the other hand, however, the very transparency of the idiom may decrease the necessity of memorising it, thereby causing speakers to memorise it less well in practise than highly opaque idioms.[3]

In order to find out which of the two alternative possibilities actually applies, an experiment testing idiom memorisation was designed. In that experiment students at the English Department of Vienna University (advanced learners of English as well as native speakers) were presented with a number of idioms that were newly coined for the purpose,[4] and that contained both relatively transparent and relatively opaque idioms. An example of an idiom assumed to be relatively transparent was *to be an Ignorant Lindsay* 'to focus only on one's own needs and wishes and ignore the consequences for other people', an example of a relatively opaque one was *to carry one's head round* 'to be very prudish'. The test subjects were first given the idioms, told their meanings and provided with illustrative example sentences. Then they were asked to try and remember the idioms. Finally, in a second experimental session, the students were given three different vocabulary tests in order to determine the results of the memorisation process.

Although it was originally planned to treat transparency as a kind of global property of which idioms could simply have more or less, it became obvious during a pilot study that this simplification might lump together types of inferability which can and ought to be distinguished. In that pilot study, subjects were not only tested for memorisation, but additionally asked to rate the transparency of the idioms. Their ratings suggested that they applied two clearly distinct strategies of inferring idiomatic meanings, reflecting distinct

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[3] An interesting issue which surfaces with these correlations is how the idiom results relate to the results for formulaic sequences. Formulaic sequences span a wider range of expressions which do not require holistic storage, but also include idioms as a special case. Idioms also display a greater degree of fixedness than most formulaic sequences (Wray 2002: 4-56).

[4] Obviously, actually existing idioms could not be used, because subjects might know them already.

ways in which idiomatic meaning can be transparent. They could be called metaphorical transparency and literalness. Metaphorical transparency seemed to be relevant when idiomatic meanings could be inferred through the transfer of literal readings into a metaphorical target domain, for which transfer either one or more of the idioms' constituent words served as clues. Literalness, on the other hand, was relevant when the literal meaning of one of the constituent words represented a crucial clue to inferring the idiomatic meaning of the whole sequence, so that once this link was identified, it was easy to arrive at the idiomatic meaning as a whole. To reflect this distinction, it was decided that in the actual study the impact of the two types of transparency would be assessed separately.

In the main experiment itself, then, three different tests were administered to three different groups of subjects in order to assess the impact of transparency on three different aspects of idiom memorisation: participants in group 1 were asked to write down all idioms which they remembered without being given any kind of stimulus. The results of this group were taken to give information about memorisation in the fullest sense of the word. Participants in group 2 were given the meanings of the idioms and were asked to reproduce the matching constituent sequences. These results were taken to indicate whether transparent idioms are indeed easy to derive from their meaning. Group 3 received the reversed task. They were given the list of idiomatic sequences and were asked to reproduce their meanings. Their results were assumed to show whether the meanings of transparent idioms can be more easily derived than those of opaque ones. In other words, group 1 was the only group which was supposed to actually demonstrate the influence of (the two kinds) of transparency on idiom memorisation. On the assumption that the meanings of transparent idioms are indeed easy to infer group 3 was expected to display high results for transparent idioms, and the same holds true for group 2, although to a lesser extent, because the trained sequences may represent relatively plausible representations of the meanings they express but are certainly not the only ones, so that memorisation will have to play some role in achieving good results in group 2 as well.

So much for the general design of the experiment. The hypotheses it was intended to test were the following: (a) Metaphorically transparent idioms will be memorised better because they are 'motivated' by metaphors or metaphorical senses of the constituent words and make use of "existing patterns" (Lakoff 1987: 438) of meaning which are known by the speech community. (b) Likewise, idioms with meanings that are easy to derive from their literal readings will be remembered better because literal meanings of constituent words generally are highly activated in idiom processing

(Cieslicka 2007: 40-51). It was decided to consider the hypotheses as falsified, if group 1 were to show low results for transparent idioms, i.e. if transparency were to correlate negatively with idiom memorisation. We would then conclude that transparent idioms may fail to be learnt and memorised because when they are recognised, their meaning is inferred online from their constituent words.

It needs to be pointed out that the central hypothesis which our experiment is designed to test is inspired by previous studies on formulaic sequences. Thus, Schmitt & Carter (2004) describe idioms as "semantically opaque formulaic sequences" (2004: 4) and hypothesise that opaque sequences are learned differently from transparent sequences such as *men and women* (Schmitt & Carter 2004: 4-6). In an experiment, Schmitt, Grandage & Adolphs (2004) found out that learning performance was indeed significantly better and more constant when the sequences to be learnt were transparent (2004: 141-143). The difference between their study and the one presented here is that they focused on the difference between fully transparent sequences on the one hand, and non-transparent idioms on the other, while this study attempts to find out whether varying degrees of opaqueness are also reflected in varying success rates when it comes to idiom memorisation.

2. The experimental set-up

As pointed out above, the main goal of the experiment was to find out if and how transparency influences the memorisation of idioms, and for this purpose, 20 English pseudo-idioms were invented. The meanings chosen for them were taken from a set of different semantic areas with which the participants were assumed to be familiar. At the same time, a systematic distribution of idioms over different semantic areas was considered to be necessary since it was assumed that the meaning of an idiom may itself affect the ease with which it is remembered. Therefore, this factor had to be controlled because otherwise the impact of semantics might have masked the impact of transparency on idiom memorisation. To be able to recover the impact of transparency despite the influence meaning might exert, different semantic areas were defined, and for each area one transparent and one opaque idiom were coined. Two semantic areas, namely SHOPPING and SEXUALITY were assumed to be particularly salient in the minds of our test subjects for cultural and biological reasons respectively. For both of them, an additional idiom was coined that contained a nonce word and made the idiom particularly difficult to remember. This was done to test whether the influence of semantics was so great that it would outweigh the combined influence of

many factors assumed to impede the successful memorisation of idiomatic expressions. It has to be admitted at this point that the 'semantic areas' we defined for the experiment were not systematically derived from theoretical considerations. The idea was simply to arrive at a list of idiom pairs whose members (one of them transparent and the other one opaque) were not too dissimilar in terms of meaning and semantic domain. Thus we defined SHOPPING, PERSONALITY, STUDYING, SEXUALITY, CHEATING, BAD CONSEQUENCES and PRIVACY INVASION as semantic domains. Additionally, we included two subclasses, which we labelled IRONY and COLOURS. These terms do not refer to semantic domains, but denote a particular relationship between literal and idiomatic meanings in the case of IRONY, and in the case COLOURS the label simply means that one of the constituents of the idioms was a word denoting a colour.

The twenty idioms used in the experiment were the following:

BAD CONSEQUENCES:

to drown the orchid 'to do too much of a good thing so that it turns out bad'

to hide from the kettledrum 'to run away from bad consequences'

CHEATING:

to be bitten by the snake 'to be caught cheating'

to fondle the splinters 'to cheat'

COLOURS:

the yellow spot on the picture 'the bright side of something'

to stick the green ribbon onto the book 'to be the first to congratulate'

IRONY:

to have fire in one's soul 'to be a rather boring person'

as cozy as a kerchief 'uncomfortable'

PERSONALITY:

to carry one's head round 'to be very prudish'

to be an Ignorant Lindsay 'to focus only on one's own needs and wishes and ignore the consequences for other people'

PRIVACY INVASION:

to peel peaches with a butcher's knife 'to ask very unfitting, direct and indiscrete questions'

to saddle somebody's zebra 'to dig into somebody's past'

SEXUALITY:

to get an Ylang-Ylang rub 'to get an erotic massage'

to open the cardamom pot 'to start sexual relations, make sexual advances'

to ming the bing 'to have sexual intercourse'

SHOPPING:

to set the plastic on fire 'to shop excessively'

to eat the lily 'to make a bad deal when shopping, to pay too much'

to spleeve it 'to buy something on credit'

STUDYING:

to stack books 'to get an amount of work that is unmanageable'

to upper-cut Ulysses 'to start studying a difficult subject in a very determinate way'

In order to rule out the possibility that subjects would easily remember all idioms, or would not be able to remember any one of them, a pilot study was conducted with six advanced students of English from an MA/PhD seminar at the Department of English/ Vienna University. At the same time, the pilot study was used to check the transparency ratings that had been assigned to the idioms on deductive grounds (albeit somewhat intuitively). Therefore, the students were explicitly asked at the end of the experiment how easy it was for them to infer the meanings of the idioms from their literal interpretations, i.e. they were asked to rate the idioms' transparency on a scale of numbers. Possible ratings were 1 (very transparent), 2, 4, and 5 (intransparent).[5] Interestingly, for some idioms the returned transparency ratings were highly inhomogeneous, and this made us realise that students applied different criteria for assessing transparency corresponding to the strategies of recovering idiom meaning through metaphorical transparency or from the literal reading of a single constituent. Therefore it was decided to separate the two types in our assessment of idiomatic transparency. This was essentially done through evaluating the returned transparency ratings and looking particularly at those where the respondents seemed to disagree among themselves.[6]

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5 3 was left out in order to avoid an option that participants could have chosen when they felt they were not really sure, thereby producing rather un-illuminating responses.

6 Unfortunately, this had the unwelcome side effect that the numbers of transparent and intransparent idioms per semantic category could not be kept even in all cases, but time constraints made it impossible to go back to the drawing board, so that the experiment had to proceed on the basis of idioms that were tested in the pilot.

3. Metaphorical transparency vs. literalness

The decision to distinguish between what we call the metaphorical transparency of an idiom and its literalness is based on the following considerations. In our understanding, metaphorical transparency applies to an idiom which becomes transparent if a speaker has noticed or understood the metaphoricity of some part of all of the idiomatic expression and realises what it stands for. A good example from the idioms featured in the experiment would be *to get an Ylang-Ylang rub* 'to get an erotic massage'. A soon as it is realised that 'Ylang-Ylang' stands for something 'erotic', it is fairly easy to infer the idiomatic meaning and the idiom becomes transparent. Other metaphorically transparent idioms involve analogical mapping of concept relations from constituent words to conceptual constituents of the idiomatic meaning. A good example from the experiment would be the idiom *a yellow spot on the picture* 'the bright side of something'.

In contrast to metaphorical transparency, literalness indicates that the literal meanings of the idiom's constituent words or one of the constituent words represent a clue to the overall meaning of the idiom. A good example for literalness from the experiment is the idiom *to be an Ignorant Lindsay* (to focus only on one's own needs and wishes and ignore the consequences for other people). The literal meaning of the adjective *ignorant* implies the most important part of the idiom's meaning, namely ignorance and self-centredness. Here, no metaphor is involved, and therefore, we consider the idiom to be transparent on the literal and not on the metaphorical level.

Relating to this, the issue surfaces of how the categories of metaphorical transparency and literalness relate to each other. Looking at the two examples, it would seem that the two kinds of transparency are complementary, i.e. that an idiom can be transparent on either the metaphorical or the literal level, but not on both levels. With the possible ratings 1, 2, 4, 5, and 1 being the most transparent and 5 the most intransparent for both categories, *the yellow spot on the picture* has metaphorical transparency 1 (the meaning is indeed very clear once the metaphors have been detected), and its literalness is 5 as no literal meaning of a constituent word is important for the overall meaning of the idiom. *To be an Ignorant Lindsay*, on the other hand has a metaphorical transparency of 5, while its literalness is 1. Complementarity of that type is however only one possible relationship between the two categories. The other possibility that is quite apparent when looking at various idioms is that an idiom can either be transparent or intransparent with regard to both kinds of transparency: take, for example, *to get an Ylang-Ylang rub* (to get an erotic massage). The metaphorical transparency of *to get an Ylang-Ylang rub* is 1 because it is fairly easy to infer its meaning when it is known that 'Ylang-

Ylang', an essential oil, is a metaphor for 'erotic'. Yet, the literalness of the idiom is 2 since 'rub' is a more informal term for 'massage'. Here, we can see that it is possible that an idiom is transparent on the metaphorical as well as the literal level of meaning and thus generally belongs to the very transparent idioms (there are two possible starting points for inferring its meaning). An example of intransparency on both levels would be the idiom *to carry one's head round* (to be very prudish). Its metaphorical transparency is 5, since even if it is known what the idiom refers to, the relationship between meaning and the constituent words is still very unclear and no metaphorical mapping seems to work. Its literalness is also 5 because again, the meaning cannot be deduced from the literal meaning of any of the constituent words. Therefore, the idiom belongs to the most opaque ones as on no level, there is a possibility to infer its meaning. Only idioms that are opaque on both levels can be said to have, at least synchronically, no motivation, i.e. they are truly arbitrary.

Table 1 below displays the idioms together with the transparency ratings they received in the pilot study (category 'transparency'), and the metaphorical transparency and literalness ratings that were assigned to them on the basis of an evaluation of the ratings:

Semantic area	**Idiom**	**Idiomatic meaning**	**T**	**M**	**L**
Shopping	*to set the plastic on fire*	to shop excessively	1	1	5
	to eat the lily	to make a bad deal when shopping, to pay too much	5	5	5
	to spleeve it	to buy something on credit	5	5	5
Personality	*to carry one's head round*	to be very prudish	5	5	5
	to be an Ignorant Lindsay	to focus only on one's own needs and wishes and ignore the consequences for other people	1	5	1
Studying	*to stack books*	to get an amount of work that is unmanageable	2	4	2
	to upper-cut Ulysses	to start studying a difficult subject in a very determinate way	4	1	5
Sexuality	*to get an Ylang-Ylang rub*	to get an erotic massage	2	1	2
	to open the cardamom pot	to start sexual relations, to make sexual advances	5	4	5
	to ming the bing	to have sexual intercourse	5	5	5
Cheating	*to be bitten by the snake*	to be caught cheating	1	1	5
	to fondle the splinters	to cheat	5	5	5

Semantic area	Idiom	Idiomatic meaning	T	M	L
Bad consequences	*to drown the orchid*	to do too much of a bad thing so that it turns out bad	2	2	5
	to hide from the kettledrum	to run away from bad consequences	4	2	4
Irony)	*to have fire in one's soul*	to be a rather boring person	2	5	1
	as cozy as a kerchief	uncomfortable	4	5	1
Privacy invasion	*to peel peaches with a butcher's knife*	to ask very unfitting, direct and indiscrete questions	1	1	5
	to saddle sb's zebra	to dig into sb's past	5	5	5
Colours	*the yellow spot on the picture*	the bright side of something	2	1	5
	to stick the green ribbon onto the book	to be the first to congratulate	5	5	5

Table 1: Idioms used in the experiment; transparency: ratings 1, 2, 4, 5, 1 = very transparent, 5 = opaque (intransparent); metaphorical transparency vs. literalness: is the idiom transparent on a metaphorical level or do the literal meanings of the words give the meanings away (literalness)? Metaphorical transparency ratings 1 (very transparent), 2, 4, 5 (intransparent), literalness ratings 1 (great literalness), 2, 4, 5 (not literal at all).

4. Re-examining the starting hypothesis

It needs to be discussed whether and how the starting hypothesis needs to be adapted to take the distinction between metaphorical transparency and literalness into account. With regard to the former, we think that metaphorical transparency should correlate positively with idiom memorisation: these idioms do not only entail a metaphor which "use[s] existing patterns" (Lakoff 1987: 438) of meaning, but also the relation to common knowledge of a speech community which a metaphor entails. The basis for this claim can be found in Lakoff's (1987) theory of motivation: Lakoff (1987: 448) proposes that "idioms are motivated, and that the motivation may consist of a link of the form *image + knowledge + metaphors*".

Speakers hence associate a specific picture knowledge which matches it. From the combination of picture and related general knowledge, the speakers are able to detect the metaphor which lies behind the figurative meaning of the idiom, and thus infer the idiomatic meaning. This theory insinuates that the pictures support understanding, as well as memorisation of an idiom, and the metaphors further this process. Consequently, idiomatic meanings can therefore not be inferred from the literal meanings of the constituent words, but from "coherent conceptual organization[s]" (Lakoff 1987: 381) which

underlie the connection between constituent words and idiomatic meaning (Lakoff 1987: 381-438). For idioms which entail analogical mapping of concept structures, a similar motivation may be proposed.

As far as literalness is concerned, we also think that the more transparent an idiom is in this regard, the easier it should be memorised because of the strong activation of literal meanings in the processing of idioms with high literality.[7] The activation of literal meanings during the processing of idioms with high literality serves as the basis for the hypothesis on literalness. High literality specifies the plausibility that the literal meanings of the words which form an idiom, and not the figurative meanings, constitute the appropriate meaning in a particular context. If this is possible for a certain idiom, the activation of literal meanings is stronger in L1 as well as L2 speakers (Cieslicka 2007: 40-51). While literalness is not exactly similar to literality, it is still reasonable to assume the same effect. Consequently, a lower learning burden which leads to higher results of transparent idioms can be assumed for idioms transparent in the dimension of literalness.

In sum, it can be argued that both kinds of transparency should affect the ease with which an idiom is memorised equally positively. This means that if relative transparency helps idiom memorisation at all, the both subtypes should equally do so. Whether this is indeed the case was tested in the experiment.

5. The experiment and its results

The actual experiment itself was conducted with 46 advanced students of English at the Department of English/ Vienna University during the Winter Term 2008/09. Seven of the participants were native speakers of English, the other 39 participants spoke English as a second language. Originally, the results of L1 and L2 speakers should have been analysed separately. After a close investigation, they however proved to be very similar both in the number of idioms memorised and the kinds of errors. Hence, they were analysed together. In the first session, which was the presentation session, the idioms as well as their definitions and example sentences were presented to the participants three times in three consecutive rounds. Between the rounds, the participants were asked to apply the newly acquired idioms and fill out vocabulary tests to help the memorisation process. This is an example for the presentation of idioms:

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[7] Cf. Cieslicka (2006, 2007), and Titone & Connine (1994).

9. *to peel peaches with a butcher's knife*

= to ask very direct, unfitting and indiscrete questions

e.g. The journalist seemed to peel peaches with a butcher's knife rather than to conduct a proper interview.

The second session, which was the actual testing session, took place one week after the first and distinguished three different test groups: Test Group 1 received a blank sheet and was asked to write down any idiom (the sign itself, not the idiomatic meaning) they remembered. Test Group 2 was given a vocabulary test where they were asked to enter the respective idioms for the given meanings and for Test Group 3, the task was reversed, as they were given the idioms and were asked to enter the respective meanings. Of the three groups, group 1 is the only one which offers explicit results for idiom memorisation. Group 2 results may indicate whether transparency indeed facilitates inference of idioms from their meanings (here, high results for transparent and low results for intransparent idioms are expected). Group 3 results demonstrates whether transparency facilitates the inference of meanings from idioms (again, high results for transparent and low results for intransparent idioms would be expected).

The tests adhere to the 'trait view' of vocabulary knowledge and thus, vocabulary knowledge is viewed as consisting solely of "the knowledge of discrete word items independent of the context in which they appear" (Laufer & Goldstein 2004: 401). Even though this approach seems rather simplified when the many other factors which also contribute to vocabulary or lexical knowledge are taken into account, e.g. context knowledge or communicative skills, it is well applicable to the experiment: The experiment's main intent is to find out which idioms are remembered better and thus, it focuses on what Laufer & Goldstein call "knowledge of discrete word items" (Laufer & Goldstein 2004: 401).

The individual results were ranked in four correctness-categories: 'correct', 'slightly wrong', 'rather wrong' and 'wrong or no answer given'. The category 'correct' was only assigned to answers which actually were

entirely correct.[8] For the sake of clarity, only the category 'correct' will be dealt with in the following presentation and discussion of results.

5.1. Metaphorical transparency

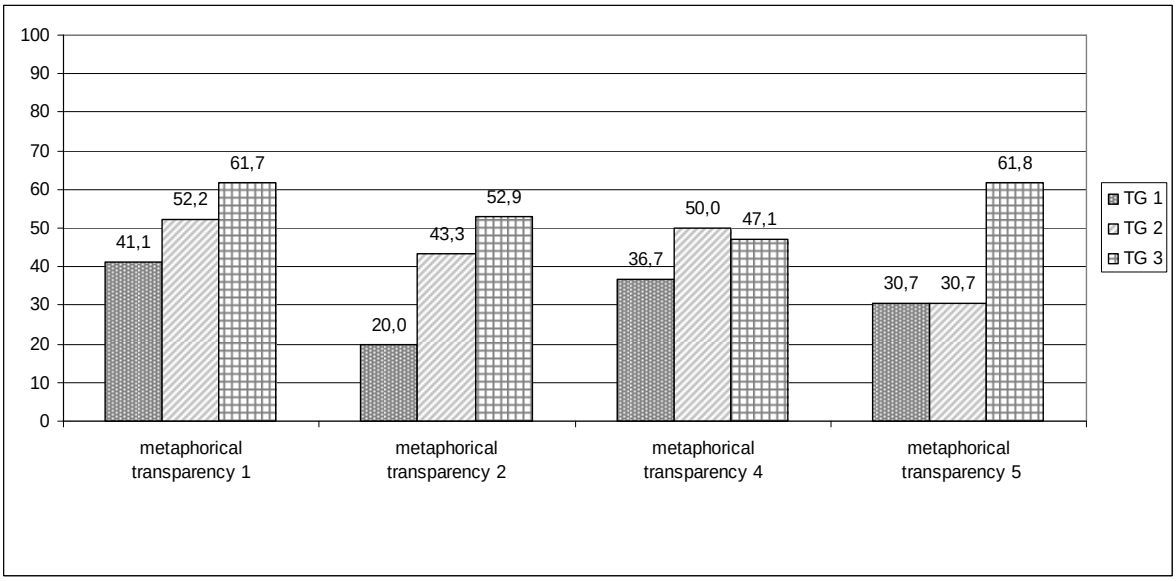

Figure 1: Metaphorical transparency results of all three Test Groups (TGs) for the category 'correct'.

In both Test Groups 1 and 2, idioms with metaphorical transparency 1 (*to set the plastic on fire* (to shop excessively), *to upper-cut Ulysses* (to start studying a difficult subject in a very determinate way), *to get an Ylang-Ylang rub* (to get an erotic massage), *to be bitten by the snake* (to be caught cheating), *to peel peaches with a butcher's knife* (to ask very unfitting, direct and indiscrete questions), *the yellow spot on the picture* (the bright side of something)) showed the best results, followed by idioms with metaphorical transparency 4 (*to stack books* (to get an amount of work that is unmanageable), *to open the cardamom pot* (to start sexual relations, make sexual advances).[9] In both groups, idioms with metaphorical transparency 2

[8] This was based on the territorial function of idiomatic usage, which was closely investigated by Seidlhofer & Widdowson (2007). Idioms can be used as markers of in-group behaviour or group membership within a particular group or community of speakers, and however slight the deviance from the original diction of an idiom is, it nevertheless indicates that the speaker is not a member of this group. Therefore, already a different article, preposition or word order has to be graded as incorrect (Seidlhofer & Widdowson 2007: 362-363).

[9] The experimental results have so far not been tested for statistical significance. All conclusions derived from them must therefore be considered highly tentative.

(*to drown the orchid* (to do too much of a good thing so that it turns out bad), *to hide from the kettledrum* (to run away from bad consequences)), attained lower results than idioms with metaphorical transparencies 1 and 4. This may however be explained by the strong influence of the semantic area the idiomatic meaning belongs to as both metaphorical transparency 2 idioms belong to the semantic area BAD CONSEQUENCES. This area was among those with the lowest percentage of correct reproductions in both Test Groups. The metaphorical transparency 5 idioms (*to eat the lily* (to make a bad deal when shopping, to pay too much), *to spleeve it* (to buy something on credit), *to carry one's head round* (to be very prudish), *to be an Ignorant Lindsay* (to focus only on one's own needs and wishes and ignore the consequences for other people), *to ming the bing* (to have sexual intercourse), *to fondle the splinters* (to cheat), *to have fire in one's soul* (to be a rather boring person), *as cozy as a kerchief* (uncomfortable), *to saddle somebody's zebra* (to dig into somebody's past), *to stick the green ribbon onto the book* (to be the first to congratulate)) show the same result in both Test Groups and are lower than the metaphorical transparency 4 results.

The results for Test Group 3 are vastly different from those of the other two groups. The low results of metaphorical transparency 4 idiom meanings may be due to the semantic areas of these idioms: The two idioms belong to the areas STUDYING and SEXUALITY and although SEXUALITY attained a relatively high percentage in Test Group 3, the results for STUDYING are the lowest in this group. Seemingly, SEXUALITY cannot compensate for the low results of STUDYING. At a first thought, it could be argued that just because idioms display metaphorical transparency 5, they need not be intransparent generally, the might simply display transparency on another level, i.e. that of literalness, and therefore, the meanings for idioms with metaphorical transparency 5 attained such a high result. While being a reasonable guess, this scenario is however not the case: nearly all of the idioms with metaphorical transparency 5 also are intransparent on the level of literalness and thus constitute the most intransparent idioms of the experimental sample. Only the idioms *to be an Ignorant Lindsay* (to focus only on one's own needs and wishes and ignore the consequences for other people), *to have fire in one's soul* (to be a rather boring person) and *as cozy as a kerchief* (uncomfortable) display literalness 1. The other metaphorical transparency 5 idioms display literalness 5. And while the results for the results for the literalness1/ metaphorical transparency 5 idioms are high and might contribute to the high percentage of metaphorical transparency 5, they cannot solely be held responsible.

Another possible explanation might be that the semantic areas which were particularly strong in this Test Group had a considerable influence on the retention of metaphorical transparency 5 idiom meanings. It turns out, however, that as idiom meanings are concerned, the semantic areas of the concept an idiom refers to did not exert as strong an influence on the retention as when solely idioms themselves are concerned. The only area which seemed to exert a strong influence was the area IRONY which, strictly speaking, is not a semantic area but rather a rhetorical device in which the intended meaning is the contrary of what is actually said. Incidentally, the IRONY idioms are also two of the idioms with metaphorical transparency 5 and literalness 1 (*to have fire in one's soul* and *as cozy as a kerchief*). As with literalness, while IRONY may exert an influence on the retention or the reproduction of idiomatic meanings, its impact is not as far-reaching to explain the high results of the metaphorical transparency 5 idiom meanings.

Returning to the hypothesis that metaphorically transparent idioms should be memorised better than metaphorically intransparent idioms because they display a connection between literal and idiomatic meaning which consists of a metaphor and the corresponding common knowledge (Lakoff 1987 terms this 'motivation') or where conceptual structures are mapped analogically from literal onto figurative meaning, it can be said that the results of Test Groups 1 seem to support the hypothesis. In this group, there is a steady decline from metaphorical transparency 1 to metaphorical transparency 4 and also 5 and as this is the only group which gives clear indications about idiom memorisation, the results are noteworthy. This means that the variable metaphorical transparency actually does seem to influence the retention of idioms. And despite the effect of metaphorical transparency, the low results of metaphorical transparency 2 idioms seem to be caused by the effect of semantic areas which in some cases appears to be primary over metaphorical transparency. The results of Test Group 2 (here the meanings were given and the idioms were wanted) seem to support the hypothesis. The higher results for all categories except for metaphorical transparency 5 also indicate what has been assumed earlier: greater metaphorical transparency seems to facilitate inference of idioms from their meanings. Only for metaphorical transparency 5, i.e. utterly intransparent idioms, given meanings do not seem to exert any influence. This was also implied earlier. As far as idiom meanings are concerned, is seems that the variable metaphorical transparency does not greatly influence their retention. Therefore, the hypothesis that metaphorical transparency also influences the retention of idiom meanings in the way that meanings of metaphorically transparent idioms are memorised better than metaphorically intransparent meanings seems to be rejected by the

Test Group 3 results. Moreover, the facilitation for the inference of meanings from idioms which was insinuated earlier and would have resulted in higher percentages for transparent meanings seems unlikely.

5.2. Literalness

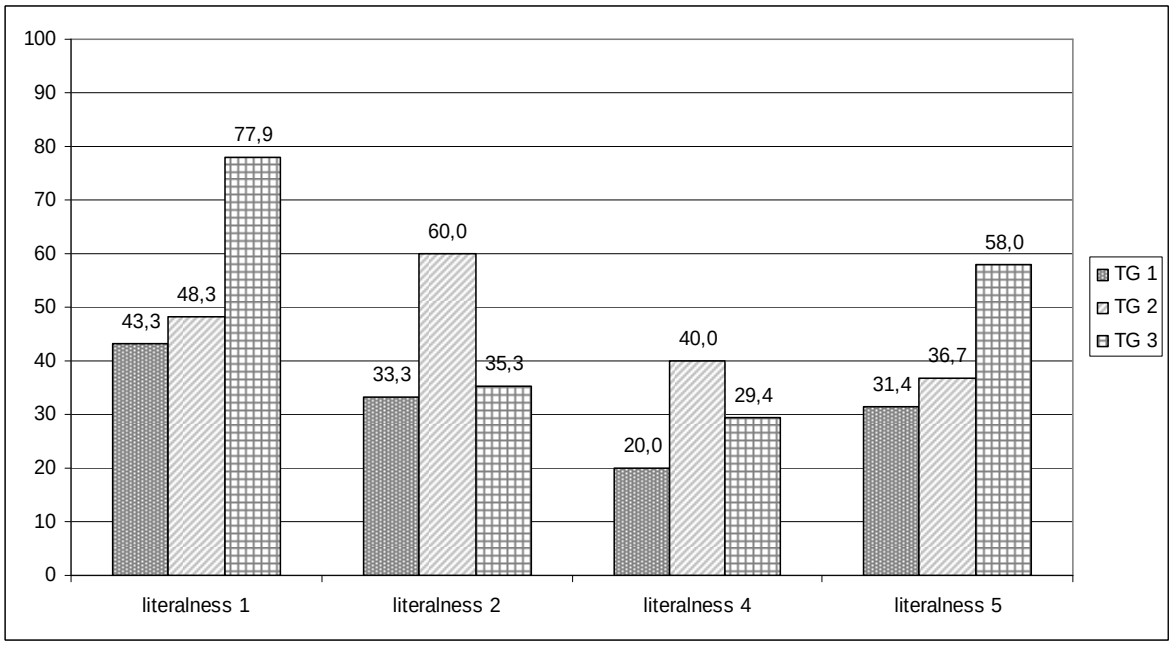

Figure 2: Literalness results of all three Test Groups (TGs) for the category 'correct'.

In Test Groups 1 and 3, idioms or meanings of idioms with literalness 1 attained higher results than idioms or idiom meanings of all other degrees of literalness. Idioms with literalness 1 are *to be an Ignorant Lindsay* (to focus only on one's own needs and wishes and ignore the consequences for other people), *to have fire in one's soul* (to be a rather boring person), and *as cozy as a kerchief* (uncomfortable). In both of these groups, the results for literalness 2 are lower than for literalness 1 and again fall to literalness 4. Literalness 5 idioms or idiom meanings again attain a higher percentage than literalness 4 in both groups. The literalness 2 idioms are *to stack books* (to get an amount of work that is unmanageable) and *to get an Ylang-Ylang rub* (to get an erotic massage), and the literalness 4 idiom is *to hide from the kettledrum* (to run away from bad consequences). All other idioms display literalness 5. The pattern of the Test Group 2 results differs: literalness 2 has the highest results, followed by literalness 1, literalness 4 and literalness 5.

In Test Group 1, literalness 5 idioms only attained 1.9% less than literalness 2 idioms, so the difference is slight. The low result of the literalness 4 idiom can be explained by its semantic area BAD

CONSEQUENCES which was one of the areas with the lowest results in group 1. This means that even though literalness 1 attained a considerably higher result than the other literalness categories, the difference between the other categories shall not be over-interpreted. In Test Group 2, the high literalness 2 results can be explained by the semantic areas of the two idioms, i.e. STUDYING and SEXUALITY. Both of these areas were particularly strong in Test Group 2. Yet, the difference between literalness 1 and 2 is still remarkable, especially since the test design predicted a bias towards idioms which are transparent on the level of literalness. Nevertheless, it shall not be over-interpreted as the difference in transparency between literalness 1 and 2 is not that great.

In Test Group 3, the high results of literalness 5 seem to somewhat go along with the results for metaphorical transparency where the idioms with transparency 5 attained the same result as transparency 1 idioms. Here, there is still a difference between literalness 1 and 5, but the literalness 5 results are considerably higher than the results for literalness 2 and 4. One possible interpretation of these results is that the high number of literalness 5 idioms, which stems from the fact that literalness is only a secondary category to general transparency, and the prominent semantic areas of their meanings seemingly reinforce themselves. This effect then leads to the high result. While this explanation sounds reasonable, it is not to be forgotten that, as we have seen in connection to transparency and metaphorical transparency, as meanings are concerned, the least transparent categories are not those with the lowest results and intransparent meanings are remembered quite well. Another possible observation is that as with general transparency, the bias of the test design towards transparency on the level of literalness does not have as strong an effect on idiom meanings as on idioms (Test Group 2).

If the seemingly immense effect of semantic areas on idiom memorisation, which is especially visible in Test Group 2, is also considered, then it can be said that literalness 1 idioms or idiom meanings were remembered best in all 3 groups. As with metaphorical transparency, the results of Test Group 1 which received no stimulus whatsoever are most substantial for idiom memorisation. Therefore, literal meanings actually seem to be activated in idiom processing and retention of idioms which are transparent on the level of literalness may indeed be facilitated. Hence, the results seem to support the hypothesis that idioms transparent on the level of literalness are memorised better. The Test Group 2 results seemingly do not display the aforementioned facilitated inference of transparent idioms from given meanings as literalness 2 idioms have higher results. However, this may be explicable by the semantic areas and if literalness 2 is left aside, the

decline of percentages from literalness 1 to 5 points towards the supposed ease greater literalness might cause. The results for idiom meanings also support the hypothesis. Attention has nevertheless to be paid to the role of semantic areas in idiom memorisation, and also, it should not be neglected that idiom meanings which are utterly intransparent on the level of literalness also attained comparatively high results and seem to be remembered well too. Therefore, the hypothesis seems to apply more strongly to idioms than idiomatic meanings. Furthermore, the effect of greater literalness that meanings are more easily inferable than with idioms intransparent on this dimension seems to apply only to a limited extent, because literalness 5 results are also very high.

6. Summary

This paper has presented the results of an experiment on the memorisation of idioms, which was conducted to gain an insight into the role transparency plays in memorisation. The two tested variables were metaphorical transparency and literalness. Even though their statistical significance remains to be checked, the results seem at least to be compatible with the interpretation that transparency correlates positively with the memorisation of idioms: metaphorically transparent idioms and idioms transparent on the dimension of literalness were remembered better by participants than idioms intransparent in both categories. Thus, the results for the two dimensions metaphorical transparency and literalness seem to support hypotheses and findings in current literature on the subject, such as, for instance, Schmitt, Grandage & Adolphs' (2004: 141-143) who report parallel outcomes for formulaic sequences in general. The higher results for transparent idioms in both dimensions also demonstrate that while the influence of semantic areas on idiom memorisation seems strong, it is not so strong that it masks the influence of transparency completely. Nevertheless, more research about the interaction of transparency with semantic areas and other potentially relevant factors is clearly needed in order to determine the role it plays in the memorisation of idioms more precisely.

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Comment clauses as constructions

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1. Introduction

This paper discusses the formal and functional development of comment clauses and how it can be accounted for by a Construction Grammar approach which identifies their analogic links to other constructions in a larger taxonomic network. Comment clauses, or more precisely 'main clause-like' comment clauses (Quirk et al. 1985: 1112), are instances such as *I think, I suppose, I guess*, which are typically used to provide some epistemic qualification of a proposition in the host (or anchor) clause. They have also been referred to as parenthetical verbs (Urmson 1952), reduced parenthetical clauses (Schneider 2007), epistemic/evidential parentheticals (Brinton 2008: 220), and complement-taking predicates (Thompson 2002). As illustrated by the examples in (1) – (3), comment clauses can occur in initial, medial or final position. In clause-initial position they may take a *that*-complementizer and can therefore be analysed as matrix clauses, although their syntactic status is far from clear (cf. Kaltenböck 2009b, 2009c). Functionally, initial comment clauses have been shown to have secondary status like in non-initial position (e.g. Thompson 2002, Kärkkäinen 2003).

(1) Uhm <,> **I think** I was <,,> probably possessive and jealous of my mother <A15/ICE-GB:S1A-072 #0053> [1]

(2) Uhm <,> the other thing is **I guess** <,,> to ask whether you've also considered the sort of occupational psychology areas <,> as well as the clinical <A08/ICE-GB:S1A-035 #0144>

(3) It was that sort of time of the year I suppose <B22/LLC:S-02-10 #1006>

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1 <,> indicates a short pause, <,,> a long pause.

In recent years comment clauses have received a considerable amount of attention from various research angles, such as grammaticalization theory (e.g. Thompson & Mulac 1991, Brinton 1996, 2008, Traugott 1995a, Fischer 2007, Van Bogaert 2006, 2009, Boye & Harder 2007), and various historical perspectives (e.g. Palander-Collin 1999, Bromhead 2006), descriptive corpus linguistics (e.g. Stenström 1995, Mindt 2003, Kearns 2007), functional–pragmatic perspectives (e.g. Aijmer 1997, Hyland 1998, Simon-Vandenbergen 2000, Ziv 2002, Thompson 2002, Kärkkäinen 2003, 2007, 2010, Scheibman 2001, Kaltenböck 2010), Relevance Theory (e.g. Blakemore 1990/1991, Rouchota 1998, Ifantidou 2001), prosodic analysis (e.g. Wichmann 2001, Kaltenböck 2008, Dehé & Wichmann 2010), language acquisition (Diessel & Tomasello 2001), or from a cultural perspective (Wierzbicka 2006).

What makes them interesting as a linguistic category is their ambivalent character, which stems from a discrepancy between usage and structure: structurally they represent clauses, but functionally they are like disjunct adverbials conveying secondary information. This indeterminacy can be attributed to the ongoing process of grammaticalization they are subject to (cf. Section 2). As grammaticalizing elements they are in a state of latent instability and particularly susceptible to change. This is evidenced, for instance, by the adoption of new pragmatic functions (e.g. Aijmer 1997, Kärkkäinen 2003, 2007, Kaltenböck 2008, 2010, Van Bogaert 2006), which signal a shift away from their use as markers of epistemic stance to general pragmatic markers. Comment clauses have also been claimed to undergo a process of expansion from their prototypical 'first person form' (e.g. *I think*) to variant forms such as *I would think, I'm thinking* (Van Bogaert 2011). Moreover, as markers of epistimicity, comment clauses appear to be particularly susceptible to culture-specific change, as has been argued by Wierzbicka (2006: 207), who suggests that the rise of comment clauses in the first half of the eighteenth century reflects a general shift in 'habits of mind', brought about by the rise of empiricism, which favours a type of discourse that casts doubt on beliefs and opinions.

Although the overall development of comment clauses fits in well with a grammaticalization perspective, there are some features, notably the use of the *that*-complementizer, that cannot easily be accounted for. The present paper tries to show how a Construction Grammar approach, which considers the taxonomic links of comment clauses to other, related constructions, can take care of this problem and provide an explanation for the formal and functional development of comment clauses.

The paper is structured in the following way. Section 2 provides an overview of the presumed historical development of comment clauses. Section 3 briefly discusses ongoing change of the most frequent and prototypical of all comment clauses, *I think*, with reference to corpus data derived from the *Diachronic Corpus of Present-Day Spoken English* (DCPSE). Section 4 gives a general introduction to Construction Grammar pointing out the advantages of this approach for the study of comment clauses. Section 5 sketches out such a constructional model, and Section 6 shows how it can account for formal and functional change of comment clauses as outlined in Sections 2 and 3. Section 7, finally, offers a brief conclusion.

2. A brief history of comment clauses

Various syntactic pathways of development, involving different processes of change, have been proposed for epistemic comment clauses. The difficulty in tracing their trajectory through time lies, not unexpectedly, in the scarcity of data from older periods of English and the unavailability of authentic spoken data, i.e. the mode preferred by comment clauses. To compensate for this, one approach is to project backwards from synchronic findings, as has been done by Thompson & Mulac (1991). In their influential study of the present-day epistemic parentheticals *I think* and *I guess* they propose a cline from a matrix clause with a *that*-complementizer, to omission of *that*, and finally to a parenthetical disjunct in non-initial position. This process of grammaticalization thus results in a reversal of the matrix clause/complement clause structure with the original matrix clause *I think* being reanalysed as a "unitary epistemic phrase" and the original complement clause being reanalysed as the matrix clause (cf. also Traugott 1995b: 38-39). Although intuitively appealing, this "matrix clause hypothesis" (Brinton 2008: 246) has been shown to be in conflict with actual historical data. According to Brinton (1996: 239-254), diachronic evidence suggests that first-person epistemic comment clauses such as *I think, I guess, I suppose* originated not in a matrix clause but an adjoined adverbial/relative structure of the type *as I think*. A similar view is expressed by Fischer (2007a: 304-305, 2007b: 106), who agrees with Gorrell's (1895) assumption that they may have started out as independent clauses. In contrast to Brinton, however, she identifies the anaphoric connective element as an adverbial derived from a demonstrative.

While historical evidence thus suggests a development from an independent clause, this view fails to account for the occasional use of the *that*-complementizer with initial comment clauses (as in example 1). In

Thompson & Mulac's hypothesis the use of *that* is explained by the original matrix clause status of comment clauses, with *that*-omission being a concomitant of their reanalysis as epistemic fragments. The four stages proposed by Brinton (1996: 252), however, leave open the question of how the *that* complementizer came to be 'inserted'. Although various studies have reported a steady increase of zero over time, with some fluctuation, (e.g. Rissanen 1991, Finegan & Biber 1995, Palander-Collin 1999, Suárez Gómez 2000, Tagliamonte & Smith 2005, Torres Cacoullos & Walker 2009), *that* is already attested in the earliest texts (Rissanen 1991). The question of how to account for the use of *that* with initial comment clauses will be addressed in Section 6.

As noted in the introduction, the process involved in the development of epistemic comment clauses is generally thought to be one of grammaticalization.[2] Various studies, both synchronic and diachronic, have shown that they undergo many of the changes characteristic of grammaticalization (e.g. Kärkkäinen 2003, Van Bogaert 2009, 2011, Thompson & Mulac 1991, Palander-Collin 1999, Brinton & Traugott 2005, Brinton 1996, 2008, Boye & Harder 2007, Traugott 1995a, López Couso 1996, Kaltenböck 2008). These changes include "semantic bleaching" (Traugott 1982) or "desemanticization" (Heine, Claudi & Hünnemeyer 1991), i.e. loss of the original concrete meaning, "pragmatic strengthening" (Traugott 1988), i.e. the acquisition of discourse/pragmatic functions, "subjectification", i.e. increased subjectivity (Traugott 1988, 1995b: 38-39), positional mobility, and possible "phonological attrition" (Lehmann 1995). As noted by Brinton (2008: 242) comment clauses also conform to Hopper's (1991) principles of grammaticalization, viz. layering, divergence, specialization, decategorialization (cf. also Van Bogaert 2011). Where comment clauses seem to diverge from prototypical grammaticalization is with regard to some of Lehmann's (1995) parameters, notably condensation (i.e. reduction in scope) and fixation (i.e. loss of syntactic variability). These parameters, however, have been challenged as necessary features of grammaticalization (e.g. Tabor & Traugott 1998, Fischer 2007a, Brinton 2008: 244-245 on scope; Van Bogaert 2011 on lack of internal fixation).

In terms of their semantic development, it has been noted that comment clauses follow a path which involves the reduction of semantic content (bleaching) while adopting more pragmatic meanings (pragmatic

2 A different view is expressed by Fischer (2007a: 311), who sees parentheticals like *I think* as formulaic tokens undergoing lexicalization. Similarly, Wischer (2000: 363) argues for lexicalization in the case of *methinks*.

strengthening).[3] This semantic-pragmatic cline has been described as a unidirectional development from propositional to expressive or interpersonal meaning (Traugott 1982) and has subsequently been elaborated into a more complex concept of unidirectional change which includes the following tendencies: from truth-conditional to non-truth-conditional, from conceptual to procedural, from non-subjective to subjective and intersubjective (Traugott & Dasher 2002). Given their increasingly pragmatic function it is not really surprising that comment clauses have also been described as cases of pragmaticalization rather than grammaticalization (Erman & Kotsinas 1993, Aijmer 1997, Erman 2001). In a comprehensive definition of grammar, however, which includes pragmatic meaning, comment clauses can still be appropriately described in terms of grammaticalization (cf. Brinton & Traugott 2005: 139).

3. Current change

This section briefly summarises findings from recent studies for *I think*, the most frequent and grammaticalized of all comment clauses, and complements these with corpus data from the *Diachronic Corpus of Present Day Spoken English* (DCPSE) (cf. Tables A1 and A2 in the Appendix). DCPSE consists of two parallel subcorpora with data from the *London Lund Corpus* (LLC), compiled from the late 1960s to the early 1980s, and from the British component of the *International Corpus of English* (ICE-GB), complied in the early 1990s (cf. www.ucl.ac.uk/English-usage/projects/dcpse/index.htm). It thus covers a period of roughly 30 years, comprising a total of 885,436 words of spoken language.

There are two main observations that can be made about the recent development of *I think*, which may appear to be in conflict with each other. On the one hand, there are signs of increasing grammaticalization and semantic bleaching of *I think*, while at the same time the *that*-complementizer shows no reduction in number and continues to be used with clause-initial *I think* on a low but fairly constant level. This is somewhat surprising, as complementizer omission is generally seen as a typical concomitant of grammaticalization (e.g. Thompson & Mulac 1991). A possible explanation for this seeming discrepancy will be discussed in Section 6. But first, let me briefly look at these two observations in turn.

3 According to a recent study this reduction in propositional content may have started rather late. The findings by Bromhead (2006: 178) suggest that in the 16th and 17th century I think did "not have the very uncertain sounding meaning which [it] can have in present-day English".

Various studies have shown that *I think* shows signs of further erosion of its original semantic meaning and is increasingly used not so much as an epistemic qualifier of a host clause proposition, indicating lack of speaker commitment, but as a more general pragmatic marker with important textual (structural) and interactional function (e.g. Mindt 2003, Kärkkäinen 2003, 2010, Van Bogaert 2006, Kaltenböck 2008). Its textual function consists in acting as a stalling or filler device, which provides time for online planning, or in acting as a thematic structuring device used for discourse linking (cf. Ziv 2002, Kaltenböck 2010). Its interactional function includes a variety of functions, such as marking boundaries, introducing a different perspective, and has been discussed in detail by Kärkkäinen (2003: 105-182), who notes that "[i]n a majority of cases *I think* simply performs some routine (organizational) task in interaction, without conveying either clear uncertainty or certainty, or serving to soften or reassure" (Kärkkäinen 2003: 172). Essentially, the change *I think* is undergoing is one of becoming less conceptual and more procedural in meaning (cf. Blakemore 1990/1991, 2002).

This process of further grammaticalization is evidenced also by the corpus data from DCPSE (cf. Tables A1 and A2 in the Appendix). There are three major parameters that are indicative of such a development:

(i) A weakening of the link to the host construction, as attested by an increase in phrasal uses such as (4), where *I think* has scope not over a clausal but a phrasal constituent and may adopt a new, approximative function (cf. Kaltenböck 2008, 2009a, 2010, Kärkkäinen 2003, 2010, Van Bogaert 2006). The corpus shows a significant rise of such phrasal uses in absolute terms (Table A1) and a slight rise in relative terms (Table A2).

(4) Well of course the two hundred and fIfty pounds which the LAbour gOvernment insIsted on <,> in I think nIneteen sIxty-sIx sixty-sEven sIxty-sEven <I01/LLC:S-11-02 #0071>

(ii) A decrease of clause-final uses of *I think* (in absolute and relative terms; cf. Tables A1 and A2 respectively), which is more prototypically associated with expressing an epistemic qualification (afterthought) of the host construction for mitigation purposes than the other positions (cf. Conrad & Biber 2000: 72). Final position not only represents the prototypical position for a comment ('first you express a state of affairs, then you comment on it'; cf. Posner 1973), but as 'focus position' it also tends to foreground the epistemic (rather than the more fully bleached)

meaning of *I think*, i.e. downtoning the previous statement. Compare, for instance, example (5).

(5) Yes <,> but it Also is a vEry good nOvel <,,> I think <,,> <A01/LLC:S-03-01 #0712>

(iii) Co-occurrence facts suggest increased use of *I think* as a filling device. An analysis of the occurrence of the discourse markers *actually, well, you know, I mean, like, oh* immediately preceding or following *I think* in DCPSE shows a slight increase from 22.33 percent (163/730 instances) in LLC to 26.17 percent (129/493 instances) in ICE-GB. At the same time the number of short and long pauses immediately before or after *I think* has dramatically decreased from 51.1 percent (371/730) to 20.69 percent (102/493).[4] These figures lend support to a view of further grammaticalization of *I think* in so far as increased co-occurrence with other fillers suggests a similar function for *I think*. As a filling (stalling) device *I think* helps the speaker with online planning by bridging hesitation phases and thereby alleviates production difficulties, as is reflected in the reduction of disfluency features such as pauses.

While these features indicate further semantic bleaching and grammaticalization of *I think*, the persistent use of *that* with initial *I think*, identified for the DCPSE data, does not seem to support this assumption. Omission of the *that*-complementizer is generally seen as a sign of increasing grammaticalization of initial comment clauses. This view has been expressed, for instance, by Thompson & Mulac (1991), who argue that frequently used main clauses such as *I think* are being reanalysed as 'unitary epistemic phrases' with the omission of *that* as a strong concomitant. Similarly, Torres Cacoullos & Walker (2009: 17) take zero *that* to be "a measure of the development of discourse formulas". Although it is doubtful whether comment clauses such as *I think* actually started out in the history of English as matrix clauses with a complementizer, as assumed by Thompson & Mulac (cf. Section 2), historical studies have noted an overall decline of the complementizer at least from the Late Middle English period, with some fluctuation and register variation (Rissanen 1991, Finegan & Biber 1995, Pallander-Collin 1999).

4 This change has tested as statistically highly significant ($\chi 2 = 112.65$). The percentage of hesitation sounds (uh, uhm) immediately before or after I think has remained stable: 17.95% (131/730) in LLC, 17.85% (88/493) in ICE-GB.

The DCPSE data, however, do not show any significant change in the use of the *that*-complementizer. Table A2 in the Appendix shows an unchanged relative proportion of 6.8 percent and, although the absolute figures in Table A1 indicate a slight fall of 5.09 percent, this is roughly equivalent to the decrease of the total number of comment clause *I think*. This rather stable development can be attributed to the relatively short time span of roughly 30 years covered by DCPSE as well as a process of grammatical persistence, as defined by Torres Cacoullos & Walker (2009), which will be discussed in more detail from a Construction Grammar perspective in Section 6.[5]

4. The appeal of a Construction Grammar framework

The framework of Construction Grammar (e.g. Goldberg 1995, 2006; Croft 2001, Croft & Cruse 2004; Östman & Fried 2005) has increasingly been used in the recent past to account for a range of grammatical phenomena and has been shown to provide useful new insights for the description and development of constructions (for overviews cf. e.g. Fischer & Stefanowitsch 2007; Bergs & Diewald 2008; Trousdale & Gisborne 2008). Although far from representing a unified theory (cf. Fischer & Stefanowitsch 2007: 3f, Croft & Cruise 2004: 257), the different strands of Construction Grammar share the same basic assumptions, promoting a framework which is essentially cognitive, holistic (non-modular), and usage-based (Fried & Östman 2004: 23-24). As a usage-based model which derives its formalism from actually occurring language data, Construction Grammar is particularly compatible with corpus-based approaches to language study (as discussed by Stefanowitsch 2007) as well as with the concept of emergent grammar (e.g. Hopper 1987, 1988, Bybee & Hopper 2001), which sees grammatical structure as arising out of recurrent usage patterns. Not surprisingly therefore, Construction Grammar has variously been used for the description of language change and has recently been associated with the theory of grammaticalization (Trousdale 2008a, 2008b; Traugott 2007, 2008a, 2008b).

Comment clauses are particularly suited for an analysis in terms of Construction Grammar (as has been suggested by Brinton 2008: 254) for a number of reasons.

First, the notion of constructions as "automated routinized chunks" (De Smet & Cuyckens 2007: 188) that are stored holistically is intuitively appealing, as it is reminiscent of Thompson & Mulac's (1991) "epistemic

5 Cf. also Kaltenböck (2009b), which shows that the that-complementizer after I think has an important filler function in spoken discourse, which may also account for its relatively persistent use.

formulaic fragments", used for clause-initial comment clauses without complementizer (cf. also Thompson 2002). More importantly, however, constructions are taken to be symbolic form-meaning pairings (e.g. Croft 2001: 18; Croft & Cruse 2004: 258; Schönefeld 2006), where the notion of meaning is interpreted in a wide sense as including semantic, pragmatic and discourse-functional properties. As noted by Brinton (2008: 255), this is relevant for comment clauses, "whose primary function is pragmatic". It is important to remember, however, that comment clauses also have varying degrees of semantic content (e.g. cogitation in the case of *I think*), which interacts with their pragmatic/discourse function (Kaltenböck 2010). The framework of Construction Grammar is particularly useful in that respect, as it incorporates all forms of conventionalized meaning, rejecting a strict division between semantics and pragmatics (e.g. Goldberg 1995: 7).

Second, constructions are seen as interacting with their immediate linguistic co-text (in addition to situational context). As Fried & Östman (2004: 12) put it, "linguistic expressions reflect the effects of interaction between constructions and the linguistic materials, such as words, which occur in them". This is crucial for comment clauses, which are, by their very nature, 'relational': as 'comments' they relate to some host clause which is being commented on. As we have seen in Section 3, the scope of comment clauses may vary considerably and affect their communicative function.

Third, although individual constructions are independent, they are related to other constructions of varying degrees of complexity and abstractness. In other words, "constructions are organized into networks of overlapping patterns related through shared properties" (Fried & Östman 2004: 12). These complex hierarchical networks involve taxonomic links which relate different constructions in terms of schematicity (e.g. Croft & Cruse 2004: 262-4). What this means is that individual constructs (i.e. the concrete realisations and empirically attested tokens of the more abstract constructions; e.g. Goldberg 1995) are hierarchically linked to (sanctioned by) other more abstract schemas, with several levels of schematicity. Although the number of levels is not fixed and is best thought of as a continuum, Traugott (2007: 525) distinguishes between micro-, meso-, macro-constructions, where the latter represent the highest and most abstract schemas relevant for a particular construction. A typical example of such a taxonomic hierarchy is the one given by Croft & Cruse (2004: 264) for the different uses of the verb *kick*, repeated in Figure 1. It illustrates how each construction, such as *kick the habit*, is simply an instance of a more schematic construction, viz. [*kick* OBJ] and [TRVERB OBJ].

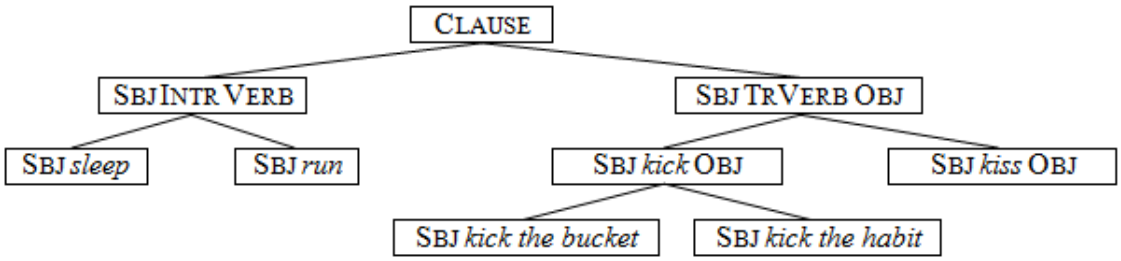

Figure 1: Example of a taxonomic network (from Croft & Cruse 2004: 264)

These hierarchical schematic links have particular importance for comment clauses, whose formal and functional properties can only be fully understood if placed in such a larger constructional network (as discussed in Section 6 below).

5. A constructional account

Acknowledging the potential of a Construction Grammar approach for comment clauses, Brinton (2008: 255-256) briefly sketches the development of epistemic parentheticals from a constructional point of view. As a first stage, she sees a large number of Middle English verbs (e.g. *trow, leve, think, suppose, believe, deem, guess*) combining in their present tense form with first person subjects. These constructs, which are still quite varied in their syntax (e.g. *I trowe, trowe I, as I trowe, so trowe I, I trowe so*), are increasingly used not with their concrete meaning (i.e. denoting mental actions) but as mere expressions of subjective epistemic uncertainty. In a next stage, the complementizer *as* is deleted, which in turn leads to an increase in frequency (entrenchment) of *I trowe* and the emergence of a more abstract micro-construction *I trowe*. Similarities with other first-person present-tense constructions such as *leve*, *guess, deem* eventually lead to the emergence of a common meso-construction for all these similarly behaving '*I* + present tense verb of cognition' constructions. As a consequence, other less grammaticalized (i.e. syntactically more varied) forms are drawn into the set and lead to the later rise of epistemic parentheticals such as *I assume, I find, I gather, I presume, I suspect, I expect, I reckon.*

A constructional account of comment clauses has recently also been provided by Van Bogaert (2009, 2011) from a synchronic perspective. Based on a corpus study of nine complement-taking mental predicate phrases (e.g. *I think, I guess, I imagine*) in spoken English, she establishes different degrees

of grammaticalization for the individual predicates, with *I think* being the most grammaticalized of all. Although the notion of grammaticalization is typically linked to the parameter of internal fixation, Van Bogaert argues for an extension of the paradigm of grammaticalized epistemic predicate phrases to include variant forms such as *I would imagine*, *I'm guessing, I thought*. In her view, tense-aspect-modality variations such as these do not block a purely epistemic (transparent, interpersonal) reading and can be accounted for in a larger constructional model which allows for different levels of schematicity. Accordingly, the most frequently used complement-taking predicate phrases have reached a high degree of schematicity and entrenchment (productivity) and, as such, sanction instantiations which deviate from the prototypical schema. *I think*, as the most frequent of all predicates, "serves as a template onto which the other members of the taxonomy are modelled" (Van Bogaert 2011). More precisely, *I think*'s paradigm of variant forms paves the way for other predicates and draws them in by a mechanism of analogization (Traugott & Trousdale 2010). This development parallels the one outlined by Brinton (2008: 256) for the second wave of epistemic parentheticals (e.g. *I assume, I find, I gather*), which are 'modelled on' the already established (grammaticalized) pattern of e.g. *I trowe*. In Van Bogaert's account, however, it is the variant forms that are drawn into the set of more grammaticalized and schematic epistemic parentheticals.

These two constructional accounts provide important insights into the development and grammaticalization process of comment clauses, but still leave a few questions open, such as the persistent use of the *that*-complementizer, the ambiguous syntactic status of clause-initial comment clauses, and further degrees of grammaticalization / bleaching (as discussed in Section 3). To be able to address these questions it is necessary to place comment clauses in a constructional network, as demonstrated by Brinton and Van Bogaert, but to cast the net somewhat wider and include not only the comment clause construction in isolation but also related constructions of different degrees of schematicity. The aim of this section is to sketch out such a constructional network which complements the two existing models by taking into account the larger picture, as it were. The subsequent section will look at the implications and explanatory force of such a wider account.

As a starting point let us consider the prototypical **function** of epistemic predicate phrases more generally. As expressions of interpersonal comments they always stand in relation to a state of affairs being commented on, the "commentatum" (Posner 1973). Comments, in other words, are inherently relational and hence relative. As pointed out by Verhagen (2001: 348) "there is [...] no assessment without the object of evaluation". As a result of its

relational nature a speaker comment therefore has the potential of being either foregrounded (primary) or backgrounded (secondary) in relation to the commentatum. In other words, once the epistemic predicate phrase, which historically starts out as an independent lexical clause (cf. Section 2), is syntactically integrated (Heine & Kuteva 2007: 224) with the commentatum, there is inherent competition for foregrounding between the two parts in terms of a figure-ground gestalt.[6] Which of the two components overrides the other in terms of communicative salience and becomes the main point of the construction will depend on the communicative requirements of a particular speech event as well as on the semantic content of the comment phrase.

Structural coding of a speaker comment reflects this ambivalence in function by allowing for two essentially different structures: syntactically backgrounded in the form of a sentence adverbial (or pragmatic marker) or syntactically foregrounded in the form of a matrix (or superordinate) clause.[7] Let me briefly look at these in turn:

(i) Sentence adverbials ('stance adverbials' Biber et al. 1999: 969, 'disjuncts' Quirk et al. 1985) may of course take various forms, such as single adverbs (e.g. *probably*), adverb phrases (e.g. *funnily enough*), prepositional phrases (e.g. *in my opinion*), noun phrases (e.g. *no doubt*), finite and non-finite clauses (e.g. *I guess, as one might expect; to tell you the truth*). Of these, single adverbs are the most frequent, especially in spoken language (Biber et al. 1999: 862). Adverbs are related functionally and historically to another category, viz. that of pragmatic markers (e.g. *indeed, only, actually*), for which adverbs represent the historical source out of which pragmatic markers have developed either directly, via sentence adverbials, or via conjunctions (e.g. Traugott 1995a, Brinton 2008: 246). Both sentence adverbials and pragmatic markers are not only similar functionally, in their wide-scope evaluation (of a proposition or upcoming text respectively), but also in their

6 A similar view has been expressed by Nuyts (2000: 122ff), who sees epistemic modal expressions as a 'battleground' where two conflicting functional forces are at work: an information structural force and an iconic (or conceptual-semantic) force. From the perspective of iconicity the status of the epistemic evaluation is that of an operator (i.e. a meta-representational element) over a state of affairs, which suggests main clause status for the epistemic expression "since it directly reflects the meta-status of the qualification relative to the state of affairs" (Nuyts 2000: 123). In terms of information structure, on the other hand, the epistemic qualification is backgrounded and the state of affairs foregrounded, i.e. it carries the focal information.

7 I am ignoring here the syntactic possibility of speaker comment (stance) being incorporated in a main clause (e.g. with modal verbs, premodifying stance adverbs) as well as governing structures other than clauses, viz. NPs controlling a PP complement, as in the necessity [of the scheme], or a finite clause complement, as in the fact that John went to London... (cf. Biber et al. 1999: 971).

coding as syntactically backgrounded: both are in a non-governing relationship to their commentatum, which iconically reflects their secondary status.

(ii) Coding as a syntactically governing constituent, on the other hand, is less varied. It only takes the form of a matrix clause, albeit with different types of complementation, such as object clauses (e.g. *I believe that John is in London*) and extraposed subject complements (e.g. *It is amazing that John went to London*).[8] Both patterns are highly frequent in spoken and written language, with direct object clauses representing the most common type of clausal complementation (Greenbaum, Nelson & Weitzman 1996: 88-89). Additionally, the pattern matrix clause + object clause can be seen as representing a highly dominant schema owing to its taxonomic link with the more schematic Transitive construction ([SBJ] [TRNVERB] [OBJ]; e.g. *I believe it*). Syntactic foregrounding of speaker comment in the form of a matrix clause is also reflected in the typical information structure of matrix + *that*-complement clause structures, where the subordinate clause has been noted to "harbour, rather consistently, presupposed clauses" (Givón 1989: 132; cf. also Sadock 1984, Mackenzie 1984 for similar observations). This seems to be true especially with complements of cognition verbs (*I knew that she was there*) and complements of evaluative adjectives (*It's terrible that he drinks so much*) (Givón 1989: 132).

From a Construction Grammar perspective (as noted in Section 4 above), constructions are independent, but not isolated entities. They are linked with other, related constructions of different levels of schematicity in a larger taxonomic network of constructions. The nature of these links is still a matter of some discussion (e.g. Croft & Cruse 2004: ch. 10), but can be assumed to include analogical relationships, i.e. based on the perceived similarity of two entities. For comment clauses it is possible to identify analogical links to the two constructions outlined above: the matrix-complement schema and the sentence adverbial (pragmatic marker) schema. Since constructions are form-meaning pairings, these links will be of both a formal and a functional kind. Analogy, too, operates on both levels, as we are reminded, for instance, by Givón (1991: 258), who notes that analogical language change "involves the language user's recognition – conscious or subliminal – of similarities between two structural or functional contexts".

8 For a discussion of extraposition as stance marker cf. Couper-Kuhlen & Thompson 2007, Kaltenböck 2005.

The functional similarity of comment clauses with the two constructions has been briefly outlined above: both constructions serve as repository for speaker comment (stance). Given the reduced semantic meaning of comment clauses (cf. epistemic use), however, they would seem to be functionally more prone to coding as secondary comments, i.e. as sentence adverbials and ultimately (in their semantically reduced, pragmatically enriched form) as pragmatic markers. Formally, comment clauses display varying links. Their subject-predicate form is, of course, strongly reminiscent of main clauses and, together with clause-initial position (the typical position of main clauses), can be expected to activate the matrix-complement schema. With non-initial comment clauses the feature of positional flexibility may be more prominent and responsible for a strong link to 'coding as secondary comments', i.e. sentence adverbials, but still with some analogic link to matrix clauses, owing to their clausal form and potential for initial position.

The network relations of the comment clause construction can be represented in diagram form as in Figure 2.

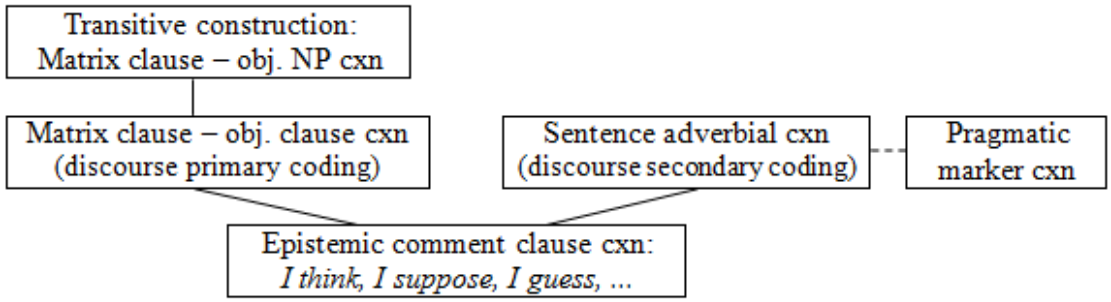

Figure 2: Taxonomic network for comment clauses

As illustrated in Figure 2, comment clauses are not isolated constructions but members of a larger constructional network and as such are informed by their relationship to related constructions. In the case of comment clauses these have been identified as the 'Matrix clause-object clause' construction (and by extension the more schematic Transitive construction) and the 'Sentence adverbial' construction, which by extension also relates to pragmatic markers (as evidenced by the historical development of *you know* and *I mean*). Note that these two 'parent constructions', which serve as analogical models, are also reflected in the two types of pro-forms found with comment clauses: viz. *so* (as in *I think / believe / suppose so*) and *it/that* (as in *I believe / suspect it*). The former is an instantiation of the adverbial link to a commentatum, the latter is indicative of a governing (matrix clause) relationship over the following complement.

The links to the two parent constructions can be assumed to be rather different, both in nature and strength. The connection with the sentence adverbial construction can be expected to be stronger, owing to their similarity in function (like comment clauses they typically express comments which have secondary discourse function) as well as in form (like comment clauses they are highly movable). The connection with the matrix clause construction, on the other hand, is based mainly on formal similarity (initial position, clausal form), as their tendency to foreground speaker comment does not correspond with the typical function of comment clauses. Although formal links might be considered weaker than functional ones (as argued for word forms by Bybee 1985: 118 and Croft & Cruse 2004: 303), the formal tie to matrix clauses is still considerable, owing to the high level of entrenchment of the 'Matrix clause – object clause' schema and, by extension, the Transitive construction, of which it is an instantiation (cf. Trousdale 2008a on the dominant role of the Transitive construction). As illustrated by Figure 3, this strand of the taxonomic network is a highly productive one which involves various levels of schematicity, each with a high token frequency.

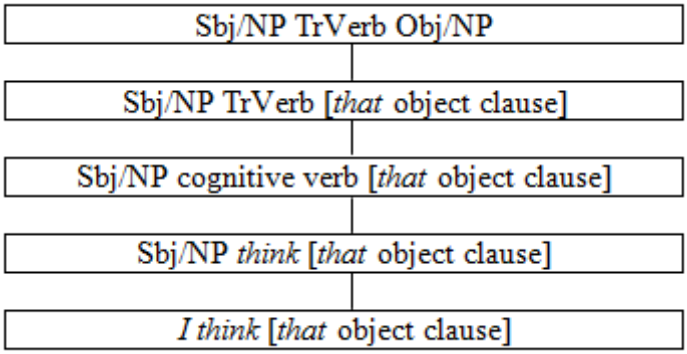

Figure 3: Schematic levels of the transitivity construction

6. Accounting for formal and functional change

Positioning comment clauses in a larger constructional network, as outlined in the previous section, can help to account for their diachronic development with regard to formal and functional features. One such formal property, which has been controversially discussed in the literature, is the use of the *that*-complementizer after clause-initial comment clauses. From the discussion in Sections 2 and 3, the following questions arise in connection with the *that*-complementizer:

(i) If most epistemic comment clauses did not originate as matrix clauses but as clause-final adverbial/relative clauses, as argued by Brinton (1996, 2008)

and Fischer (2007a, 2007b) (cf. Section 2), how did they come to be associated with a subordinator?

(ii) Given the overall steady (despite temporary ups and downs) and long-lasting decline of *that* with high frequency predicates, as a concomitant of their grammaticalization (e.g. Rissanen 1991, Tagliamonte & Smith 2005: 290-293, Torres Cacoullos & Walker 2009: 3-6), why is *that* still being used? Recall that even with the most grammaticalized predicate phrase, *I think*, the proportion of *that* is still a substantial 6.82 percent in spoken language (cf. Section 3; Table A2 in the Appendix). In view of the high degree of grammaticalization of some comment clauses one might wonder why *that* continues to be used with these.

(iii) How can we explain the wide-ranging differences for the use of *that* with different lexical predicates, such as 6.52 percent for *I suppose* and 50 percent for *I understand* in the spoken part of ICE-GB?

A constructional network account which stipulates an analogic link with the 'Matrix clause – object clause' construction can answer these questions. Despite their origin as independent clauses, comment clauses have come to be analogically construed by language users as instantiations of matrix clauses.[9] This is mainly the result of shared formal features, more precisely their clausal form and ability to occur in clause-initial position. Functionally, matrix clauses resemble comment clauses, too, since they also express speaker comment, even though it is typically discourse prominent (cf. Section 5). In initial position comment clauses have therefore inherited matrix clause features leading to complementizer use. With increased grammaticalization, this associative link with matrix clauses has, of course, considerably weakened. Nonetheless, the *that*-complementizer continues to be used on a low but fairly constant frequency level even with highly grammaticalized comment clauses. This retention of *that* can be attributed to grammatical persistence (cf. Torres Cacoullos & Walker 2009: 34), which in turn can be motivated by a constructional network link to the 'Matrix clause – object clause' schema.

With regard to the wide-ranging differences between predicates for complementizer use, the higher figures for *that* with some predicates can be explained by a stronger link of these verbs with the transitivity scheme. This closer association of some cognitive verbs with the transitive construction can

9 On the importance of analogy for language change cf. for instance Fischer 2007a, Traugott & Trousdale 2010: 35-39; also Blevins & Blevins 2009: 4.

be measured by their ability or a greater tendency to take direct object NPs (e.g. *I believe that/your story* vs. **I suppose that/a problem*). Let me illustrate this point with some examples. The comment clauses most frequently associated with a *that*-complementizer in initial position are *I understand, I believe, I realise* (cf. Table 1 for figures in the spoken part of ICE-GB from Van Bogaert 2009: 378).[10] It is these verbs, *understand, believe, realise*, which also have the highest proportion of direct object NPs in ICE-GB (cf. Table 1 for figures), for instance:

(6) He just didn't **understand** the situation (S1A-018-278)

(7) Foreigners **believe** this too (S2B-035-085)

(8) It didn't take very long to **realise** that (S1A-047-106).

Conversely, verbs which in their comment clause use rarely take a *that*-complementizer (viz. *I reckon, I expect, I suppose, I think, I guess*) show a weaker association with NP objects.

Initial comment clause	+ *that* (in spoken ICE-GB)	Verb frequency (in ICE-GB)	+ direct object NP (in ICE-GB)
I understand	50.00%	*understand* (187)	46.52% (87)
I believe	46.15%	*believe* (295)	15.93% (47)
I realise	33.33%	*realise* (87)	21.84% (19)
I guess	9.09%	*guess* (62)	8.06 % (5)
I think	8.78%	*think* (2,563)	0.31% (8)
I suppose	6.52%	*suppose* (237)	0.00%
I expect	0.00%	*expect* (124)	11.29% (14)
I reckon	0.00%	*reckon* (13)	0.00%

Table 1: Frequencies of initial comment clauses +*that* (in spoken ICE-GB; from Van Bogaert 2009: 378) and frequencies of verbs and their transitive use with object NP (in total ICE-GB)

A similar preference pattern can be established by investigating the frequency of association of these verbs with pronominal *that* or *it* as direct objects in relation to the total number of occurrences of the verbs. ICE-GB yields the following proportions: *understand that/it* (11.76%, 22/187), *realise that/it*

10 These figures differ slightly from the ones in Kaltenböck (2009b), which do not include pro-form constructions (e.g. *I think so*) in the sum total and take into account tagging errors: *I believe* 52.2%, *I guess* 5.0%, *I think* 9.0%, *I suppose* 6.4%. The ICE-GB results also closely correspond with figures derived by Van Bogaert (2009: 384) from a sample of the BNC: the highest ratios of that were found for *I realise* (53.85%), *I understand* (51.13%), *I believe* (26.32%), the lowest for *I suppose* (0%), *I reckon* (2.94%), *I think* (4.9%), *I expect* (5.94%), *I guess* (8.65%).

(9.2%, 8/87), *believe that/it* (7.12%, 21/295), *expect that/it* (2.42%, 3/124), *think that/it* (0.31%, 8/2,563), *guess/suppose/reckon that/it* (0%).

It can thus be assumed that different verbs are cognitively associated with the transitivity schema to different degrees (which may depend on the semantic content/weight of the verb) and therefore activate the matrix clause link, which triggers complementizer use, to varying extents.

Apart from explaining the formal property of *that*-complementizer use, the network model also accommodates the functional development from epistemic to textual marker identified for *I think* in Section 3. The predominantly functional link of comment clauses to sentence adverbials (i.e. 'coding as discourse secondary') facilitates further grammaticalization (bleaching) along these lines owing to the already established pathway from (sentence) adverbials to pragmatic markers (Brinton 2008: 246, Traugott 1995a: 13). Pragmatic marker function is simply a further possible development from adverbial usage.

Somewhat paradoxically, the loss of epistemic meaning of *I think* can even be attributed in part to the link with the matrix clause schema. Although the 'matrix clause – object clause' schema is, on the one hand, responsible for a foregrounding interpretation of initial comment clauses (cf. persistence of the *that*-complementizer), which may, in fact, work counter (and delay) further grammaticalization, it may also, on the other hand, be responsible for a 'pull' towards initial position (incidentally the most frequent position of parenthetical *I think*; cf. Table A1 in the Appendix). It is this initial position which can be seen as contributing to further bleaching and grammaticalization of *I think* for the following reasons: (i) it is the typical locus of grammaticalization, as it typically coincides with given information (cf. given-before-new principle). Given information, in turn, corresponds with discourse secondary information and may become conventionalized, i.e. grammaticalized, through recurrent usage (cf. Boye & Harder 2007). Various constructions attest to a grammaticalization of such clause-initial material of low informational value, for instance presentative constructions (e.g. *There's* + plural NP, *The thing/idea is*...) (cf. also Givón's 1979 discussion of subjects as grammaticalized topics). (ii) Clause-initial position is also a typical location for stalling devices (cf. Stenström 1994), which often take the form of prefabricated units, and it has been identified as a basic feature of discourse markers (Brinton 1996: 33-35, Jucker & Ziv 1998: 3).

7. Conclusion

The aim of the paper has been to provide an explanation for the formal and functional development of comment clauses such as *I think*. It has been shown that *I think*, the most frequent and prototypical of all comment clauses, shows signs of increasing grammaticalization and concomitant semantic erosion of its epistemic meaning (cf. Sections 2 and 3). This is evidenced, for instance, by (i) a weakening of the semantic-pragmatic bond with the host construction resulting in increased uses with phrasal rather than clausal scope, (ii) a reduction of clause-final *I think*, the position most typically associated with speaker comment, and (iii) an increase in the co-occurrence of fillers/discourse markers, suggesting similarity in function, and a decrease in the co-occurrence of pauses, suggesting effective use as a filling device. At the same time, however, *I think* does not show any increase in *that*-omission, which is generally seen as a concomitant of increased grammaticalization.

To account for this development I have argued for a Construction Grammar approach (cf. Sections 4 and 5) which posits taxonomic links of comment clauses to related constructions, viz. the 'Matrix clause – object clause' construction and the 'Sentence adverbial' construction'. By placing comment clauses in such a larger constructional network it is possible to account for formal and functional characteristics of their development, such as the advance of *I think* from an epistemic to a general pragmatic marker and the use of the *that*-complementizer (cf. Section 6). With regard to the latter the taxonomic tie to the 'Matrix clause – object clause' construction, and by extension to the more schematic Transitivity construction, can explain (i) why comment clauses came to be associated with a *that*-complementizer in the first place (despite their presumed origin as adverbial clauses), (ii) the persistence of *that* on a low but fairly constant level in Present-day English, and (iii) the varying use of *that* with different lexical predicates (e.g. *I suppose* vs. *I understand*).

Appendix

Table A1: Overall frequencies of different uses of comment clause *I think* in DCPSE

I think	LLC (464,074 words)		ICE-GB (421,363 words)		Change in frequency		
	Raw	per 100,000 words	raw	per 100,000 words	%	χ^2 partial	X vs ⌐X 2 x 2 χ^2
Initial[1]	966	208.15	829	196.74	-5.48	0.00	0.01
Medial	145	31.24	141	33.46	+7.11	1.06	1.20
Phrasal	52	11.20	68	16.13	+44.02	**5.23 sig<0.05**	**5.49 sig<0.05**
+*that*	94	20.25	81	19.22	-5.09	0.00	0.00
Final	122	26.28	68	16.13	-38.62	**8.38 sig<0.01**	**9.05 sig<0.01**
Total	1,379	297.15	1,187	281.70	-5.20	**14.67 sig<0.01**	

Table A2: Relative frequency (in percent) of different uses of comment clause I think in DCPSE

I think	LLC		ICE-GB
	%		%
Initial (pre-subject)	70.05	>	69.84
Medial	10.51	<	11.88
Phrasal	3.77	<	5.73
+*that*	6.82	=	6.82
Final	8.85	>	5.73
Total	100.0		100.0

1 Initial position in the present classification is equivalent to pre-nuclear position, i.e. pre-subject position, which allows for preceding adverbials but disregards discourse markers (e.g. well) and vocatives (e.g. Peter).

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Proverbial wisdom and personal experience: Exploring the social epistemology of communicative practices[1]

*Philip Riley, Nancy**

In 1899, the eminent biologist Ernst Haeckel published his *Die Welträthsel* ('The World Puzzles'), a sharply provocative defence of science in general and Darwinism in particular.[2] He was responding to an earlier book by Emil Du Bois Reymond, *Die sieben Welträtsel*, in which that author had argued that there were seven major questions about the nature of the universe which science could never answer, since they involved transcendental issues. Haeckel's book, an overnight bestseller, caused an immense furore, partly because of the daring nature of the ideas it espoused, which were regarded by many as hubristic, as well as morally and politically dangerous, partly because of his take-no-prisoners tone and style (– he makes Richard Dawkins sound emollient.) Among the puzzles[3] in question, one, the origin of consciousness and speech, is clearly susceptible to an evolutionary approach, which Haeckel duly developed. In doing so, he added to the considerable cross-fertilisation between Darwinian theory and linguistics occurring at the time, with August Schleicher, a close friend of Haeckel's, borrowing from Darwin's evolutionary theory to provide historical linguistics with a cogent theoretical underpinning in his *Die Darwinische Theorie und die Sprachwissenschaft* (1863) and Darwin himself borrowing from Schleicher the tree-diagram as an explanatory metaphor for evolutionary processes.

That metaphor continues to play a fundamental role in knowledge representation. So fundamental, indeed, that much of the time we forget that it

1 With thanks to Marie-Luise Pitzl, who took the time to share her thoughts on 'convention and creativity' with me, providing focus and encouragement for this article (Pitzl 2010).

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2 See Robert J Richards (2008) for a brilliant re-evaluation of Haeckel's work.

3 The full list included: i) The nature of matter and force, ii) The initiation of motion, iii) The beginning of life, iv) The design of nature, v) The appearance of sensibility, vi) The origin of consciousness and speech, and vii) The problem of free will.

is a metaphor, thus providing a striking illustration of Nietzsche's dictum that 'The metaphors of yesterday become the truths of today'. Indeed, the very naturalisation of the metaphor has tended to occlude the existence of the puzzle, since it results in a representation of the nature of language (and, therefore of its origin and its relation to consciousness) which largely excludes both social and individual factors. Language development, both phylogenetic and ontogenetic, is seen as impersonal, biological, the inevitable and mechanical operation of natural forces and laws. This reductionist approach was powerful and insightful when applied to aspects of linguistic change that could indeed be related in some way to physical factors (via articulatory phonetics, for example) and to tracing successive stages in the emergence of specific forms and the relationships between them, and contributed directly to the extraordinary flowering of diachronic linguistics in the nineteenth century.

Haeckel was a first-rate scientist: Darwin was a great admirer and considered him to be one of the very few people who really understood his ideas. But he was still constrained by the episteme of his time and the metaphors which framed it, even as he challenged them. His main answer to the puzzles was to deny that they existed – he espoused a sophisticated version of monism – either because they had already been solved or because they were false problems. As Richards perspicaciously points out, there is a close resemblance between Haeckel's book and Darwin's, in that both set out to disprove the proposition implied in their title: for Darwin, there is no particular moment in time in which a specific species is created or appears; for Haeckel, likewise, consciousness (or any other phenomenon, for that matter) does not come into being, it is **in being**. His opponents accused him of atheistic materialism which was tantamount to simply ignoring them.

This article argues that modern sociolinguistics provides a framework for dealing with certain elements of the puzzle in an intellectually satisfying way. In sociolinguistic terms, the topic of 'the origin of consciousness and speech' can be paraphrased as the following question (– puzzle!): How is it possible that language can be both a social phenomenon, a set of institutional conventions, *and* the basis for individual subjectivity, self-expression, a creative resource? This transposition of terms, this recasting of the puzzle, is justified by the increasing evidence that consciousness is essentially a social phenomenon, one that can only be brought about through communication with an Other. For communication, the sharing of common meaning, to take place, at least two conditions must be satisfied: in the absence of telepathy, there has to be some kind of mechanism for the formal realisation of meanings (a set of conventions or 'code') and an overarching framework for

the establishment of a reciprocity of perspectives (a set of interpretive procedures and communicative practices). Fundamental to this framework is the capacity to recognise an Other as a potential communicative partner and the implementation of this capacity which is the *fons origo* of self-consciousness and identity, since identifying something as Not Me implies the existence and awareness of Me.

Historically, the overall theoretical framework within which this project is embedded is based on Georg Simmel's notions of *interaction* and *intersubjectivity*. For Simmel, *interaction* (a word he borrowed from chemistry, where it referred to the relationships between atoms and molecules) was the social phenomenon on which society and sociology were based. Interaction consists of the mutually influencing behaviours which make it possible for individuals who are physically and mentally separate from others, to become members of society, resulting in *sociation*, the formation and maintenance of groups: "Society is merely the name for a number of individuals connected by interaction" (Simmel 1908, quoted in Wolff 1950: 10). He borrowed another term from contemporary chemistry, the *dyad*: where chemists use the term to refer to a pair of atoms which have joined to form a molecule, Simmel uses it to refer to an interactive pair, two individuals involved in a meaningful social relationship. That relationship he called *intersubjectivity*, which is the psycho-social state obtained between members of a dyad as the result of successful communicative behaviour: shared meaning, communication. The various types of communicative behaviour in a group's repertoire are known as its communicative practices, a term we owe to the ethnographers of communication, such as Hymes (1970), Hanks (1996) and Saville-Troike (2002).

During his lifetime and for decades after, Simmel's ideas were regarded as hopelessly optimistic and inoperative, and it is true that the intellectual and, above all, the methodological tools for describing and analysing interactive discourse were not then available. But in the course of the twentieth century a number of approaches were developed (discourse analysis, conversation analysis, the ethnography of communication, ethnomethodology, etc.) which have made feasible the detailed and systematic investigation of discourse and communicative behaviour (Widdowson 2007 provides a lucid critical overview). Most, though not all, of these approaches take as their starting point Saussure's distinction between *langue* and *parole* which clearly is highly relevant to our 'world puzzle', as it does indeed focus on the difference between language as a formal and objective system, a social institution, and language as situated use, self-expression. But it is a description, not a solution: or, if you prefer, a statement of the problem, rather than an answer to

it. Moreover, given the thrust of Saussure's argument, which aimed at the establishment of linguistics as an autonomous discipline, it was seen as a reason for concentrating exclusively on *langue*, which resulted in effect in ignoring the puzzle. Simmel's approach, at the heart of the movement aiming to provide the social sciences with a cogent intellectual and methodological basis (Dilthey 1883; Durkheim 1895), was, however, to take this bull by the horns. "How is society possible?", he asked (– the title of one of his most penetrating essays). And his answer essentially was that individuals have the capacity and the resources to share knowledge and meaning, to establish common consciousness.

One of the principal functions of discourse is the distribution of knowledge in the widest sense, communication. In order to establish intersubjectivity, the management and operation of the social knowledge system, whereby private or restricted knowledge is made public and public knowledge is brought to bear on subjective perceptions of situations and meanings therefore requires strategies having opposite epistemic directionality: those which enable speakers to mine the social archives for resources relevant to their immediate communicative needs and those which enable speakers to make available to others their personal experiences and the meanings they derive from them. Within this general framework, I shall be looking, in a necessarily schematic way, at two classes of communicative practices, *proverbs* and *anecdotes*. As formulaic expressions known to all members of a group or even a community, proverbs clearly belong at the conventional, public end of the epistemological spectrum, whilst anecdotes, as the spontaneous encapsulation of individual experience, just as clearly belong at the private end. I will be arguing that by comparing the characteristic features and functions of proverbs and anecdotes, we can begin to answer, in however an incomplete and fuzzy a fashion, the Haeckel-Reymond puzzle.

Proverbs

Despite their seemingly circumscribed nature and the widespread and largely justified belief that people "know one when they hear one", proverbs have proved extremely difficult to define to the satisfaction of the general run of paremiologists. As the doyen of proverb studies, Wolfgang Mieder, has pointed out in a recent discussion (Mieder 2008: 11), this is largely due to the fact that "(a)gain and again, they have tried to approximate *the* definition". This sage observation has not prevented Mieder himself from having a crack at the whip:

> *Proverbs (are) concise traditional statements of apparent truths with currency among the folk. More elaborately stated, proverbs are short, generally known sentences of the folk that contain wisdom, truth, morals and traditional views in a metaphorical, fixed and memorizable form and that are handed down from generation to generation. (Mieder 2004: 11)*

He quotes Whiting's classic definition, which he describes as "… a lengthy conglomerate version … a useful summation, *albeit not a very precise statement"* (Mieder 2004: 10; my italics):

> *A proverb is an expression which, owing its birth to the people, testifies to its origin in form and phrase. It expresses what is apparently a fundamental truth – that is, a truism, – in homely language, often adorned, however, with alliteration and rhyme. It is usually short, but need not be; it is usually true, but need not be. Some proverbs have both a literal and a figurative meaning, either of which makes perfect sense; but more often they have but one of the two. A proverb must be venerable; it must bear the sign of antiquity, and since such signs may be counterfeited by a clever literary man, it should be attested in different places at different times. This last requirement we must often waive in dealing with very early literature, where the material at our disposal is incomplete. (Whiting 1932: 302; quoted in Mieder 2004: 10)*

Like Mieder, most paremiologists bewail the impossibility of arriving at a unique and exhaustive and definition of **the** proverb, whilst continuing to try to do so, like dogs worrying at an old bone. At some risk of over-simplification, this difficulty can be attributed to three factors.

(i) Firstly, whilst it is possible to draw up a list of the constitutive formal properties of proverbs, it has proved quite impossible to identify any essential combination of those properties which characterise all and only[4] proverbs.

(ii) Secondly, there are a number of important characteristics of proverbs, recognised by paremiologists and layfolk alike, such as 'proverbiality', 'wisdom', 'venerability' and 'traditionality', which are not formal and which are consequently far less amenable to precise and explicit categorisation and formulation.

(iii) With a few exceptions (e.g. Norrick, Winick, Sirhan and Schipper, see below) paremiologists have concentrated on proverbs as decontextualised linguistic expressions, a necessary procedure, obviously, if one's aim is to

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[4] Clearly, distinguishing proverbs from other types of formulaic expressions (clichés, slogans, catch-phrases, similes, etc.) is a further and major difficulty.

produce a dictionary or list of proverbs, as is often the case, but one which excludes those pragmatic and strategic dimensions which are essential to the understanding of the use and meaning of proverbs in actual discourse.

Rather than going over this well-ploughed ground yet again, I would suggest adopting an approach based on prototype semantics (Rosch & Lloyd 1978). The prototype is that member of a class which satisfies the highest number of the characteristic requirements for membership of the class. A prototypical bird, for example, has a beak, feathers and wings, sings, builds a nest, lays eggs … but a penguin does not tick all these boxes. This is an approach that has proved extremely helpful in investigating the quality of metaphoricity, a communicative phenomenon which clearly has close affinities with proverbs (Gibbs 1994). In such an approach, then, expressions, rather than being classed as proverbs or not, are seen as *more* or *less* 'proverbial'. Obviously, to carry out this kind of graduated classification, we need to list as exhaustively as possible the characteristics in question, so that specific examples can be checked against them and compared with one another before being situated on the spectrum of proverbiality and this is a purpose to which the points identified in this section and summarised in Table I below might serve. More to the point, though, in the context of this article, is the fact that such a list also provides a basis for comparing proverbs with other forms of communicative practices, such as anecdotes.

The numerous properties and characteristic of proverbs which have been identified by paremiologists such as Mieder (2004), Dundes (2005) or Schipper (2004) might be conveniently tidied into the following categories:

(1) *Historicity*

Proverbs form a particular folklore genre, along with fairy tales, nursery rhymes, etc.

They are anonymous and of unknown origin.[5]

They are traditional, old, and may include linguistic archaisms or venerable forms.

They possess acknowledged and respected power.

(2) *Form*

In many, perhaps most, languages, proverbs have a short set form (the word 'pithy' is invariably used) consisting of a minimum of two words: topic and comment: 'Time flies'.[6]

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[5] This requirement is more problematic than might at first seem to be the case, since numerous expressions taken from, say, Shakespeare or the bible are regarded as proverbs by many people, whether they know their origins or not.

These forms are formulaic, prefabricated.

They are in the 'eternal present' and hyperbolic: The propositions they express are **always** or **never** true.

Proverbs often have a sibylline quality resulting from syntactic ambiguity: 'Stuff a cold and starve a fever', 'A friend in need is a friend indeed.'

They are often highly textured (to use Dundes' useful term), that is, they display higher degrees of patterning than normal phonological and syntactic constraints alone require, including rhyme, alliteration, assonance, parallelisms and apposition ('A stitch in time saves nine', 'Many a mickle makes a muckle', 'He laughs best who laughs last').

Ellipsis is extremely common: 'In for a penny, in for a pound', 'Better safe than sorry', 'Better late than never').

(3) *Functions*

At discourse level, proverbs function as communicative practices or strategies, cultural resources for indexing meanings.

These meanings may be either literal or figurative, or both ('No smoke without fire').

Proverbs play an important role in the social knowledge system (storage, management, transmission and legitimisation, etc.)

- They are widely known and form part of the identifying commonsense culture of the group (Lau, Tokofsky & Winick 2004).
- They are didactic and have an evaluative and conservative function in society …
- … so that they can be deployed tactically in argumentation (e.g. in support of a speaker's view or to emphasise illocutionary forces such as warning or advice) (Sirhan 1993).

(4) *Intertextuality*

This term refers to the fact that, since languages are inherited by individuals from their predecessors as fully functioning systems[7], every kind of linguistic unit has already been used on multiple occasions by others and reaches us bearing, like a palimpsest, the traces of those earlier occurrences (cf. Plett 1991, Worton & Still 1993). This is clearly a matter

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6 Caution needs to be exercised here, as relatively long proverbs are by no means rare in some cultures. For instance, Sirhan (1993) quotes to Vute proverb "The bush pig did not receive a tusk, even though his maternal uncle did the sharing". Or is this, as some paremiologists might suggest, shading off into parable?

7 There are exceptions to this generalisation: 'nonce terms' (i.e. words invented for a particular occasion, which do not enter the social lexicon) and neologisms, which do (e.g. Haeckel's 'ecology').

of degree, with certain items or expressions carrying a heavier intertextual load than others. As Norrick has observed:

> *All stored collocations, from irreversible binomials to potentially complete utterances, tend to develop idiomatic textual / interactional significance. (Norrick 1985: 26)*

The prototypical intertextual expression is probably the conscious quotation, literary or otherwise – 'To be, or not to be', 'You've never had it so good' – along with song, book or film titles, which may themselves be quotations: 'The sunny side of the street', 'Far from the Madding Crowd', 'For whom the bell tolls', 'Eternal sunset of the spotless mind'. Other sources include political and advertising slogans ('Yes, we can', 'Just do it.'); instructions ('Store out of the reach of children', 'May contain traces of nuts'); similes ('Sick as a parrot', 'Cunning as a fox') – and proverbs.

One paremiologist who has integrated the notion of intertextuality into his approach is Schipper, who says proverbs are

> *[...] the smallest literary genre [...] [they are] basically metaphors, similes and metonymies which devise a clear intertextuality by mirroring cultural wisdoms and beliefs [...] short, pithy sayings ingeniously embodying the truth or cherished belief. (Schipper 2004, 9-10)*

But it is certainly Winick who places the greatest emphasis on intertextuality:

> *Proverbs are brief, (sentence-length) entextualized utterances which derive a sense of wisdom, wit and authority from explicit and intentional intertextual reference to a tradition of previous similar wisdom utterances. This intertextual reference may take many forms, including replication (i.e. repetition of the text from previous contexts), imitation (i.e. modelling a new utterance after a previous utterance), or use of features (rhyme, alliteration, ascription to the elders, etc;) associated with previous wisdom sayings. Finally, proverbs address recurrent social situations in a strategic way. (Winick 2003: 595)*

Significantly, Mieder finds this definition "convoluted" (Mieder 2004: 14) particularly objecting, as I understand him, to Winick's reference to imitation and modelling, since "[t]he fact that the sentence is 'proverb-like' does not make it a folk-proverb." This objection is consistent with Mieder's search for the perfect, essentialist definition, but it limits the notion of intertextuality to cases of full, word-for-word replication. This is unfortunate, because it rules out at least two types of expression which anyone who is interested in the discursive functioning of proverbs –

proverbs in text, not just proverbs as text – would most definitely wish to see ruled in: partial or elliptical citation and the production of variants. (These types may well be more common than cases of full replication, but I have no empirical evidence for this.) An example of partial citation: my wife is renewing the silicon seal around our bathroom hand-basin and says "There's no mould there yet, but, you know, a stitch in time." And while I have been writing this article, I have heard speakers in other contexts use "The proof of the pudding" and "A bird in the hand" in similar elliptical fashion. The second type, the production of variants, is very productive indeed, including as it does such cases as W. H. Auden's mock Icelandic proverbs ('Every man loves the smell of his own farts'), humorous word-play ('A bird in the Strand is worth two in Shepherd's Bush') and topical variants, that is, ones which have been adapted to the situation or subject (e.g. Mieder's own 'Proverbs speak louder than words' or a newspaper headline concerning the result of the latest Masterchef competition: 'The proof of the pudding is in the beating').

Anecdotes

Oral anecdotes are a form of case-study in miniature, providing material and justification for some aspect of the speaker's world-view. As such, they often have much in common with various forms of life-writing, but clearly there are numerous differences, too, as regards medium, forms and functions. Oral anecdotes are passages of monologistic narrative of varying length embedded in stretches of interactive discourse. It is convenient to distinguish between first- and second-order anecdotes. In first order anecdotes, the category upon which this article concentrates, the speaker relates events in which he or she participated or was present. Second-order anecdotes are accounts of events in which the speaker was not directly involved. Anecdotes present a number of interesting characteristics as discourse. For example, as my use of the term monologistic indicates, the speaker who begins an anecdote claims immunity from interruption for a certain time: Consequently, turn-taking and topic-nomination in the vicinity of anecdotes are often highly atypical when compared with the discourse in which the anecdote is embedded. However, this dispensation is only granted and maintained if the performance and content of the anecdote satisfy a number of criteria. These include:

(1) *Originality*

The word comes from the Greek, *an-ekdota*, 'that which has not previously been given out or made public' and has been used at various times to refer to anything from secret narrative ('what *really* happened')

to gossip. Nonetheless, as its etymology suggests, the use of the term consistently implies that the narrative knowledge in question has not been imparted to the interlocutor on an earlier occasion. It is this characteristic which situates the anecdote at the polar opposite to the proverb on the socio-epistemological spectrum, because proverbs are part of common sense, 'what everybody knows'. We tell anecdotes, but we quote proverbs.

As usual, this requirement can be flouted: Speakers dispose of a number of hedging and framing devices for anticipating or neutralising objections from their interlocutor to the effect that in fact they have "heard it before", for example "Did I ever tell you about when I …", "I must have told you about when I …", "I don't know if you remember me telling you about …". I know of no data-based analysis of these strategies, but studying them could throw light on a number of issues, including the co-construction of discourse and conversational politeness.

(2) *Credibility*

Our perception of an individual's ethos, their communicative identity as co-constructed by Speaker and Hearer, largely determines the extent to which we accept their affirmations as true, which is one reason why appropriate identity can be regarded as the most important felicity condition of all (this topic is dealt with in more detail in Riley 2006, 2007). If necessary, therefore, speakers will go to great lengths to 'establish their credentials' by providing contextual evidence, appealing to witnesses, anticipating objections by admitting that the narrative is unlikely, etc. Again, it is important to notice that this requirement can be flouted or over-ridden, for humorous purposes in particular. None the less, the narrator of a 'tall story', say, will usually try to keep a straight face and in general preserve a semblance of verisimilitude.

(3) *Relevance*

To be acceptable as appropriate performances, anecdotes must be to the point, germane to the matter in hand. In this respect, they are in principle no different from any other contributions to conversation, as discussed by Grice (1975) and refined by Sperber & Wilson (1983). However, observation suggests that, in the context of the privileges of immunity to interruption and extended rights to the floor, penalties for non-respect of the maxim of relevance are particularly heavy in the case of anecdotes (lack of attention or reaction, mockery, explicit dismissal through expressions like "What's that got to do with the price of fish?", etc.). Respecting the criterion of relevance will often require the introduction of

intertextual references and material (in addition to the normal exigencies of narrative construction, of course).

To say that anecdotes illustrate some aspect of the speaker's world-view is to imply that they have a very broad functional and epistemological range indeed, including exemplification, argumentation, the explanation and justification of knowledge, beliefs, attitudes and values, the expression of speaker-identity, self-image and relationship with the interlocutor. In more spontaneous, multi-participant forms of social interaction, such as a group of friends having a drink or a meal together, anecdotes can also play an important part in the reaffirmation of social values. This phatic bonding is clearly part of the ritual of constructing or maintaining group identity, and as such presents a number of specific discourse characteristics, such as high levels of co-construction and appeals to shared memories. However, for the sake of exposition, this discussion will not deal with cases of co-construction.

Comments

I have argued that one of the great puzzles of language – the fact that it can be at one and the same time a social institution, a set of conventions independent of the individual and a source of creativity for self-expression – can be better understood by seeing speakers as communicative agents, that is, as members of society capable of entering into intersubjective couplings with others through the adoption of appropriate communicative strategies. To illustrate this, we have examined two types of communicative practices, proverbs and anecdotes, situated at opposite poles of what might be called the epistemological spectrum, since the former call for knowledge of highly conventional linguistic expressions and shared knowledge, whilst the latter require competence in the creative recounting of personal experience. In the table below and the comments which follow it, I have tried to summarise the various characteristic of proverbs and anecdotes mentioned in the course of this article in a slightly more systematic way. However, rather than simply recapitulating the separate discussions of proverbs and anecdotes set out above, this provides a useful opportunity for comparing and contrasting them.

	Convention	**Creativity**
	Proverbs	*Anecdotes (1st order)*
Form 1	Prefabricated, formulaic, recurrent.	Encoded in real time. Spontaneous.
2	Set in eternal present, hyperbolic.	Set in historic past.
3	Short, pithy. Condensed, elliptical, poetic, sibylline.	Relatively long.
4	Textured: rhyme, alliteration, assonance, parallelism.	Iconic temporal structure: rules of narrative cohesion and coherence.
5	Potential complete turn.	Turn-taking suspended.
Function 6	Transmission of Wisdom, values. "Remember!"	Expression of Experience. "I remember..."
7	Top-down: General to particular.	Bottom-up: Particular to general.
8	Applied to specific situations as authoritative judgements, guidelines, evaluations, advice, argument, explanations.	Appealed to or evoked as illustrations of individual's *Weltanschauung* (beliefs, values, attitudes, self-image …).
9	Figurative, symbolic.	Literal, representative.
10	Social cohesion. Proverbs can signal group membership, Speaker's orientation to group, etc.	Self-presentation. Contributes to the construction and projection of ethos.
Epistemological status 11	Atemporal propositions, truths. General statements by society. Anonymous. Didactic.	Specific narratives by individuals. Personal. Exemplary.
12	Traditional. Stable over time. Familiar, meaning shared by Speaker and Hearers.	New. Interesting, original, one-off.
13	Proverb is authoritative. Speaker is not responsible *but* takes high ground (as spokesman for society, teacher ...).	Speaker assumes full responsibility for Anecdote: veracity, point, key, etc.

Table 1: A schematic comparison of proverbs and anecdotes.

The first distinction included in this table is the one between *convention* and *creativity*. In general terms, as has been argued above, this refers to the fact that (a) language can be regarded **both** as a social institution or fact in the Durkheimian sense of having an objective existence independent of any individual speaker (Durkheim 1895), a body of units, structures and functions

('langue' or 'competence') **and** as a set of communicative resources enabling individuals to enter into intersubjective couplings with others, to merge their subjective worlds, thereby becoming members of groups and eventually of society at large. This general distinction is then examined in some detail in the remaining parts of the table with respect to two specific forms of expression, *proverbs* and *anecdotes*, which can be considered as representing the conventional and creative characteristics of language respectively: Taken together, all the distinctions which follow in the table aim to justify and explain this judgement. It should be kept in mind that the proverbs and anecdotes discussed here are prototypical cases with whose characteristics authentic examples might only correspond to a lesser degree.

These distinctions have been provisionally sub-categorised under three headings, based on their formal, functional and socio-epistemological characteristics. This latter category refers to the ways in which discourse elements participate in the operation of the social knowledge system. All societies and groups are instantiated by specific forms of knowledge management, sets of structures and functions for the production, organisation, storage, distribution, legitimisation and use of knowledge, taken in the widest possible sense (cf. Riley 2007). The principal mechanism of the system is discourse, so that the investigation of almost any kind of communicative practice will involve epistemological considerations. However, this tripartite classification needs to be taken with a pinch of salt: Although it is useful for expository and analytical purposes, it should not be allowed to blind us to the fact that some characteristics presented separately are in fact indissociable. For example, atemporal propositions or universal truths, an 'epistemological' ascription, are invariably formulated in the present simple tense in English, which is obviously 'formal'.

Let us now briefly review the various items included in Table I, focussing in particular on the differences between proverbs and anecdotes, though this will inevitably involve some repetition of characteristics of one or the other which have been discussed separately above:

(1) Whereas proverbs are available to speakers ready-made, that is, as prefabricated, formulaic expressions, anecdotes are expected to display a degree of spontaneity. This term is used to qualify a language production which is encoded and transmitted in real time. However – and most interestingly – any attempt to define further this reasonably objective definition segues rapidly into questions of ethos, since real-time encoding, without preparation, hesitation or anacoluthon, is judged to be a sign not only of competence and fluency, but of sincerity and the absence of ulterior motives on the speaker's part. Spontaneity, then, is a 'communicative virtue'

(Marui et al. 1996, Riley 2005) contributing to the credibility of the anecdote as personal experience, but its presence in proverb use would by the same token be counter-productive.

(2) Proverbs are set in a timeless or eternal present through the use of the present simple tense or ellipsis: They are hyperbolic, **always** true. Anecdotes are set in a specified historical past, although in popular speech not necessarily in the present tense: On a given occasion, this really happened.

(3) Compared to proverbs, anecdotes are long, since as 'new information' they need to be contextualised. A proverb is the tip of an iceberg of allusive connotations and intertextual references which, as assumed background knowledge, does not need to be stated explicitly, though this can be fertile ground for ambiguity.

(4) Possibly to make them more easily remembered, proverbs are highly textured or formally patterned and this stylistic characteristic certainly contributes to their sense of traditional wisdom and of the historically accumulated experience of the group. When recounting anecdotes, speakers have to strike a fine balance between patterned texture and spontaneity, since a 'polished' anecdote must obviously have been recounted on previous occasions, which is acceptable in the case of proverbs but far less so in the case of anecdotes. Competent anecdotes comply with the rules of narrative discourse, in particular the requirement that the order in which events are related should be an iconic reproduction of the order in which they occurred.

(5) A proverb may occupy a complete speaking turn, as one might expect given the qualities of brevity, condensation and formulaicity enumerated above. Similarly, the extension of speaking turns or the suspension of turn-taking following the initiation of an anecdote follows from an expectation and sanctioning of relative length and the group's need to assimilate and share new knowledge and experience.

(6) If a group is to survive as a group, its identifying knowledge or culture must be transmitted from generation to generation and clearly proverbs, along with other folklore categories, play a central role in this process as mnemonics for the group's core values, history and ontology. This social wisdom is regularly tested against specific cases of individual experience. One would expect proverbs that are found wanting to wither away, but since a group's proverbs do not form a self-consistent system, alternatives can usually be found to account for particular instances to which a given proverb does not seem appropriate, providing an intellectual and argumentative

framework as complex as life itself: ‘He who hesitates is lost’ / ‘Look before you leap’.

(7) Proverbs are general statements which can be used strategically to apply to specific cases. As such, they form a major socio-epistemological device, relating social representations and categories to individual experience. Anecdotes have the opposite directionality, relating individual experience to social categories. In both cases, individuals use these communicative practices to situate themselves and the matter in hand with respect to the situation and the ‘known world’.

(8) In doing so, they may call on either proverbs or anecdotes to evaluate, explain or illustrate behaviour and beliefs, but in the case of proverbs these are provided by and attributed to society (tradition, ancestors, etc.), whereas in the case of anecdotes they are grounded in personal experience.

(9) Since proverbs purport to apply to multiple instances, they must either be devoid of any kind of situation-specific references or such references must be understood as applying figuratively to distinct cases. Anecdotes, on the other hand, are supposed to be based on facts of individual experience and are therefore to be taken literally.

(10) Knowledge of a proverb signals membership of the group which knows and uses that proverb thereby expressing social identity and reinforcing group cohesion: We share common beliefs and are both individuals and members of a group. Anecdotes play an important role in self-presentation: This is the sort of thing that happens to me and I am the sort of person who reacts in the way described. Individual subjectivities are expressed through the convention of *langue*.

(11) Proverbs are the impersonal expression of timeless truths which have acquired the prestige, authoritativeness and venerability conferred by age. The propositions they contain exercise considerable force in the group’s natural logic or social epistemology, which is manifested by didactic key, though to varying degrees. Any force an anecdote may have is attributable to the speaker’s ethos and in particular their previous reputation.

(12) Proverbs are part of the shared background knowledge which members of a group bring to bear on the construction of communicative situations. This inherited repertoire is available for the categorisation and interpretation of fresh knowledge, as represented, for example, by anecdotes.

(13) Used appropriately, the prestige and force of proverbs may confer reflected glory on speakers as they become the spokesmen for society, whilst retaining the right to distance themselves from the proverb’s propositions if

tactically desirable. The responsibility for first-order anecdotes is always squarely placed on the speaker.

Conclusion

Each individual is an incorporated self, a personal identity physically and mentally distinct from all others, and a member of society, a competent and recognised member of the social groups forming their social identity. This seemingly paradoxical double articulation is made possible by our capacity to express our selves, to enter into an intersubjective relationship with others through the use of the language code as a communicative resource, conventions used creatively. To illustrate this process, we have looked at two communicative practices, one of which, the proverb, is conventional in both formal and epistemological terms, whilst the other, the anecdote, is less constrained formally and epistemologically idiosyncratic: The former expresses common sense, the latter individual experience. Consciousness – of ourselves and others – emerges in and through this process, as, arguably, does language itself. It would be hubristic to claim that we have solved the Haeckel-Reymond puzzle, but at least we can see a line of attack which does not involve transcendental metaphysics.

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Code choice at Vienna Bilingual Schooling – a multivariate approach

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1. Introduction

The following article is based on an empirical research project carried out in the period March to June 2007 at two bilingual high schools, both of them located in Vienna.[1] The two schools are run under the auspices of Vienna Bilingual Schooling (VBS), a program designed to offer German-English bilingual instruction at publicly-run schools under a standard Austrian curriculum. The aim of this study is to establish patterns of code choice in informal conversations among members of the target population, viz. students enrolled at the upper-secondary level of VBS. In particular, the discussion will center on significant correlations between language choice, a (macro-) linguistic variable, and the various social factors constitutive of the interactions. Data on the students' linguistic behavior was gathered through written questionnaires, supplemented by observation and interviews. The core quantitative survey attempts to establish a multivariate model of code selection, which is subsequently related to some qualitative and ethnographic data, and discussed in light of sociolinguistic theories of code selection. The article concludes with a discussion of the wider implications of the results, offering a view on their relevance to the description of sociolinguistic communities, with a particular focus on English as an international language.

2. Sociolinguistic models of code selection

Blom & Gumperz (1972 [1986]) were among the first to view code selection within a sociolinguistic framework, suggesting that it is governed by nuanced social rules and motivated by communicative considerations. Rather than a

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[1] This article is a condensed and adapted version of the more detailed account in Schekulin (2009).

haphazard back-and-forth rooted in a lack of linguistic competence,[2] it is a tool in the repertoire of a bilingual or bidialectal speaker. Based on their field work in Norway, Blom & Gumperz (1972 [1986]: 424) identify two basic categories of code switching, situational and metaphorical. Situational code switching is defined as a switch in which the social environment changes in a way that renders a different code more appropriate. An example would be a new speaker joining a conversation, or a change to a different domain of social life. Metaphorical code switching, on the other hand, would be the name given to a switch occurring in the absence of any external impetus. Rather, the switch is a device to add a further layer of meaning to a given utterance, for instance to establish rapport, indicate stress, or mark a message as ironic. Metaphorical code switching generally has to be analyzed at the textual/co-textual level through approaches such as conversation analysis (cf. Auer 1984, Auer 1992). The macro level, i.e. the overarching social rules of code selection, is represented by situational code switching, and it is this aspect that this study is concerned with. This decision reflects which route of research was considered the most rewarding in the given context, and in no way precludes that metaphorical switching is likewise employed by the respondents in this survey, nor is meant to deny the interdependence of these various facets of code switching.[3] The decision to focus on the over-arching social rules was based on the results of previous research within the same context (cf. section 3), and was reinforced over the course of my own fieldwork. In the following, I would like to introduce two models that further explore this social aspect of code switching: the markedness model,[4] and communication accommodation theory, both of which the subsequent analysis will draw upon.

2.1 The markedness model

This social-psychological model of code selection was developed by Myers-Scotton (1993: 113-150; 1998: 18-40, 2006: 158-196) based on her studies of the phenomenon in the African context. Ultimately rooted in the ideas of

[2] A prevalent view in the earlier literature with regard to (esp. intrasentential and recurrent) code switching. Such sentiments even extended to researchers who generally held positive attitudes towards bilingualism (e.g. Weinreich 1953 [1970]: 74).

[3] An issue which ultimately relates to the complex interrelationship between individual linguistic agency and creativity on the one hand, and sociolinguistic variation between social groups on the other (cf. Eckert 2000: 2-4).

[4] Though the markedness model can also cope well with metaphorical switches, the explanatory focus lies on situational factors.

pragmatics, most fundamentally Grice's (1989: 28) maxims of conversation, the markedness model tries to strike a balance between the determinism of socially encoded norms on the one hand, and individual agency and creativity on the other. Norms would be represented in the model through RO sets – sets of social rights and obligations – and their associated unmarked codes, whereas room for creativity stems from the possibility of intentionally marked code choices. The default option in the markedness model would be that participants in an interaction choose a certain code based on their rights and obligations within the current social and conversational setting. This unmarked code, it is assumed, is known to the participants because it is part of our knowledge of the social world, part of our "communicative competence", to use Hymes's (1977: 75) terminology.

However, speakers do have the option to use a code other than the expected one, but such a choice would be marked – and thus carry additional communicative value compared to the unmarked code. A marked choice could be motivated either by a desire to redefine or negate the RO set of the current interaction, or it could be intended to achieve a special rhetorical effect (Myers-Scotton 1993: 139). The latter scenario would be similar to the notion of metaphorical switching introduced earlier. Another important aspect of the markedness model is the concept of sequential unmarked code switching (Myers-Scotton 1993: 117). The idea behind this term is that in some communities or relationships, the unmarked code itself might be recurrent code switching. In these cases, we need not assign a specific meaning to each switch, but can see the overall pattern as significant.

The major strength of the markedness model is undoubtedly its ability to reconcile individual psychological agency with shared linguistic norms. However, it needs to be said that the model relies on language attitudes being relatively homogeneous across the community. In actual fact, group membership and shared norms will often be a matter of degree.[5] Myers-Scotton (1993: 91, 109) draws attention to this problem herself, but argues that empirical data generally support the assumption of shared norms in the wider community. For those instances where this is not the case, Myers-Scotton (1993: 142) introduces the concept of exploratory code switching, which if applicable overrides the other principles in the model. That is to say, if an underlying social consensus as to the unmarked code is missing, speakers must first, through a series of switches, establish an unmarked code

[5] This issue is related to varying conceptualizations of linguistic communities (as speech communities, communities of practice, social networks, ...) and their respective advantages and limitations. A detailed discussion of these questions can be found in Schekulin (2009: 27ff.).

for the new communicative setting. Still, it could be argued that the model, through its reliance on socially encoded norms, has most explanatory power in the study of established bilingual communities with stable sociolinguistic conventions. In more novel or impromptu cross-cultural settings, or whenever speakers have yet to negotiate their relative social positions, it might be necessary to supplement the model with other theoretical approaches, such as, for instance, communication accommodation theory.

2.3 Communication accommodation theory (CAT)

Communication Accommodation Theory (Giles, Taylor & Bourhis 1973; Giles & Coupland 1991; Coupland, Coupland & Giles 1991: 25-53) is an addressee-centered model of code selection which views code choice as a process of negotiation between the participants in an interaction. It was formulated in reaction to models of code choice which viewed context as central to the selection of an appropriate code (Giles & Coupland 1991: 62). Discussed in relation to the markedness model, CAT is helpful in that it explores how unmarked code choices come to be established between speakers and, by extension, within linguistic communities. It thus sheds light on the deeper social meanings of linguistic norms, and introduces a dynamic element into our conceptualization of code selection.

Convergence is the most basic concept and default option in CAT, meaning that there is a general tendency in verbal interactions to arrive at a relatively uniform code, even if both speakers are able to comprehend the code their conversational partner is most fluent in.[6] While a bidialectal set-up certainly allows for greater nuance in the choice itself, a bilingual setting, too, offers an array of possible options, from exclusively using one of the languages involved to employing both to an almost equal degree (cf. sequential unmarked code switching above). In addition, CAT can be used to explain accommodation in terms of the speech rate, vocabulary, and complexity of grammatical constructions in instances where not all the speakers are equally proficient in the varieties involved (Coupland, Coupland & Giles 1991: 26, 29).

Divergence, the opposite of convergence, happens if speakers want to underline their mutual differences, i.e. if they have little to gain from establishing a shared identity with their respective interlocutors. While clear

6 Note, however, that exceptions seem to exist. Hüttner (1997: 149) identified a pattern among teachers at VBS (primary level) in which speakers retain their native codes, relying mostly on receptive bilingualism. Hüttner (1997:149) categorizes this pattern as a special case of sequential unmarked code switching.

divergence will be seen as uncooperative most of the time, and would therefore run counter to the goal-oriented nature of most verbal interactions, it needs to be borne in mind that accentuating differences might be desirable to speakers in some conversational settings. Additionally, full convergence is not always desired by conversational partners either, as over-accommodation, i.e. an amount of convergence which is viewed as unwarranted by the social situation or the social relationship, might be perceived as a form of mockery rather than motivated by a genuine desire to bridge the social gap (Coupland, Coupland & Giles 1991: 30).

3. Context

The empirical research was carried out at two high schools affiliated with the project Vienna Bilingual Schooling (VBS). Since its inception in 1992, the program has expanded to comprise instruction at all levels of primary and secondary education, with an overall student population of approximately 2,300 at more than fifteen different schools (Simpson: personal communication).[7] Vienna Bilingual Schooling caters to a linguistically diverse student body, and its professed aim is to provide an education that is both bilingual and multicultural. Though special selection-criteria apply to ensure the proficiency of the students in the two languages of instruction (English and German), the schools are tuition-free, which distinguishes them from other internationally-oriented schools in Vienna.

On a formal level, Vienna Bilingual Schooling could be described as a dual language or two-way bilingual program (cf. Smit 2004: 79), with teaching time being allocated about evenly between the two languages, and neither language being phased in or out over time.[8] As only a small fraction of the student population falls into the category of balanced bilinguals,[9] VBS could also be characterized as a partial immersion program, or an implementation of content and language integrated learning (CLIL).[10] In its

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7 These data come from my personal communication (e.g. 18 April 2007) with Stuart Simpson, chief officer for bilingual programs at *Europabüro, Stadtschulrat für Wien* (Vienna Board of Education).

8 For special provisions made for literacy education at the elementary level, see Hüttner (1997: 89).

9 For statistics on this matter, cf. section 5. For a critical discussion of the term 'balanced bilingual' and related matters, see Schekulin (2009: 15).

10 Indeed, much research conducted within the context of VBS in recent years has focused on the implementation and effect of CLIL within the program; cf. Ackerl 2007, Dalton-Puffer 2007: 267, Hüttner & Rieder-Bünemann 2007, Poisel & Feltham 2009, Seregély 2009. For an early longitudinal study on the educational effects (limited, however, to the linguistic achievement in English by elementary

original conception, the program envisaged that students from both German and English language backgrounds would be taught together with English and German as the languages of instruction. The language backgrounds were to be about evenly distributed, so as to facilitate peer learning in terms of language competence both within and outside of the classroom. Given the overall demographics of Vienna, Hüttner (1997: 94f) demonstrates that it is unreasonable to expect such a quota to be met. Not surprisingly, therefore, previous studies found that the linguistic situation at schools in the program was much more diverse, contradicting notions of neatly defined German and English-speaking groups. The studies most detailed in this regard, and closest to the research being reported on here in terms of focus and outlook (i.e. addressing such issues as code switching and code choice from a sociolinguistic perspective) are Hüttner (1997) and Gräll (1999). Hüttner (1997: 160ff.) uses observational data and target-language experiments to establish patterns of code choice in an elementary school setting. She concludes that German is the dominant language in this context, owing to the dual forces of language proficiency and social environment. Gräll (1999: 132ff.) relies on interviews and observational data to study code choice at a lower secondary school participating in the program. Her data again show a gravitation towards German as the preferred language of informal interaction, except among native speakers of English. Reasons for this are to be found in the self-reinforcing nature of linguistically-based social networks, according to Gräll (1999: 139). Like both the surveys of Hüttner (1997: 82) and Gräll (1999: 104), this study will employ a compound methodology of observation and quantitative measurements. However, the different age bracket of the respondents (upper secondary level – i.e. approximately ages 14 to 19) allowed for the use of detailed questionnaires as the main data-gathering procedure, an approach which was deemed infeasible or was rejected by school authorities in previous studies (Gräll 1999: 104).

4. Methodology

Data for the central quantitative analysis were collected by means of a questionnaire distributed to approximately 300 respondents, the data from which form the basis for a multivariate analysis of code choice. A stint of observation allowed me to impressionistically corroborate the core findings of the questionnaire survey: by accompanying a field trip with a group of

school students with a German language background after four years of bilingual instruction) see Peltzer-Karpf & Zangl (1997).

students who had not yet participated in my research, as well as through conversations outside the classroom while administering the questionnaires, I was able to rule out that the quantitative data had been confounded by serious misreporting. As mentioned in the introduction, supporting qualitative data comes from some open questions in the questionnaires, as well as from interviews and conversations with select groups and individuals. Elements of these qualitative data will be drawn upon to explicate some of the linguistic patterns identified in the core quantitative analysis.

Previous research within the same context (cf. section 3) suggested that the students' linguistic biographies are quite varied, and often included a combination of German, English, and various other languages, both at the level of home languages and as far as their previous educational backgrounds were concerned. From a methodological point of view, this entailed that it was necessary to collect detailed linguistic and educational biographies from each and every respondent, rather than relying on overly broad or simplified categories.

The detailed nature of the questionnaire (cf. appendix) allowed for an analysis that takes into account not only the sociolinguistic attributes of the speaker, but those of the interlocutor as well. This expanded the statistical population from individuals to conversational pairings. In addition, the possibility of non-convergence had to be considered in the design, so the ultimate statistical population of this survey is represented by directional conversational pairings. As the relationship between respondents on corresponding directional conversational pairings is (almost) exponential, coding all the possible pairings represented by the individuals who had participated in the survey would not have been feasible. A combination of stratified and random sampling (cf. Tagliamonte 2006: 23) was applied to arrive at a final sample of 1267 items (i.e. directional conversational pairings) for analysis. Stratification was applied in the sense that approximately half of all the tokens were selected from each of the schools,[11] and at the first school, where this was possible, about an equal number came from each of the various years.[12] Beyond that, the selection of items was conducted at random.

A small pilot-study ensured that the questionnaire could be completed in the thirty minutes allocated by school authorities[13] and allowed for fine-

[11] As the response rate at one school was much better than at the other, this ensured the sample would be as representative as possible.

[12] Again, to have a representative cross-section of the upper-secondary level of VBS.

[13] Which coincided with the maximum length of time recommended by Dörnyei (2003: 17).

tuning the structure and wording of the questionnaire.[14] An example of the final version can be found in the appendix. In order to eliminate any possible sociolinguistic influence on the respondents, 50 percent of the questionnaires were printed in each of the two languages (English and German), after which all were thoroughly shuffled and distributed at random.

So as to minimize variability in the external setting between the several groups of respondents, the questionnaires were always administered during school hours, and in each instance by the researcher himself. This was judged likely to improve both reliability and return rate compared to having individual teachers administer the questionnaires, because of a reduction in age and power mismatch (cf. Wray, Trott & Bloomer 1998: 178) vis-à-vis the respondents. In explaining the procedure, I chose to switch between English and German, so as not to prejudice the results through my own linguistic choices. Given that the respondents are used to code switching between these two languages, it was judged that this would not compromise comprehension of the task, while it would maintain neutrality with regard to the core variable of my research. Internally, the questionnaire consists of three parts, eliciting in turn information on the sociolinguistic and educational background of the respondents, the dependent variable of language choice, and certain linguistic and sociocultural attitudes.

5. Statistical procedure

The most precise terminology for the statistical procedure used in the quantitative analysis would be multiple logistic regression with a binomial step-up, step-down setup, but following established conventions (cf. Tagliamonte 2006: 217, Stevens 2002: 2, Tacq 1997: 35) this article generally refers to the procedure as multivariate analysis, a statistical cover term.[15] The software utilized in this study is *Goldvarb X* (Sankoff, Tagliamonte & Smith 2005), a multivariate application developed in collaboration by linguists, mathematicians, and statisticians at several Canadian universities (Tagliamonte 2006: 128, 158). For a differently worded step-by-step explanation of the procedure as it is performed by this software, see Tagliamonte (2006: 140ff). A detailed discussion of theoretical and practical issues with regard to the multivariate analysis of the data of this study can be

[14] Some guiding references in the questionnaire design were Dörnyei (2003: 19ff) and Wray, Trott & Bloomer (1998: 179ff).

[15] In (socio-)linguistics, another commonly used term would be VARBRUL, or variable rule analysis (Tagliamonte 2006: 130).

found in Schekulin (2009: 56ff.). Merely sketching out the most essential characteristics of the approach it could be summarized as follows: in sociolinguistics, as in any discipline involving social and cognitive measurements gathered in a naturalistic fashion, independent variables often stand in a relationship of multicolliniarity or non-orthogonality. For instance, this study investigates, among other things, the influence of home language background, educational language background, and language attitudes. Unfortunately, it cannot be assumed that these factors work wholly independently of each other in relation to the dependent variable of language choice. That is to say, some combinations of these variables will occur more frequently than others, as they potentially relate to each other in a non-random fashion,[16] a fact that would confound the results of separate statistical tests on their effects. A multivariate analysis, on the other hand, accounts for these interactions, and attempts to establish a model that represents the individual and truly independent effects of each of the variables/factors. Only those that enhance the predictability of the model significantly are incorporated.[17]

6. Analysis

The fact that for each conversational pairing both participants indicated their predominant language of conversation leads to two preliminary questions: first, how well do the responses from each conversational pairing match up? And in those cases where they do not, what is an appropriate explanation for the discrepancy? Looking at the five options given in the questionnaire (see appendix), it could be said that any two adjacent categories do not represent a very marked contrast, and differing responses within that range could easily be attributed to slightly different perceptions or interpretations of the scale. Any discrepancy of more than a category, however, would be quite marked, and thus warrant further scrutiny. However, of the approximately 600 conversational pairings represented by the tokens coded, only 29 exhibited a discrepancy of more than a category on the 5-point scale. This number corresponds to less than 5 percent of the data, meaning there was remarkable congruence in the language(s) reported as used by each conversational pairing.[18] This in itself already represents an important finding, which will be commented on further in the discussion of the results. From a methodological

[16] Something Tagliamonte (2006: 139) evocatively refers to as "'hollows' and 'dips'" in the data.

[17] This is calculated at the customary level of $p \leq .05$.

[18] Only students sitting very close to one another in the classroom would have had a chance to compare each others' responses, and even this was not encouraged.

point of view, it was judged that those few marked discrepancies that did exist in the data more likely represented mis-reports rather than actual instances of non-convergence. This conclusion was reached both on grounds of their patterning, and based on my own observation of informal conversations between students.[19] This, together with their small number, made a convincing case for the exclusion of the 29 respective tokens from further quantitative analysis. The following table summarizes the pattering of the dependent variable after these exclusions:

Total N		1,267
	%	N
mostly English *(E)*	5.1	64
English with some German *(e)*	8.9	113
about equal amounts *(b)*	3.9	49
German with some English *(g)*	11.7	148
mostly German *(G)*	70.5	893

Table 1: Overall distribution of the dependent variable of ***language choice***.

Overall, an overwhelming number of conversational pairings use German in informal interactions. This is very much in line with the findings of Hüttner (1997: 119) and Gräll (1999: 133), who both arrived at very similar numbers, despite the slightly different populations in terms of age, and their varying methodologies. Which factors are responsible for this overall distribution is the focus of the following multivariate analysis.[20] Two models were produced at this stage: the first (section 6.1) focuses on the contrast between English and German, followed by a second analysis (section 6.2) focusing on the use of mixed codes.

[19] Mostly, these discrepancies consisted of cases were a speaker with a German-language background reported to be using (mostly) English, while their English-language interlocutors reported the opposite – not an impossible, but an unlikely scenario given the results of previous studies in similar contexts, and one I saw no evidence of during my research. This led me to assume that in these few cases, the codes reported were rote answers based on the language background of the interlocutor rather than well-founded estimations of linguistic choices.

[20] It is common in a multivariate analysis to provide a detailed coding scheme of all the variables entered into the model, and how they were extracted from the raw data. In the case of this study, most of the factor labels are relatively self-explanatory, and their coded form flew quite naturally from their form as raw data in the questionnaires. This is not to imply that the intervening process of coding is trivial, however. The various issues that arose are addressed in detail in Schekulin (2009: 68ff.).

6.1 Multivariate analysis A: *English vs. German*

Table 2 summarizes the main effects (factors) as they appear in the multivariate model of code choice. The contrast in this analysis is between English (mostly English (E), English with some German (e), or about equal amounts (b)),[21] on the one hand, and German (German (G) or German with some English (g)), on the other. English is the (arbitrary) application value, i.e. the value that the percentages and factor weights of the multivariate analysis denominate. Following the layout suggested in Tagliamonte (2006: 247), the first column gives the factor weights, which are the computational output of the multivariate analysis and the basis of the constraint ranking, i.e the ranking of the various factors and factor levels. The other two columns give conventional descriptive statistics to give a better understanding of the distribution of the data, and to help in the interpretation of the factor weights.[22]

Analysis A: ***English vs. German*** (application value: English)

Corrected mean			.039
Log likelihood			-241.79
Total N			1,267
	FW	%	N
HOME LANGUAGE BACKGROUND OF ADDRESSEE			
English only	.998	92.6	27
English and a 3rd language	.983	68.6	121
A 3rd language	.975	54.5	55
English and German	.695	21.2	76
English, German, and a 3rd language	.588	14.5	99
German and a 3rd language	.394	9.3	226
German only	.215	5.0	663

[21] For the reasoning behind the allocation of category (b), cf. Schekulin (2009: 69).

[22] The percentage column gives the ratio of applications in the respective group, while the final column gives the sample size N for each factor level, not the number of applications. Put more technically, the first two columns of factor weight (FW) and percentage refer to the application value, whereas the final column counts all items. In consequence, the percentages in column two do not add up to 100 percent, while the N's in the final column should approximately add up to the overall sample size. The reason why this is not always exactly so is that sometimes respondents left out certain fields, so that their item had to be excluded from the calculations of the factor weights of a specific independent variable. For instance, some students omitted the question about their educational background, or provided incomplete data. In *GoldvarbX*, such items can still be included in the overall analysis, but are left out in the calculations of the factor weights of the missing independent variable (Tagliamonte 2006: 178).

	FW	%	N
HOME LANGUAGE BACKGROUND OF SPEAKER			
English only	.996	95.2	21
English and a 3rd language	.954	59.8	117
A 3rd language	.948	43.9	57
English and German	.676	21.6	72
English, German, and a 3rd language	.518	19.4	97
German and a 3rd language	.470	10.0	229
German only	.271	7.6	674
EDUCATIONAL LANGUAGE BACKGROUND (SPEAKER)			
Other	.822	75.0	12
English	.772	53.0	100
German-English bilingual*	.617	22.1	485
German	.350	5.7	600
* predominantly VBS			
MEDIA LANGUAGE PREFERENCE SCORE (SPEAKER)			
5-6 points, preference for English	[.596]	30.0	266
3-4 points, balanced consumption	[.475]	14.3	638
0-2 points, preference for German	[.428]	9.0	363
GENDER CONSTELLATION			
Female speaker, male addressee *(f)*	[.609]	16.2	260
Male speaker, female addressee *(m)*	[.522]	16.6	241
Male speaker, male addressee *(M)*	[.466]	13.3	128
Female speaker, female addressee *(F)*	[.454]	19.6	638

Table 2: Multivariate analysis of several sociolinguistic factors hypothesized to influence code choice in informal conversations among students at Vienna Bilingual Schooling (upper secondary level). Factor groups not selected as significant in square brackets.

Before discussing the actual results of the multivariate analysis, it might be useful to look at the simple descriptive statistics of the population that can be read off of the final column, without even considering any effects on the dependent variable. For the first two factors, these descriptive statistics show that German home language backgrounds dominate, constituting more than 50 percent of the sample, even if monolingual German backgrounds are

contrasted with all others combined. German educational backgrounds, too, predominate, representing about 51 percent of the sample. Around 40 percent are represented by previous educational backgrounds at VBS,[23] 8 percent by predominantly English-language educational backgrounds, and 1 percent by previous schooling mostly in a third language. The distribution for the media language preference score approximates a bell-curve,[24] whereas the descriptives for the gender constellation reveal that females are far more numerous in the student population, outnumbering males by approximately seven to three.[25]

Moving on to the multivariate analysis (column one), the most prominent factors in the model are the home language backgrounds of speaker and addressee. That these two factors exhibit very similar effect sizes and factor weights naturally follows from the observation made earlier that each conversational pairing arrives at a relatively uniform code. The ranking of the factor levels within each factor very neatly mirrors expectations. Expressed verbally, one can say that the more German is used in the home, the higher the likelihood that it will be the dominant code choice in informal conversations at school. The less self-evident and therefore more consequential part of this statement is that the converse is not as accurate a description of the pattern. This is because third language speakers pattern with English home language backgrounds, and less with German-English bilingual speakers or German speakers.[26] Following the home language backgrounds, the next variable in terms of explanatory power is the educational language background. Again, the constraint ranking is quite straightforward to explain, except maybe for the fact that the highest factor weight is represented by educational backgrounds were instruction was mostly in a third language, other than English or German.[27] Finally, two factors were not identified as significant in the multivariate analysis: the media language preference score and the gender constellation. In the constraint ranking, the media language

[23] Including a smattering of other German-English bilingual (i.e. non-VBS) backgrounds.

[24] Not surprising for the only variable that has an interval rather than a nominal scale.

[25] (F) and (f) combined versus (M) and (m) combined. This statement about the student population is, of course, an extrapolation based on the statistical population of conversational pairings represented by the data. Given that pairings were selected at random, such extrapolation is permissible, and can – by extensions – be applied to all other variables.

[26] To explain this particular pattern, the discussion will in more detail look at the linguistic biographies of speakers of the third-language group.

[27] This observation links up with the one just made with regard to the factor weights of third-language home language backgrounds.

score comes before gender constellation. Moreover, the patterning of the factor levels of the score follows the natural hypothesis, with a preference for English leading to a more frequent use of the language. There is thus some indication that an effect might exist, but that its magnitude is too small to be picked up in the analysis. A prime factor in this might be that there is considerable covariance between this variable and the three dominant ones above it in the constraint ranking. A student who uses English as one of her home languages is also likely to consume more English-language media. The reduced factor of multivariate analysis, in which the effects of all the previously selected factors have been filtered out, is then no longer able to account for enough additional variability to be included in the model. Nevertheless, the neat pattern suggests that a scale of media language preferences might well have yielded statistically significant results with an even larger sample. Gender constellation, on the other hand, is not only the factor with the least explanatory power in statistical terms, but also exhibits a constraint ranking that would be difficult to provide a reasoning for. What is more, this is the only factor in this analysis in which the factor weights are at odds with the raw percentages,[28] so that there is little indication in the data that would suggest the differences in this variable are anything but random fluctuation.

6.2 Multivariate analysis B: *Mixed codes*

In this second analysis, the application value is represented by mixed codes (i.e English with some German (e), about equal amounts (b), or German with some English (g)), which is contrasted with the collectivity of monolingual choices (i.e. English (E) or German (G)).

Analysis B: ***mixed codes*** (application value: all mixed codes)

Corrected mean	.173
Log likelihood	-566.09
Total N	1,267

[28] Meaning the factor levels would be ranked completely differently on the basis of the raw percentages – an indication that a factor has to be interpreted with caution.

	FW	%	N
HOME LANGUAGE BACKGROUND OF ADDRESSEE			
English and a 3rd language	.774	46.3	121
English, German, and a 3rd language	.704	36.4	99
English only	.696	37.0	27
A 3rd language	.665	30.9	55
English and German	.638	27.6	76
German and a 3rd language	.496	18.5	227
German only	.215	11.9	664
HOME LANGUAGE BACKGROUND OF SPEAKER			
English and a 3rd language	.693	43.6	117
A 3rd language	.600	33.3	57
English and German	.582	26.4	72
English only	.518	33.3	21
German and a 3rd language	.476	17.0	230
German only	.461	15.7	675
English, German, and a 3rd language	.459	20.6	97
GENDER CONSTELLATION			
Male speaker, male addressee (M)	.613	26.9	130
Female speaker, female addressee (F)	.532	23.4	638
Male speaker, female addressee (m)	.439	15.8	241
Female speaker, male addressee (f)	.421	15.0	260
EDUCATIONAL LANGUAGE BACKGROUND (SPEAKER)			
Other	.782	58.3	12
English	.614	36.6	101
German-English bilingual*	.540	23.9	485
German	.442	13.5	601
* predominantly VBS			
MEDIA LANGUAGE PREFERENCE SCORE (SPEAKER)			
5-6 points, preference for English	[.548]	29.1	266
3-4 points, balanced consumption	[.483]	17.7	639
0-2 points, preference for German	[.474]	15.8	364

Table 3: Multivariate analysis of several sociolinguistic factors hypothesized to influence code choice in informal conversations among students at Vienna Bilingual Schooling (upper secondary level). Factor groups not selected as significant in square brackets.

Four out of the five factors were identified as significant in this analysis: the language backgrounds of speaker and addressee, the gender constellation, and the educational language background. Not too much needs to be said at this point about the three factors that were significant in the previous analysis. Given that, generally speaking, there are many conversational pairings that exclusively rely on German, but very few that rely exclusively on English, it is not surprising that, on the whole, those language backgrounds that had high factor weights in the first analysis likewise received relatively high scores in the second. The most predictive variable selected by the multivariate analysis, the home language background of the addressee, shows an especially neat pattern. The home language background of the speaker comes second in the constraint ranking, but we must note that this time the range of the factor weights, in other words the effect size, is smaller than before. Very likely, this is the result of a slightly higher number of mismatched conversational pairings compared to the first analysis. Whereas the main analysis divided the data along a very natural fault line provided by the almost non-existent middle category, the second analysis could not rely on such an obvious pattern in the data. Gender constellation was identified as the third significant factor contributing to the extent of code switching. This is in conspicuous contrast with the first analysis, which did not identify this factor as significant. Looking at the factor weights more closely, they clearly suggest that intra-gender conversations favor code switching, while inter-gender interactions disfavor the practice.[29] It is certainly interesting to note that gender does not seem to influence the choice of language, but that the gender constellation appears to affect the amount of code switching, a finding which will be commented on in the discussion. As in the previous analysis, the media language preference score is not a significant factor. Again, this is likely the result of covariance between this factor and some of the stronger variables. As for the constraint ranking, the comments made with regard to the home language backgrounds and the educational language background apply.

7. Discussion

In taking stock of the data, the very first observation concerned the congruence of the codes reported by conversational pairings. This fact was interpreted, in part, as a vindication of the research design, but beyond these methodological considerations, the observation has important sociolinguistic

[29] It must be noted, however, that multivariate analysis does not, strictly speaking, identify which contrasts within a factor are significant, only that their overall effect is significant.

implications. First, it suggests that there are well-established unmarked codes for almost all conversational pairings at VBS. Second, it can be argued that in informal conversations among students at Vienna Bilingual Schooling, these agreed-upon unmarked codes are mostly determined by the social backgrounds of speaker and addressee, rather than fine-grained contextual factors beyond the formal-informal (classroom / non-classroom) distinction. After all, if more subtle contextual or domain-related factors did play a primary role, this would be reflected in a higher number of incongruities, and would likely have evoked comments to that effect from the respondents.[30] The matching responses and the high response rate are evidence that these established unmarked codes are generally transparent to the members of the community, a fundamental assumption of the markedness model. Viewed through the prism of speech accommodation theory, it can be asserted that psychological convergence is mirrored in linguistic convergence among the students at the upper secondary level of Vienna Bilingual Schooling. This last point means that social rapport is established through a common linguistic code. This is the default scenario within speech accommodation theory, but differs from psychological convergence without linguistic convergence – a scenario reported by Hüttner (1997: 149) for some conversations among primary school teachers at Vienna Bilingual Schooling.[31]

Multivariate analysis established that of the various sociolinguistic factors, the home language backgrounds of the conversational partners are by far the variables most predictive of code choice. This, coupled with the overwhelming number of German-language backgrounds, means that few informal conversations are conducted in English. At this point, the question arises why this link between home language background and language choice is so strong. One reason often given is that of linguistic competence and corresponding communicative efficacy. Hamers & Blanc (2000: 144) refer to this as the linguistic competence principle, which states that "the sum of the individual communicative competences of the interlocutors [should be]

[30] Plus, my observation did not provide any indications in that direction, either.

[31] Though not the focus of this study and therefore only supported by impressionistic data, this pattern was not observed in interactions among teachers at the secondary level. Indeed, a remarkable number of conversations between German-speaking and English-speaking teachers were conducted exclusively in English, especially among the younger generation of the faculty. This discrepancy in relation to both the findings of Hüttner (1997: 147), as well as the student data from this study begs for an explanation. In relation to the former difference, the more academically oriented environment at the upper-secondary level as well as elements of a linguistic change in progress could be proffered as explaining factors. In relation to student conversations, the difference seems to lie in the fact that relations between teachers are mostly professional in nature, whereas peer-to-peer interaction among students is much more personal.

maximum". To a certain extent, this principle will be part of the underlying conditioning process in my data. Except in populations where most speakers are very balanced bilinguals, it must be expected to feature into the equation. Nevertheless, several arguments can be made in favor of a more complex process of conditioning, in which language competence is but one factor. Hamers & Blanc (2000: 144) themselves name influences which can counteract the linguistic competence principle, among them social, situational, and discourse factors, as well as a desire to establish ethnolinguistic identities. In the case of my own data, some of these forces seem to play an important role, though they tend to reinforce rather than counteract choice processes based on the linguistic competence principle.[32] That is to say, the strong link between home language background and linguistic choices seems to be attributable not merely to levels of language competence, but likewise to social factors, including issues of identity.[33]

One important line of evidence in this regard comes from the responses received to certain open questions, in particular items two and three on the final page of the questionnaire (cf. appendix). The two questions are mirror images of each other, asking respondents how they feel about native speakers of German conversing in English (amongst each other) and vice versa. It could be argued that the way the two questions were juxtaposed made it likely that respondents – motivated by what could be termed linguistic political correctness – would give matching answers. A substantial number of students, however, gave reasoned arguments why one is different from the other. In virtually all of these cases, the use of German among English-speakers was deemed more acceptable than the reverse. The reason consistently given was that in Austria, German is the established language of day-to-day communication, so the use of English by German speakers would be odd outside of a specific circumscribed or formalized context. Terms such as *weird*, *ridiculous*, *embarrassing*, and even *stupid* were all used to describe this linguistic pattern, e.g.

(S1) I think it's weird if people talk [E]nglish instead of German.

(S2) [I] find it rid[d]iculous unless someone that doesn't speak German is with them.

When the pattern was deemed acceptable, the predominant reason given by students was that it is a form of practice.

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[32] An example of the pragmatic notion of maxim confluence described by Burt (2002: 996).

[33] For a more detailed discussion of the concept of identity, and how it has been variously applied within sociolinguistics, cf. Schekulin (2009: 42ff.).

(S3) I think it is good for them to improve their [E]nglish.

In an almost contradictory fashion, comments in another vein stressed that a switch to a non-native language by two speakers of the same linguistic background is only acceptable if they possess native-like proficiency in the other code:

(S4) I think it's cool if their English is good but if they speak [...] bad English it's horrible to listen to.

In short then, attitudes towards this linguistic pattern were ambivalent at best. The converse, however, i.e. the use of German by speakers of other languages even if they share greater competence in another code, is not necessarily against social conventions within the context of VBS. The same student as in a previous example described it the following way:

(S1) It depends on where they are. If they talk German in Austria [...] I feel it [is] polite and friendly, in other countries it would be strange in my opinion.

And (S4), who felt only German speakers with a very good command of English should use the language amongst themselves, said that the reverse is acceptable irrespective of language competence,

(S4) [...] because if they live in Austria they have to improve their German.

Another student makes a very similar point, writing that though she feels it is weird for German-speakers to use English in informal conversations, the inverse scenario is acceptable because non-native speakers of German need to practice the language so that

(S5) [...] they can speak the national language of Austria [my emphasis].

The very same student said that she had very positive attitudes towards Vienna Bilingual Schooling, as it helped her to improve her English, and that she was proud of what she had achieved there in terms of her own bilingual competence. Overall, it might be worth pointing out that in the final essay question, praise of the multicultural and multilingual nature of VBS was a persistent theme:

(S6) It might have increased my cultural understanding and made me spontaneous and open for differences.

(S7) As a result of the multi-cultural nature of the student body, I have learned tolerance and respect for other people and their cultures [my translation].[34]

(S8) I have got to know many different cultures, and learned to express myself in more than one language [my translation].

It is therefore all the more interesting to note that, regardless of such international or multicultural orientations, the notion of territorial bilingualism (cf. Hamers & Blanc 2000: 31)[35] is a deeply entrenched sociolinguistic norm at VBS. As I will argue at more length in the following section, this norm speaks to the embeddedness of VBS within a wider, more overarching linguistic community.

The many responses that described the use of English in informal conversations among German speakers as *weird*, *embarrassing*, or *ridiculous*, moreover point to the important relationship between code choice and identity. This became even more apparent in several other comments, one of which I found very evocative because of its eloquent use of code mixing:[36]

(S9) ...finde ich irgendwie wannabe... [gloss: (such behavior) is indicative of a 'wannabe' attitude; punctuation: original].

Transposed to the plane of social psychology, one could say that a desire to become a German-English bilingual, in the sense of somebody who uses English throughout a wide range of domains rather than just within a professional or educational context, is perceived as inauthentic – a clear pointer towards the importance of factors of identity in code choice.

A very similar opinion was expressed by another student:

(S10) I think it's rather embarrassing, and I don't know who they want to impress or what they want to prove by it [my translation].

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[34] Approximately half of the comments were in English and the other half in German. Almost invariably, students followed the language of their questionnaire, providing further evidence that overt accommodation in the form of linguistic convergence is an important linguistic principle in this population. An awareness of this was expressed by one student in relation to the final item on page three of the questionnaire, which asked students which language they would rather use to make a good impression on a teacher. She responded that you cannot really put it that way, because the polite thing is to respond in the language the other person is using.

[35] Defined very briefly, territorial bilingualism means that languages are separated by geographical location rather than social or contextual factors such as, e.g., ethnicity or domain. By extension, it could also refer to the belief / the linguistic attitude that this geographical separation is natural and /or ought to exist.

[36] The student starts her comment in German in response to the German question on her questionnaire, but adds final emphasis by mixing in an English *mot juste*.

Thus, if there is no justification on the grounds of the linguistic competence principle to switch to a non-native language in informal conversations (for German speakers), it conveys an attitude of aloofness and lack of solidarity for many respondents in my study.

Finally, I would like to quote one response that was very interesting because it did not express disapproval of the linguistic pattern as such,[37] yet clearly showed the same concerns related to the important functions language plays with regard to group identity and solidarity.

> (S11) I think it's good, as long as they don't make derisive comments about the German language [my translation].

On a final note, which applies to the whole argument advanced up to this point, I would like to argue that social factors and linguistic competence are inextricably linked in a positive feedback cycle. As speakers of other languages perceive (consciously or subconsciously) a pressure to adapt to a German linguistic norm, especially children and teenagers will soon acquire high levels of competence in this language. This means that more and more, the linguistic competence principle will likewise favor the use of the German language in many conversational constellations. Conversely, students with a German language background will have less of an opportunity to practice informal, conversational English because of these processes, which further reinforces the cycle. At this point, it might be appropriate to discuss the group of third language speakers, who seemingly resist the general trend towards German identified for so many other speakers. Based on a closer study of the individual biographies of the members of this small group, it can be said that the respondents in this group are generally recent arrivals to Austria. In all likelihood, they had had little exposure to German before that, so it is not surprising that they pattern with English-speaking students in the analysis, presumably because of a lack of language competence in German.

This naturally brings me to the third variable that was identified as significant in the main analysis, viz. the previous educational background of the respondents. The order of the factor levels is in alignment with their hypothesized effects, with previous education mostly in English or a third language favoring the application value (i.e. the use of English in informal conversations), a previous educational background within Vienna Bilingual Schooling slightly favoring it, and previous education in German disfavoring

[37] And indeed, not all comments did. However, those that were more positive generally expressed the same attitudes towards switches in both direction, and in many instances were rather non-committal.

it.[38] I would like to stress that, as the result of multivariate analysis, these numbers represent the effects of previous educational backgrounds with any effects of home language backgrounds filtered out. In other words, the fact that respondents with home language backgrounds other than German will also more frequently have a non-German educational background cannot be assumed to be the cause of the effect observed in the multivariate model. That one can discount the possibility that the effect in one variable is merely a covariate effect of other factors is precisely the special quality of a multivariate approach.

As far as analysis B on mixed codes is concerned, it is interesting to note how closely tied up the practice of code switching is with the use of English. The effect can be observed in the factor weights, as well as in the raw percentages of the initial distributional analysis. To a certain degree, this is a knock-on effect that stems from the overall dominance of German. However, I would like to argue that a general ambivalence towards code switching is another result of the norm of territorial bilingualism. The very idea that language choice should be governed by external factors is central to this norm, and this naturally discourages code mixing. Overall, the response rate to (and informativeness of) the section on code switching on the questionnaire was not particularly good, but a certain ambivalence towards the practice probably best describes the tenor of the replies I received. Respondents who (partly) grew up in outer circle countries[39] often expressed the most positive attitudes. This is not surprising, given that these respondents are most probably familiar with social settings in which frequent conversational code switching is the rule.

A very interesting finding in the second analysis was that the gender constellation seemed to affect the amount of code switching between conversational partners. We must note that the effect is not particularly pronounced, but the fact that intra-gender interaction slightly favors the practice of code switching could be by virtue of a reduced social distance in these pairings. However, this seems to be a pattern that does not register consciously with respondents, as there were no comments to that effect on the questionnaires or in my interviews.[40]

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[38] The special position of the very small group who received their education mostly in a third language has already been discussed.

[39] Following Kachru's (1992: 356) three circles model of global English.

[40] Which can be contrasted with the numerous responses the choice between English and German evoked.

8. Contextualization, conclusion, and outlook

In the preceding section, the quantitative and qualitative data were interpreted mostly with a view to their immediate context at Vienna Bilingual Schooling. In conclusion, I would like to sketch out ways in which the data of this study might relate to issues such as the development of English as an international language, and models that have been proposed to describe its spread. This discussion naturally links up with larger questions regarding the representation of sociolinguistic communities more generally.

Much has been written about the likely further spread of English in what Kachru (1992: 356) termed the expanding circle (cf. Crystal 2003: 27, Berns 2005: 85), and in a way, VBS could be considered representative of this trend. After all, the use of English in Austrian education outside of specified language classes is a relatively novel phenomenon (cf. Dalton-Puffer 2007: 46). However, Bruthiaux (2003) cautions against drawing conclusions from data on any specific (small-scale) linguistic community, in effect questioning the very utility of the three circles model and the generalizations that underlie it. He argues that the model can no longer deal adequately with global English in the 21st century, and has

> *outlived its usefulness. [Instead,] a 21st century alternative [is needed] that focuses [...] on the specific sociolinguistic characteristics of English-speaking communities wherever they are found. (Bruthiaux 2003: 161)*[41]

Increasing sociolinguistic fragmentation among populations is seen as a major effect of global English in this view, rendering it infeasible to summarily describe the status and role of English in any country or territory. For instance, Bruthiaux (2003: 169) suggests that, both in the outer and expanding circles, command and use of English vary as much by educational level and social status as by location. Widely varying estimates of proficiency levels in these countries are put forward as an indicator of incoherence within the model in this regard.

It would be a fair assumption that VBS is a candidate for such linguistic exceptionalism, rendering it unrepresentative of developments within the wider social context. Based on the evidence of this study, however, one could argue that a strong uniting factor for a linguistic community might lie in the persistence of certain sociolinguistic norms rather than in the strict homogeneousness of its population in terms of linguistic repertoires. The community at Vienna Bilingual Schooling is bilingual in its working

41 Obviously, 'English-speaking' is used here in a very wide sense, referring to any community that has adopted a form of English as part of its repertoire.

languages, and multilingual in its home language backgrounds, yet it clearly follows expanding-circle conventions in its linguistic choices in informal conversations. This speaks against the notion of increasing fragmentation within the expanding circle, at least as far as some essential sociolinguistic norms are concerned. Another issue is whether the increasing use of English in certain higher domains (and concurrent high levels of proficiency) are restricted to specific sub-sections within society. Here, Bruthiaux's (2003: 161) claims as to fragmentation within the expanding circle might be more applicable to Vienna Bilingual Schooling. However, given the increasing role of English in both higher and secondary education in Austria (Dalton-Puffer 2007: 45ff.), VBS might be less exceptional than it initially appears.

The argument that has so far been put forward on a particular level ('modeling English as an international language') is reflected in the conceptual differences between abstract and unified speech communities (cf. Labov 1966 [2006]: 6) on the one hand, the inherent generalizations of which are necessary to describe larger populations, and more localized concepts such as communities of practice (cf. Eckert 2000: 46), on the other. VBS could be characterized as a community of practice, united by certain linguistic practices and attitudes. Nevertheless, the data from this study demonstrate that this particular community of practice is nevertheless relatively well embedded within a larger speech community, which views German as the default/preferred code for informal interactions.[42]

The extent to which small-scale linguistic communities share in the overarching norms of a wider speech community is, of course, a matter of degree rather than categoricity, and might vary right down to the level of the individual. As Milroy & Wei (1995: 146ff.) demonstrate, such individual differences can often be explained by recourse to social network analysis. The detailed tools of this approach can reveal why speakers who are part of the same community and ostensibly have the same social background might exhibit different linguistic attitudes and practices.[43]

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[42] As evidenced by some of the metalinguistic comments by students quoted earlier (*national language*, etc.). Note that even within Labov's original speech community of New York City, the overarching commonality was identified to lie in common evaluations of certain sociolinguistic variables (Labov 1966 [2006]: 329ff.). By extensions, one could argue that a speech community is characterized more by common language attitudes than uniform linguistic practices. As mentioned in a previous footnote, for a more detailed discussion of various conceptualizations of linguistic communities (speech communities, communities of practice, social networks), and their methodological interrelationship, cf. Schekulin (2009: 27ff.).

[43] Schekulin (2009: 94f.) provides an example of how the concepts and tools of social network analysis can be applied within the context of VBS.

In short, then, Bruthiaux's (2003) argumentation can be accepted in its call not to disregard local or individual idiosyncrasies, particularly when such disparities at the community level have important social implications. This does not, however, necessarily justify the practical conclusion to discard all generalizations inherent in more overarching concepts such as the three circles model. Expanding-circle linguistic communities are characterized by certain historical commonalities,[44] reflected synchronously in a norm of territorial bilingualism, attendant language attitudes, and resulting patterns of code choice. The incipient plurilingualism (with possible diglossic tendencies) introduced by the expanding use of English in certain domains within the expanding circle is beginning to slowly modulate the rigidity of this norm, but not in a drastic or rapid fashion, as far as can be judged from the data of this survey. The claim that the three-circles model has "outlived its usefulness" (Bruthiaux 2003: 161) thus seems to be premature. This, of course, in no way subtracts from the usefulness and necessity of continued research into particular linguistic communities, both small- and large-scale, their linguistic practices,[45] attitudes, and norms, any changes and modulations they might be undergoing, as well as the wider social implications of these changes.

Appendix

Sample questionnaire

[44] Viz. histories of linguistic nationalism (cf. Heller 2007: 1ff., Hobsbawm 1990: 102).

[45] Both on the macro and the micro level, i.e. both the way codes are allocated and dispersed in these communities, as well as the shapes these codes ('Englishes') take.

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Good morning,
Please fill in this questionnaire to the best of your knowledge. This is not an exam. There are no right or wrong answers in this questionnaire. Just be honest, that's all.
All the answers you give will be treated with absolute confidentiality. Your teachers, fellow pupils or parents will not get to see your filled-in questionnaire.

Your first **name**:

What is/are your **first/native language(s)**?

Which **language(s)** do **you regularly use at home**? *(please be as specific as possible)*

Are you? **female** ☐ **male** ☐

Schools you attended before coming to **((SCHOOL NAME))**: *(e.g. age: school, country, language)*

PART A

*FOR ALL OF THE QUESTIONS IN **PART A**, IMAGINE THE FOLLOWING SITUATION: during break at school, you talk to one of your classmates about an everyday subject (about what you are going to do over the weekend, for example). In each box, write down the first name of a classmate, then indicate which language (or combination of languages) you would normally use when talking to them. If you use the same language with several of your classmates then you can also write more than one name into the 'names' field. Codes used:* **E** = English; **G** = German; **50% - 50%** = about equal amounts of English and German. *If you regularly use a language other than English or German with one of your classmates please write it in the 'comments' field. Please try to include all your classmates in your questionnaire.*

Name(s) of classmate(s):

Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):

Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):

Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):

Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):
Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):
Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):
Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):
Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):
Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):
Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):
Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):
Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):
Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):

Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):

Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):

Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):

Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

Name(s) of classmate(s):

Language:

mostly E	E with some G	50% - 50 %	G with some E	mostly G

Comments:

PART B

Most of the questions in PART B should be self-explanatory. If anything is unclear, just ask me. Again, all the information you provide will be treated confidentially.

Generally, I listen to/watch programming on **TV**/the **radio** (incl. **DVDs**, etc) that is...

mostly German ☐ mostly English ☐ about equal ☐

When I **surf the web**, the content I access is...

mostly German ☐ mostly English ☐ about equal ☐

How do you feel about English-language **movies always being dubbed** on Austrian television?

good this way ☐ don't care ☐ annoying ☐

When I'm **angry** with one of my classmates, I tend to speak...

German ☐ English ☐ makes no difference ☐ don't know ☐

When I want to make a **good impression** on one of my teachers, I address them in...

German ☐ English ☐ makes no difference ☐

Other answer/ comments:

When you want a favour from one of your classmates, does this affect your choice of language? (how?)

How do you feel about two people whose native language is German talking English to each other?

How do you feel about two people whose native language is English talking German to each other?

Do you often **mix** English / German in conversations with your classmates?

yes ☐ no ☐ sometimes ☐ don't know ☐

Do you sometimes start a sentence in one language and finish it in another?

yes ☐ no ☐ sometimes ☐ don't know ☐

How do you feel about other people **switching languages** during a conversation?

Which language, do you think, is going to play a **bigger role in your life**?

Private life: *professional life:*

How do you feel about your own **language skills**? (no need to answer this for your native language)

English:	happy with my skills ☐	OK/satisfactory ☐	wish they were (much) better ☐
German:	happy with my skills ☐	OK/satisfactory ☐	wish they were (much) better ☐

Having attended a bilingual school will probably give you an advantage in your future professional life. But how do you think the experience has affected your **personality**?

Thank you soo much for your help!!!  *You're a star ;)*

I'd be willing to talk about my **experiences at ((VBS))** in a **follow-up interview**...
(ticking 'yes' here is not binding; you can always change your mind later!)

yes ☐ no ☐

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Communication and language choice in EU research projects: Practical observations & research perspectives

*Daniel Spichtinger, Vienna**

1. Background: The purpose of this paper

This article describes communication and language choice in the EU-funded "MoniQA" ("Monitoring and Quality Assurance in the total food supply chain") project, which is concerned with food safety, drawing on the my own experience as dissemination manager in said project. This position involves developing communication material and tools, organising and attending conferences, workshops and trainings, as well as managing the communication process with the other project partners (e.g. as concerns translating material), and dissemination reporting to the European Commission.

In the following, I describe several salient features of communication and language choice in MoniQA, which I take as an example of a typical project in the natural sciences. A brief comparison with DYLAN, a project in the field of humanities concerned with multilingualism, is undertaken to contrast two rather different approaches to language use and language choice in EU-funded projects. However, while I have an in-depth knowledge about processes in MoniQA, I have had to rely on written sources for his knowledge of language choice in DYLAN. Therefore, the discussion of DYLAN is necessarily shorter than and not as detailed as the description of practices in MoniQA; it is in fact meant as an impetus for further research in this direction.

I do not apply an overarching methodological framework to this paper, since it is fundamentally a report on research in progress and not a fully-fledged research paper in itself. Several methodological approaches such as

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English as a Lingua Franca (ELF), the notions of 'communities of practice' (Wenger 1998), 'rhetoric of science' and philosophy of science may be useful (see 'future research directions' further below), but this needs to be explored in a more comprehensive publication. However, since very little linguistic literature has been published on language use, language choice and communication in the specific context of EU-funded research projects, I do believe that this report may provide a useful basis for further research, though it should by no means be taken as an end result.

2. Introduction: What is MoniQA? [1]

The European Union provides funding for collaborative research involving partners from all EU member states as well as countries outside of Europe.[2] One of the main funding mechanisms for research is referred to as the "Framework Programme" or FP. The current one, FP7, runs from 2007 to 2013 and has more than 50 billion Euros at its disposal. It is divided into four large sub-programmes, namely "Cooperation", "Ideas", "People" and "Capacities". The project under consideration in this article (MoniQA) started in 2007 and is funded under the Cooperation sub-programme of FP6 which provides the opportunity for multi-national collaboration between industry, research centres, universities, public bodies and civil society.

MoniQA is a so-called Network of Excellence (NoE) which involves experts from around the globe collaborating to harmonise worldwide food quality and safety monitoring and control strategies. MoniQA focuses on the quality and reliability of tools and analytical methods to assure a high degree of safety and quality of foods, with the main focus being on rapid testing methods and their applicability. The MoniQA project integrates key organisations across the food supply chain from around the world to find acceptable solutions for all stakeholders, including the consumers, food manufacturers, food research institutes and regulatory bodies. The initial network of over 155 scientists from 20 countries has grown to over 400 experts from over 35 countries on 5 continents in the first 24 months and has expanded further in year three to nearly 500 registered experts and 140

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1 More information about the project is available at www.moniqa.org .

2 Ultimately, EU funded research and development activities are based on the EU treaties. Thus, the Lisbon Treaty, which entered into force in December 2009, states that "in the areas of research, technological development and space, the Union shall have competence to carry out activities, in particular to define and implement programmes; however, the exercise of that competence shall not result in Member States being prevented from exercising theirs" (Lisbon Treaty, Title I, Article 4, 3 – see Official Journal 2007).

registered institutions.

Since the early 1980s, when Research and (Technological) Development (R&D, sometimes also abbreviated RTD) cooperation in the context of a framework programme was first implemented among the member states of the European Community (as the EU was then called), these programmes have boosted European cross-border collaboration in unprecedented ways – both as concerns the quality as well as the quantity of research cooperation. In FP 6 (2002-2006) alone, 9,802 projects received funding, involving 75,951 participants (PROVISO 2009:6).

However, as they bring together many partners from different countries, FP projects also pose significant challenges, one of which involves communication (both internal communication within a large consortium and communication to the 'outside' world). As Hochgerner, Cornejova and Smekal point out, "efficiency of scientific co-operation rapidly turns to malfunction if communication degrades" (Hochgerner et al. 2008:8).

3. MoniQA communication strategy and tools

The external communication activities of the MoniQA project are based on a dissemination plan and a communication and media strategy which set out structures and tools for communication to external stakeholders and audiences, based on a mapping exercise, depicted below:

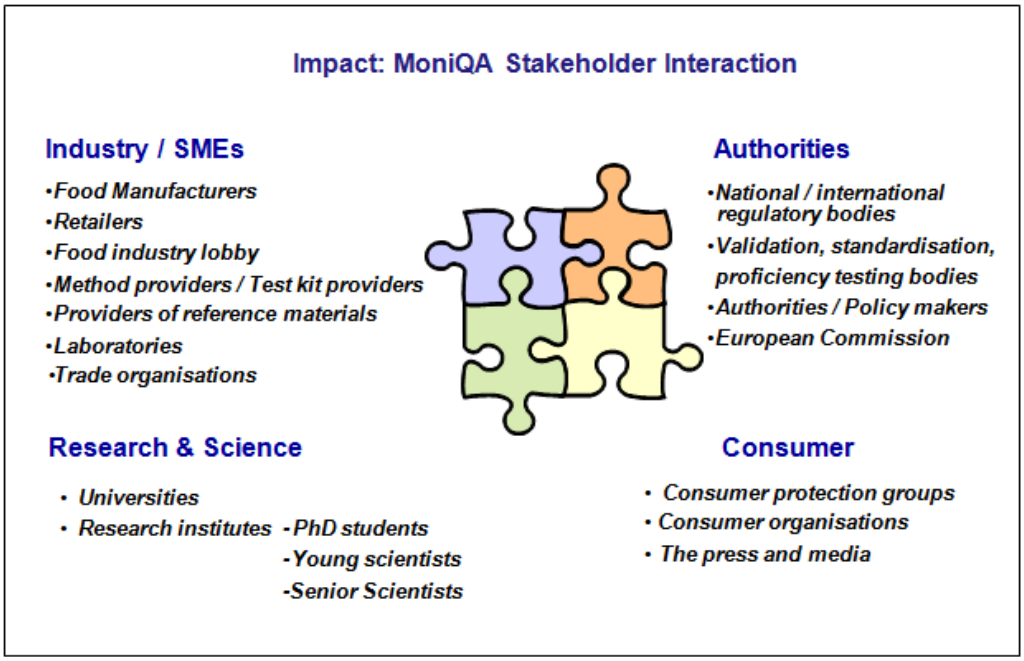

Figure 1: Main MoniQA stakeholders; source: Poms (2010). 'SME' is short for 'Small and Medium Sized Enterprises'

It is the mission of the dissemination activities to establish MoniQA

> *as a leading network and actor in food safety, not only in Europe but with partners, associated partners and contacts all over the world. Dissemination will hence play a crucial role in assuring the sustainability of the project activities by contributing to the acceptance of, and ideally participation in, the network by all relevant stakeholders. (MoniQA 2008: 5)*

In order to attain this goal, the following dissemination tools have been operationalized and customised for the different stakeholder audiences (Table 1):

Tool	**Comment**
Website	different sections according to stakeholder audience; landing page in a style that is easily accessible for the consumer
Events & networking	presentation of the projects at different events for industry, academia, policy makers and consumers
Flyer and poster	general presentation of the project; poster with key messages
Newsletter (external)	highlights project progress in the last year in specific areas
Glossy Executive Summary	an overview of project activities in all areas, updated on an annual basis
Factsheets	explain specific output of the project to the target audience for which it is relevant; these two-page documents have been produced for: scientific output (description of MoniQA priorities & working groups; on topics of melamine, clenbuterol, socio-economic considerations and allergies) as well as for soft skills (presentation skills)
Cooperation with other stakeholders	collaboration with related projects and networks in joint events and other dissemination actions

Table 1: MoniQA's tools for External Communication

In 2009, a total of 143 dissemination activities were undertaken by the consortium partners. 36% of all activities fall into the category 'Events & networking' followed by 'General dissemination material' (29%). 22% of dissemination activities are academic publications while 10% of activities focused on the website and electronic newsletter and 3% on media relations. The main stakeholder groups addressed were science and research organisations (37%), followed by industry and SMEs (28%), policy makers (27%) and consumers (9%) (see MoniQA 2010).

4. Language Use in MoniQA for external and internal communication

A clearly set-out language policy in the form of a working document or an official project deliverable does not exist in MoniQA. However, in the three years of its existence certain procedures have become institutionalised and are documented in the project management guidelines. Concerning the use of the external dissemination tools outlined above, an 'English +' policy can be said to operate. This means that the tools are usually prepared in English (including the management processes). For instance, contributions to the newsletter or the website are usually received as well as processed and edited in English. The standard norm for these publications is still the 'native speaker' and preference is given to British English rather than American. Once the product has been finalized, other language versions are being created. This process of translation is managed by local partners. MoniQA is therefore by no means a monolingual project – in fact, MoniQA communication tools (see above) have so far been translated into 14 different languages, and this is not counting academic publications by the MoniQA scientists in their own languages. Interestingly, the number of documents available in different languages does vary considerably, which seems to indicate preferences for translations in some of the partners and countries (see Table 2 below).

While all MoniQA partners are encouraged to translate documents, in particular a general description of the project, in the end it is up to the individual consortium members to decide if they want to do so and how many documents they want to translate.[3] Noteworthy in particular is the Egyptian partner who translated a very high number of documents into Arabic. The second highest number of translations comes from the two Chinese partners. The Spanish partner has also been quite active, as well as the two Turkish institutions. On the other hand, although a Dutch partner is part of the project, they have not undertaken any translations, since this is not seen as a priority by them (personal communication). Why some partners translate more documents than others is not quite clear but may depend on factors such as the partners' overall involvement in the project (small role / big role, active / not so active), what kind of institution the partner is (public university / private

[3] Sufficient funding for translation is earmarked in the dissemination budget. It is also part of the plan that translations are checked by other partners speaking the same language or other individuals or organisations to ensure sufficient quality.

research institute / small or big company etc) and the perceived need for translation in order to enable local dissemination.

Language	N of MoniQA partners using language	N of public documents*
Arabic	1	7
Bulgarian	1	1
Chinese	2	6
Dutch	1	0
French	1 (Belgium)	1
German	6	2
Greek	1	2
Hungarian	1	2
Indonesian	1	1
Italian	4	3
Norwegian	1	1
Polish	1	1
Spanish	1	5
Turkish	2	5
Vietnamese	1	1

* i.e. publicly available on the MoniQA website at www.moniqa.org/multilingual as of June 2010.

Table 2: Languages other than English in MoniQA and dissemination documents available in those languages[4]

Communication activities include a yearly project meeting which brings together all project partners (January / February each year), as well as two MoniQA International Conferences (2008 in Rome and 2010 in Krakow, with a third one scheduled for Varna in 2011). These activities provide opportunities for the project partners to meet and interact and, in the case of the conferences, to inform external stakeholders about the progress of the project.

Already in 1914 Follick remarked that "we are fast approaching an epoch of universal conferences [...] If there were a universal language it would be indifferent in which part of the world the conference were held" (Follick 1934 [1914]: 93). For MoniQA, English takes this function of a 'universal meeting language', being the working language for the project meetings as well as the conferences. In this context, the project meetings and conferences could be

4 Four partners in the project are from English native speaker countries: three from the UK and one from New Zealand.

considered an ‘ecosystem’ for the use of English as a lingua franca. Since 2007, the start of the project, the use of English has never been raised as a problematic issue by the scientists involved. Judging from my experience, the participating scientists see the need for effective communication as paramount and English is accepted as the common linguistic denominator in which the discourse takes place. Consequently, the participants of project meetings and/or conferences have never complained that their ‘linguistic rights’ or ‘human rights’ are being infringed.

This may be the case because food science and its related disciplines belong to ‘Anglophone influenced sciences’, according to Skudlik’s (1990) classification system. Skudlik concludes that the line between Anglophone and non - or less - Anglophone sciences coincides with the division into natural sciences and the humanities. This distinction already plays a role in the importance attached to English during university studies in the different sciences. For instance, a micro-study of Viennese university students showed that lectures in English are much more common at the Vienna Technical University (TU) and at the Business University (WU) than in the humanities and social sciences (Spichtinger 2000:97-98). The fact that the use of English varies in different scientific fields is confirmed by a variety of other studies as well (see for instance Gunnarsson 2001 on the situation in Sweden, Kryuchkova 2001 for Russia, and many of the contributions in Carli & Ammon 2007). Guardiano et al. (2007:29) conclude that, while scientific publications in English have also increased in the humanities, the current situation shows that the domainance of English is still more evident in the ‘hard’ (i.e. natural) sciences.

Interestingly, a different picture emerges when one moves away from the level of the scientists to the level of administrative personnel. As a Network of Excellence, MoniQA is required to produce annual reports on the money spent (including audits of consortium members) and to draft a budget for each of the five years of its duration. Producing these reports requires a substantial level of interaction between the MoniQA financial manager and the financial staff of the consortium members (universities, research institutes etc). Local financial personnel work according to the rules of their own institution, and often considerable explanation of what the EU needs – and in which form – is necessary. For these local staff, using English is far more unusual than for the scientists involved and in some cases results in communication difficulties, including the unwillingness to use English.[5]

[5] For instance, emails written in English are sometimes answered in local language, justification for funding spent is only provided in a local language etc.

5. Language use in MoniQA and DYLAN: A brief comparison

The DYLAN project seeks to identify the conditions under which Europe's linguistic diversity can be an asset for the development of knowledge and economy. DYLAN is an Integrated Project funded under Framework Programme 6 (FP6) of the European Union.[6] The project encompasses 20 research institutions in 12 European Countries and runs for five years. The DYLAN language policy seeks to respect the principles of multilingualism with regard to the communication between its numerous partner universities. Accordingly, different languages are assigned to categories of project communication. These categories are defined as follows by Böhringer et al. (2008: 41; for actual language use see table 3 below):

- Communication between teams
    - Cross-partner communication: general communication involving more than two project partners (mostly through email)
    - Direct bilateral contact: with one partner (email, phone)
    - Cross team: communication with other teams within one work package involving different partners in order to produce an output (deliverable)
    - Team internal communication
- Reporting to the Commission
    - Scientific documents (scientific deliverables like working papers or reports)
    - Administrative documents (like financial and management reports)
- Publications
    - Scientific articles
    - Popular articles

In the following, language choice in MoniQA and DYLAN are juxtaposed. In Table 4 below, the MoniQA perspective is added to the categories identified by Böhringer et al. (2008), although a one-to-one correspondence in language practices was not always possible to establish, due to different management

6 The FP 6 (2002-2006) thematic priority 7 'Citizens and Governance in a knowledge-based society' under which DYLAN was funded aimed to provide a sound knowledge base for managing the transition towards a European knowledge-based society. In FP7 similar actions are funded under the topic "Social Sciences and Humanities" (SSH) within the cooperation programme.

structures being used.[7] Note that, while MoniQA on its own cannot be seen as representing natural science projects in general, its language practices are broadly similar to other projects in this area which together form a network called "CommNet" (www.commnet.eu). Within this network, communication practices and issues are discussed among the partners.

Category	**Subcategory**	**DYLAN**	**MoniQA**
Communication between and within teams (internal communication)	Cross partner	Choice between EN/DE/FR	EN if the partners do not speak the same language
	Direct bilateral	Arranged between partners[8]	EN if the partners do not speak the same language
	Cross team	Choice between EN/DE/FR for communication and deliverable (paper)	Not applicable to MoniQA structure. Deliverables are published in EN
	Team internal	Any language, publication in EN/DE/FR	Not applicable to MoniQA structure. Deliverables are published in EN
Oral presentations at meetings		Bilingual approach: slides in one language, presentation in another[9]	EN
Reporting to the European Commission	Scientific documents	EN but also FR and DE	EN
	Administrative documents	EN	EN
Publications	Scientific publications	EN dominant, but also other languages	EN dominant, but also other languages
	Popular articles	Local languages	Local languages and EN for press releases

Table 3: DYLAN and MoniQA Language choices compared
EN= English, FR=French, DE=German

7 It should also be noted that some dissemination categories important for MoniQA – such as communication with industry – where not identified by DYLAN since they seem to be less relevant to this project.

8 e.g. In DYLAN a partner may be answering emails in French but is prepared to receive them in English or German

9 At least this is the official DYLAN approach. However, informal comments cast doubt on whether this practice is always observed.

Table 3 shows the different approaches to language use taken by the two projects. DYLAN has a formal language policy which is designed to "avoid any kind of linguistic hegemony" (Böhringer et al. 2008: 41). This has led to a language regime where up to three languages (English, German and French) are frequently used – a fact which is also visible on the website, where people can enter three different language versions. Since DYLAN itself is concerned with linguistic diversity, the project is special in having multilingualism as both the object of investigation and the means for carrying it out (Böhringer et al. 2008: 43). The decision to focus on the three languages mentioned is justified as a "symbolic" acknowledgement of the multilingual reality. However, it is unclear whether any documents, for instance dissemination flyers describing the project, have been produced in other languages used by the DLYAN consortium partners such as Spanish/Catalan, Danish, Italian, Slovenian, Romanian or Lithuanian (see map of project partners on the DYLAN website: http://www.dylan-project.org/). In general, the DYLAN language policy seems not dissimilar to the European Commission's own justification for using English, French and German in their daily work,[10] which is described by Krzyżanowski & Wodak (2008) as "hegemonic multilingualism".

In MoniQA, by contrast, no formal language policy has been developed. The approach adopted centres on efficiency and effectiveness rather than on any elaborate system to safeguard perceived linguistic rights. English is therefore used as the lingua franca in most settings where partners with different native languages interact, such as email/phone and Skype communication as well as presentations at conferences, project meetings and reporting to the European Commission. However, as shown above, MoniQA has public dissemination material available in 14 languages, a much broader range than the three languages evidently covered in DYLAN.

6. Future research directions

As mentioned in the introduction, more than 9,000 projects were funded by the EU in the context of the Sixth Framework Programme from 2002-2006. EU R&D projects like MoniQA or DYLAN offer a rich framework for studying communication, language use and English as a Lingua Franca

[10] The Commission uses English, French and German (in that order) in the daily work of drafting texts, while the final and official products (decisions, directives, recommendations etc) are translated into all 23 EU languages.

(ELF).[11] A more comprehensive analysis will need to place these issues in a methodological framework.

The notion of community of practice, originally developed in the context of a social theory of learning (Wenger 1998) has recently been adapted to sociolinguistics and the study of ELF (e.g. Dewey 2009, House 2003, Seidlhofer 2006), and may hence be useful as a framework for studying these aspects in EU projects. Eckert & Mc-Connell-Ginet (1992) define community of practice in the context of sociolinguistics as

> *an aggregate of people who come together around mutual engagement in an endeavour. Ways of doing things, ways of talking, beliefs, values, power relations – in short practices – emerge in the course of this mutual endeavour. As a social construct, a community of practice is different from the traditional community, primarily because it is defined simultaneously by its membership and by the practice in which that membership engages.* (*Eckert & Mc-Connell-Ginet 1992: 464; qtd in Ehrenreich 2009)*

Ehrenreich applies the community of practice approach primarily to (the study of ELF in) a business environment, but the concept might also be useful to EU-funded R&D projects (as well as a plethora of other settings). The value placed on efficiency and the emphasis on what is said (as opposed to how it is said) may be an underlying similarity between business settings and EU projects (at least as concerns natural sciences EU projects). However, EU projects are more temporary than (most) business enterprises, with a fixed duration which is already known at the beginning of the project (MoniQA for instance runs from 2007-2012). Furthermore, while the 'joint enterprise' dimension in a business setting will be targeted towards profit, in an EU project it is usually oriented towards research goals.

Use of English may be one factor of being part of the 'community of practice' of food scientists. In this context, research on language choice in EU projects could also be embedded in a 'rhetoric of science' approach, which looks at science as a rhetorical activity (see e.g Bazerman 1999, who looks at the verbal and literary work in the creation and establishment of electric lighting; see Prelli 1989 for an overview of the rhetoric of science). More generally, this approach fits into anthropology and philosophy of science, which sees 'science' not as a linear activity but as a construct and investigates

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[11] It is assumed that the reader is familiar with the concept of 'English as a Lingua Franca', which is used to refer to communication in English between speakers with different first languages. See for instance Seidlhofer (2005) and Jenkins (2005) for a general introduction to the concept, as well as Seidlhofer et al. (2006) for a discussion on ELF in Europe.

how social, political and cultural values affect scientific research (e.g. Kuhn 1962, Latour et al. 1979) which may also provide a fruitful theoretical framework for future investigations about language choice in EU research projects.

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Weak and strong verbs: A new attempt at a single-route approach

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1. Introduction

This paper reports on an empirical study on the productivity of Dutch strong verb patterns in the past tense formation of nonce verbs.[1] The difference between regular and strong past tense verbs in Germanic languages has been a vanguard in the debate on lexical morphological retrieval: are regular ('weak') and strong verbs stored and processed in the same way or not? For regular verbs in English, for instance, it would suffice to store only a base form in the lexicon because the correct past tense form can be formed by applying a rule 'add suffix *-ed*' (or its appropriate allomorph). For English strong verbs, however, the past tense formation process is less straightforward, making it likely that their past tense forms have to be stored separately. This view on regular and strong verbs suggests that new and nonce verbs can only receive a regular past tense: since strong past tenses are stored lexically (i.e. they are not derived by rule) their forms cannot overgeneralize to new verbs, whereas the derivational rule applied to regular verbs is fully productive.

However, such a proposal ignores the fact that the past tense forms of strong verbs are not totally isolated: they can be grouped into patterns sharing the same sound change (e.g., *take-took, shake-shook*; *ring-rung, sing-sung*). According to research by e.g. Bybee & Slobin (1982) and Moder (1992), these patterns do indeed overgeneralize and seem to be productive just like the regular past tense 'type'. Viewing regular and irregular past tense inflection as the same kind of morphological process has been called a 'single-route approach,' as opposed to the position that strong and weak verb inflection are fundamentally different, which is consequently coined 'dual-

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1 Nonce verbs are verbs that are made up by researchers and are used only for research projects.

route approach.' This paper argues for the first position to account for the productivity of both regular and strong verbs in Dutch past tense inflection, following equivalent proposals for English (e.g. Bybee 1995; Marchman 1997; Seidenberg 1992).

The productivity of past tense patterns is tested here by presenting adult speakers of Dutch with a nonce verb inflection task. The results will be compared to those of a similar study on English (Moder 1992). Comparing these two Germanic languages can be fruitful in the debate on morphological processing, because both have a large group of verbs that receive a dental past tense affix (*-te/-de* in Dutch, *-ed* in English) and a smaller group of verbs receiving a stem change in the past tense. By comparing whether the frequency of regular and strong verbs influences their productivity, the question of morphological retrieval can be assessed, as it is thought that frequency only influences retrieval of stored words (e.g. Sereno & Jongman 1997).

The results of the nonce verb inflection experiment show that speakers of Dutch can unconsciously apply both regular and irregular inflectional patterns to new verbs. It will be argued that the choice of the pattern depends on the similarity of the nonce verbs to strong or regular actually occurring verbs, the frequency of those verbs (token frequency) and the number of verbs following the same pattern (type frequency). It will be investigated whether this converges with historical changes in the frequency of regular and strong verbs in Dutch. Because this paper is grounded in the debate on morphological processing, I will start with an overview of the evidence used by both camps, focusing on empirical studies on both children and adults.

2. Rules or representations

On the basis of past tense inflection, Germanic languages can be said to have two major groups of verbs: the 'strong' verbs have an internal vowel change; the 'weak' or 'regular' verbs create their past tense by adding a suffix to the stem.[2] Pinker (1991) has argued that this division corresponds to a difference in processing between the two groups of verbs. The much-debated theoretical assumption underlying this position is based on Chomsky (1986), who holds that the language faculty consists of a lexicon and a computational system. This computational system contains 'default' rules to create, for example, past

[2] Germanic languages also have a small group of irregular/suppletive verbs. The reduplicating class in e.g. Icelandic is sometimes seen as a class of its own, although in Dutch it is considered part of the seventh strong verb class.

tenses of verbs that are stored in the lexicon. Whereas for weak verbs, it would suffice to store the base form of a verb in the lexicon (e.g. *walk*) and use the computational system to create its past tense form ('add *-ed*' → *walk-ed*), this does not work well for the different possible inflections of strong verbs. For these verbs, there is no clear derivational rule, because the appropriate stem vowel change can be different for similar sounding words, e.g. *sing-sang*, but *bring-brought*.

Therefore, some researchers argue that the past tense forms of strong verbs have to be stored in the lexicon separately alongside their base forms (e.g., Prasada & Pinker 1993; Clahsen et al. 1992). This idea comes with the hypothesis that when speakers come across a new or a rare verb they will only be able to apply the regular past tense rule to this verb. Since all strong past tenses are stored and not derived, there are no strong rules. In other words, only the regular derivational rule is productive, since it is applied every time that a non-stored past tense has to be produced, which concerns all regular verbs of which only the base form is stored in the lexicon and for new verbs for which there is no form stored at all. Also, it is expected that tense inflection errors will be in one direction only: strong verbs might accidentally be given a regular past tense, but regular verbs will not accidentally get a strong past form. This viewpoint assumes that the retrieval of weak and strong past tense verbs is qualitatively different, since weak past tense forms are derived by rule, whereas strong past tenses are stored by rote; hence, this position is called the dual-route approach.

Although this hypothesis seems elegant and efficient at first, research by Bybee & Slobin (1982) and Ramscar (2002) has invalidated at least one of the predictions that come with the dual-route approach. The first researchers performed an investigation of the past tense forms of both adults and children in their spontaneous speech which showed that it is not the case that there are only regular overgeneralizations (e.g., *fall* erroneously becomes *falled* in the past tense); sometimes, a strong past tense pattern is applied to a regular verb as well (e.g., *stall* becomes *stell* instead of *stalled*). This overgeneralization of strong patterns was replicated in an elicitation task with both groups.

Ramscar (2002) carried out an experiment in which participants inflected nonce verbs in varying semantic contexts. For example, the word *frink* was presented in a context that prompted an interpretation of the novel word as the strong verb *drink* or as the regular *blink*. Results showed that in an allegedly neutral semantic condition, participants inflected according to a strong pattern for 77.5% of the cases. Ramscar explains this by proposing that people use analogy according to semantic and phonological similarity instead of rules when having to inflect an unknown verb.

Evidence like this prompted several researchers to propose a single-route approach in which regular and strong verbs are stored and processed similarly. Nevertheless, although concurring on the point of the processes being similar, the exact way of how the verb forms are processed remains a point of debate. For example, Butterworth (1983) suggests that both weak and strong past tenses are stored alongside their base forms. Taft (1981), on the contrary, suggests that for both sets of verbs the past tense form is derived by rule. Finally, Seidenberg (1992) and Rumelhart & McClelland (1986) state that weak and strong verb forms are generated by an associative memory mechanism. The stem of a verb is represented by a set of input nodes, corresponding to stem sound patterns, which are linked to various output nodes representing past tense sound patterns. The strength of the links between nodes is modified by previously processed verbs, which means that if a connection between the sound patterns *ite* and *itten* was made through learning of the verb *write*, *bite* has a high probability to be connected to the past tense *bitten*.

The dual- and single-route model of morphological processing make different predictions about language behaviour in that according to one, only the weak-verb pattern can be overgeneralized, whereas according to the other, both weak and strong patterns can be productive. The evidence seems to point to the latter view. However, researchers in the first camp say that although adults might be able to extend strong patterns to new verbs as well, the developmental path of children shows that there is a definite qualitative difference in learning the past tense between strong and weak verbs.

So what does children's learning of strong and weak past tense formation contribute to the debate? Do children show a stage of overgeneralization of past tense forms, and if so, does that result from an erroneous application of regular or of strong past tense derivation? Marcus et al. (1992) assess these questions by looking at spontaneous speech in the CHILDES-corpus.[3] They claim that after a rote-learning stage in which all forms are produced correctly, the English-learning child acquires the regular rule '*past form = root + -ed'* which will be applied to all verbs for which no other form is stored – this includes strong verbs which are not often encountered by the child. Thus, only the regular past tense will be overgeneralized. The regular rule is blocked if there is a strong memory trace for a certain past tense form, which depends on the token frequency of each individual verb. Consequently, Marcus et al. (1992) argue on the basis of their corpus data that the

3 The Child Language Data Exchange System (CHILDES; MacWhinney 1995).

overgeneralization phase in child language acquisition is relatively short, that the error percentage is low (averaging 4.2%), and that mistakes only occur with verbs with a low token frequency. They take this to be an occasional failure of an otherwise perfectly working inflectional system (Pinker, 1999: 221).

However, Maratsos (2000) arrives at a rather different conclusion from looking at the very same corpus data. Where Marcus et al. discard all verbs with a frequency lower than 10 and look at the percentage of weak and strong overgeneralizations averaged over all verbs, Maratsos investigates overgeneralizations in verbs broken down into frequency groups. This results in quite a different picture: the rate of overgeneralization of both weak and strong past tense patterns is much higher within the medium and low frequency groups (occurring between 1 and 99 times in his sample), in one child going up to more than 50%; and even in the high frequency group of verbs (occurring more than 100 times) this child made 18% overgeneralization errors. This means that errors cannot be called occasional and that memory traces created for frequent verbs as proposed by Marcus et al. have not totally blocked out other inflections.

The corpus data that was used by Marcus et al. (1992) and Maratsos (2000) captures approximately 1-2% of the children's actual output in the time range during which they were recorded. To achieve a more naturalistic frequency description of the verbs, Maslen et al. (2004) assembled a corpus of one child capturing 8-10% of child speech in two years. Their study shows that many strong verbs, even frequent ones, are overregularized for a long time despite counterevidence in the input, i.e. despite the strong memory trace presumed by Marcus and his colleagues.

Maslen et al. (2004: 1325) write that in their corpus of spontaneous speech, only the very highest frequency verbs (produced more than 100 times) were relatively free from overregularizations. The strong verbs that were produced between 10-49 times in the corpus (which, according to Maslen et al., means that they must have been heard more than 1,000 times) received a regular inflection in as much as 10.67% of the cases. According to Maslen et al., their findings can only be explained if the number of verbs in each group ('regular' and 'strong') at each developmental stage is taken into account as well as their overall frequency. Only when the regular 'type' exceeds the number of strong verbs does the child begin to overgeneralize the regular derivation to strong verbs. The token frequency of individual strong verbs can counter this effect (Maslen et al. 2004).

The child data studies all report overgeneralizations to the advantage of the regular inflection. Maslen et al. (2004)'s analysis shows that these errors

are much more frequent than would be expected on the basis of Marcus et al. (1992)'s theory, in which the 'default' regular inflection should be blocked as soon as there is a memory trace for a strong inflection. More importantly, it seems that the regular type is only overgeneralized when the child has acquired more regular than strong verbs. Therefore, it is to be expected that there will only be overgeneralizations of a strong type if there are enough verbs of that type in the child's lexicon: type frequency pushes productivity. A pattern like *ite-ote* can only be productive if the child has acquired more than a certain number of verbs that follow this pattern, and not if it knows only one verb of this pattern, regardless of how frequent it is.

None of the child corpus studies distinguishes different inflectional types within the group of strong verbs. This can be due to the fact that children of the examined age group have not acquired many strong verbs yet, but also following the dual-route approach, Marcus et al. (1992) do not even acknowledge the existence of such patterns. In Maslen et al. (2004), the only two phonologically similar words reported are *blow* and *throw*. *Blow* receives an erroneous regular inflection in only 4.55% of the cases, but *throw* is overregularized for 75%; apparently, the child in this study has not yet seen the similarity between the two derivations. This result supports the idea that type frequency (the number of verbs following one inflection pattern) is more important here than token frequency (the number of occurrences of a single verb or a group of verbs). An approach like this fits a model like that in Bybee (1995), in which type frequency leads to the formation of a particularly strong schema for regular inflection and less strong schemata for certain large enough strong types.

Although children in the age range studied in the described papers might not have encountered enough strong verbs to reach a productive type, adults must have done so, since they do produce overgeneralizations in the other direction - strong inflection for regular verbs - and can apply strong patterns to nonce verbs (Bybee & Slobin 1982; Ramscar, 2002). As mentioned above, this is taken as counterevidence for the dual-route model. Prasada and Pinker (1993) solve this problem by including on top of a rule-based process for regular verbs an associative network based on analogy for the stored strong past tense forms, so that nonce verbs in principle could follow a stored pattern, provided it is phonologically similar to the verbs in that cluster.

However, as Clark (2003: 210) observes, although Pinker and Prasada's dual-route account might work for English past tense formation having fully regular and fully irregularly inflected verbs, which would thus be either produced by rule or remembered by rote according to their theory, it does not work for languages like French: *aller* is irregular in the present simple, but in

all other tenses it is regular: would all forms be stored like an irregular verb or are those combined from a base form plus a rule? To solve this problem, Clark (2003) argues that both strong and weak verb inflection is better captured by schemas than by rules.

A rule in language is a predictable process that derives one thing from another (Pinker 1991: 531), e.g. a past tense form from a present tense form. This means that it is focused on the 'source form'. A schema on the other hand focuses on the goal form: it describes the phonological properties of a morphological class (Bybee & Slobin 1982: 267), for example, a set of past tense forms (e.g. all past tense forms that end with *-ew*, like *blew, slew, drew*).

Concerning children's acquisition of inflection, Clark writes that a rule *'add -ed'* might on the surface predict the same as a schema *'verb-stem + past* → [___t/d]PAST', meaning that 'any verb-stem combined with the meaning 'past' in English should result in a form that ends in an alveolar stop consonant' (Clark 2003: 207), but to be learning a schema or a rule is not the same thing. A child that is learning a rule will attend to the source form and manipulate it if needed. If, on the other hand, the child uses schemas, he or she will focus on the goal form, which means that if a verb already ends with an alveolar the child will not manipulate the form if a past tense is required.

Bybee & Slobin (1982) claim that this is indeed what children do when learning past tense inflection. Berko (1958), similarly, investigating plural inflection, established that many children do not add the plural morpheme *–s* if a presented nonce word already ends with an /s/. For example, if a picture of an unfamiliar animal was presented with the text *'look, here is a lass!'*, and a second picture containing two such animals was accompanied by a question along the lines of *'here, two ...?'*, children were less likely to add the plural morpheme /s/ which would result in *'lasses'*; instead, they would simply answer *'lass'* again. This finding was replicated by Köpcke (1998) for German children. It seems, thus, that children might not be applying a rule to the source form but instead look at the goal form, which means that they do not simply apply a rule as is argued by the dual-route proponents (e.g., Marcus et al. 1992; Kim et al. 1994).

Another point of criticism against Prasada and Pinker's approach consisting of a rule-based and a phonological associative part was forwarded by Ramscar (2002), who showed that not only phonological similarity plays a role in nonce verb inflection but also semantic similarity. He tested how a nonce verb like *frink* was inflected by participants in different semantic contexts. Participants were given a story that steered either towards an interpretation of the nonce verb as having a meaning similar to *drink* - which has a strong inflection - or towards a meaning similar to the regular *wink* or

blink. The semantic context turned out to be highly influential in whether *frink* became *frank* or *frinked*.

This finding fits well with an analogical model like the one proposed in Fischer (2007). This model of morphosyntactic change proposes that stored morphosyntactic structures are linked together on the basis of formal/phonological and functional/semantic similarities. In a behavioural task like that of Ramscar (2002), a nonce verb would then get a certain inflection according to the verb that is most similar to it in both respects. The frequency of the forms plays a role in this as well: a verb with a very high frequency would be more likely to spread its inflection to a nonce verb than a low frequency verb. Also, the number of verbs having a same pattern can be influential. Thus, again, token and type frequency come into the picture.

Moder (1992) argues that these types of factors are used both in explanations of synchronic language data and of historical morphological changes. In her study, she divided the morphological alternations of the English strong verb class into 15 different patterns and proceeded to investigate the similarities between the synchronic and diachronic productivity of these patterns, the former by performing a behavioural study, the latter by a corpus search. The behavioural study consisted of a nonce verb inflection task incorporating 75 nonce forms, modelled after actual English verbs belonging to the 15 strong verb patterns. These nonce verbs were presented in a neutral sentence frame[4] to 75 adult speakers of English. Each response of the form *-ed* was tallied as a support for the productivity of the regular verb class; each response according to the form of one of the strong verb alternations was counted as support for the relevant strong class. Her test yielded a mean of 39% of strong inflections over all items and participants. When looking at the factors that could be related to the productivity of each of the morphological alternations, Moder found that type, not token frequency correlated significantly with the number of strong responses per class. Also, she found that the classes with the highest productivity in this test corresponded to the classes that have attracted new members since the Old English period.

My aim in this paper is to replicate the findings of Moder and Ramscar for Dutch, using a neutral verb frame and accounting for frequency effects of both tokens and types of past tense inflection. In this way, productivity of Dutch verb patterns can be investigated, which can then be compared to the English results. There is reason to believe that the patterns will be different,

4 The example she gives is ‘John likes to [...]. Yesterday, he [...].’

since in English, use of the preterite seems to be relatively more frequent than in Dutch. First of all, in sentences with specific reference to a moment in the past, Dutch uses a perfect form where English requires the simple past (*Hij is om drie uur vertrokken* – 'He left at three o'clock'). Further, Dutch has retained its *-en* form in the perfect whereas in English for many verbs the perfect and preterite forms are the same. This also increases the frequency of the preterite form. This means that in English, the strong past tense forms should be stronger in general than in Dutch, if indeed frequency is relevant.

The study by Maslen et al. (2004) argues that token frequency should play a role, but the analysis of *throw* and *blow* supports the idea that type frequency is more important, following Moder (1992)'s findings. The present study aims to shed light on these questions. If Moder's findings can be generalized to Dutch, we should find the same factors playing a role in the synchronic productivity of the patterns. Her findings point towards the idea that type and token frequency are also involved in the diachronic productivity of strong and regular patterns, i.e. which groups gain or lose members over time. Therefore, in the next section, we will look at the historical changes in the strong verb classes in Dutch. In a next step, those will be compared to the synchronic productivity of the patterns in an experimental study.

3. History of strong verbs in Dutch

In early Germanic, as is still the case in present-day Germanic languages, preterites were formed either by a vowel change or by adding an alveolar suffix. Grimm named these two groups 'stark' and 'schwach', respectively: strong verbs 'help themselves' in the preterite, weak verbs need the help of a suffix (Schönfeld 1970: 138). The ablaut of the strong verbs is a common Proto-Indo-European derivational process. How the alveolar suffix of the weak class came into existence is still under discussion. Kiparsky (2009: 107-108) writes that

> *[t]he templatic ablaut morphology by which 'strong' verbs formed their past tenses, inherited from the Indo-European perfect, was restricted to monosyllabic roots. Longer verbs in Germanic would accordingly have formed their perfects with an auxiliary, just as they do in Sanskrit […]. The Germanic periphrastic forms could have been later grammaticalized into inflected forms […]. The Germanic dental preterite can be assumed to have followed a similar path from the original light verb don to the suffix -d-.*

The strong verb groups are usually divided into seven classes, each characterized by a specific ablaut, although the seventh was originally a reduplication class (Schönfeld 1970: 12). In the West-Germanic languages

Dutch, English and German, these classes still exist. However, the group of strong verbs was much larger in early Germanic: its number has decreased to the benefit of the weak inflection in all derived languages. Only verbs with a sufficiently large token frequency or those verbs belonging to a frequent pattern (large type frequency) seem to withstand the regularization.

Within the scope of this paper, in which the focus is on synchronic productivity of strong verb patterns, it is not feasible to actively study the historical change in the productivity of those patterns: we have to rely on other research. De Vriendt (1965) has investigated strong verb classes in Dutch in the 16th century, using Flemish and Dutch written sources from that time. He found 236 different verbs[5] occurring with a strong past tense, of which 158 belong to one of the first three classes. De Vriendt concludes that those classes are the only three that are still productive in Dutch at present, attracting members that would otherwise have had a weak inflection. However, the seventh class has gained members as well: those were mostly verbs that originally belonged to another strong class. In Table 1, the gained verbs in each class are shown.[6]

Ablaut class	**Example**	**Types 16th century**	**Gained verbs**
1. ɛi - e:	rijden-reed-gereden	59	*belijden, prijzen, wijzen*
2. i:/ʌy - o:	bieden-bood-geboden	41	*kluiven, stuiten*
3. ɪ/ɛ - ɔ	klimmen-klom-geklommen	58	*dingen, schenden, schenken, treffen, zenden, (be-, ver-) zinnen*
4. e: - a	breken-brak-gebroken	12	
5. ɪ/e: - a	geven-gaf-gegeven	19	
6. a: - u:	dragen-droeg-gedragen	19	
7. ɛ/a: - i:	slapen-sliep-geslapen	28	not specified; note ‘gains from 3rd and 6th class’
Total		236	

Table 1: Gains in strong verb classes as described by De Vriendt (1965)

5 De Vriendt counts those verbs that share a stem but have a different prefix as one (*verwijzen, bewijzen, wijzen* in Class 1), but homonyms are counted as two (*wassen* once as in the sense of ‘growing’ and once as in the sense of ‘cleaning’).

6 It is unclear whether this should be interpreted as an exhaustive set, but these are all additions that De Vriendt mentions.

According to De Vriendt's counts, only the first three classes and the 7th class have been productive since the 16th century. De Vriendt notes that, although the regular type counts more individual verbs than the strong classes together, their frequency is still much lower than the frequency of the strong verbs (1965: 149). He provides no data on this, but states that it is borne out by a sample of historical texts. Recall from above that type frequency refers to the number of verbs following one inflection pattern or class here, while token frequency stands for the number of occurrences of a single verb or a group of verbs (following Maslen et al. 2004). The study by De Vriendt only reports type frequencies, which means that we cannot look at the influence of token frequency of the strong verbs here.

For data on verb frequencies in current Dutch, the *Corpus Gesproken Nederlands* (*CGN* - 2004) was used. By using a list of strong verbs in current Dutch provided by the *Elektronische Algemene Nederlandse Spraakkunst* (*ANS* - Haeseryn et al. 1997) it was possible to retrieve the token frequencies of all listed strong verbs. Combined with De Vriendt's data on 16th century Dutch from Table 1, Table 2 demonstrates that of the 236 strong verbs in the 16th century, 57 verbs have either become weak or are no longer in use, since there are now 179 strong verbs left. The last column shows the verbs in each class that single-handedly have a token frequency of more than 5,000 hits in the *CGN*.[7]

Class	Types 16th	Types 20th	Token frequency	> 5,000
1. ɛi - e:	59	52	53,458	*blijven, kijken, krijgen*
2. i:/ʌy - o:	41	38	8,374	-
3. ɪ/ɛ - ɔ	58	50	43,683	*vinden, beginnen*
4. e: - a	12	6	12,545	*nemen*
5. ɪ/e: - a	19	11	48,227	*liggen, zitten, geven, lezen*
6. a: - u:	19	6	8,156	-
7. ɛ/a: - i:	28	16	24,690	*laten, lopen*
Total	236	179	199,133	

Table 2: Type and token frequency of strong verbs in 16th and 20th century

Table 2 indicates that the first three patterns only lost between 7% and 14% of their verbs in four centuries, whereas for the other four type frequency went

[7] The total number of annotated words in the CGN is 8.9 million.

down 43% to 69%. The last three columns show that a large type frequency does not necessarily mean that the token frequency is also high; the second pattern /i:/,/ʌy/ - /o:/ is the third largest group on type frequency, but it is in sixth place for token frequency. The last column shows that this pattern does not contain any verbs with a frequency higher than 5,000. Therefore, if token frequency or the frequency of individual verbs is the most important predictor of pattern productivity, this pattern should not score very high. If, however, type frequency is the most important factor, it should score higher than, for example, pattern 4 (/e:/-/a/). Thus, the diachronic data above allow us to draw up hypotheses about the synchronic productivity of strong verb patterns. This will be done in the next section.

4. Experimental study on the productivity of Dutch strong verb patterns

In this study, the question of single- or dual-route morphological retrieval is addressed by investigating whether language users have abstracted some sort of productive schema from the strong patterns they subconsciously know. If this is so, the status of the alveolar 'rule' diminishes: if it is possible to abstract a pattern from a group of strong verbs, then it is just as possible that this is the way we learn the regular past tense pattern. Thus, it becomes more likely that all verbs are processed similarly, i.e., as a schema.[8]

The productivity of these regular and strong inflections seems to be related to type and/or token frequency of the verb patterns (Moder 1992; Maslen et al. 2004). Moder (1992) found that the type frequency of an ablaut class is the main factor in its productivity in a nonce verb task, which correlates with the diachronic development of the classes. On the basis of Moder's finding, we should expect that the most productive classes are those that have a large type frequency, and that have gained verbs since the 16th century (classes 1, 2, 3 and 7, Table 1). However, if token frequency is the most important, as proposed by Maslen et al. (2004), we expect those verb groups with the highest token frequencies to be the most productive (classes 1, 3 and 5). As a third hypothesis, the strict version of the dual-route model (Pinker 1991) proposes that for nonce verbs, only regular inflection is possible; in that case, we expect no productivity of strong classes at all.

8 This position is also defended by, among others, Chandler & Skousen (1997).

4.1 Method

For the purpose of the current study, a past-tense elicitation task was created along the lines of the experiment in Moder (1992). Participants were presented with Dutch sentences containing one nonce verb each. The sentences were formed in such a way that participants were forced to create a past tense of the nonce verb.

4.1.1 Participants

Twenty-four speakers of Dutch were tested, ranging in age from 21 to 89 years. Participants were gathered from different age groups to increase the generalizability of the results. All participants in the experiment spoke Dutch as their first language and were kept unaware of the aim of the test.

4.1.2 Material

The task contained 42 nonce verbs. These were created on the basis of the form of the currently strong inflected verbs registered in the *Elektronische Algemene Nederlandse Spraakkunst* (2007).[9] In this grammar, all verbs are listed under their specific sound pattern, not in their historical class. Here it was decided to test the productivity of the seven historically distinguished classes in Dutch instead of the patterns, so that the productivity of each class could be directly compared with the historical change as described above (De Vriendt, 1965).

For all the strong verbs the token frequency was obtained by using the *Corpus Gesproken Nederlands* (2004). The result of this search was presented in Table 2 above. Based on the most type-frequent phonological shapes in each class, 6 nonce verbs for each of the 7 classes were created according to the variability within each group. For example, in the first class (*ij-ee*, /ɛi/-/e:/), all verbs have the same vowel /ɛi/; the nonce verbs in this class received this vowel as well. This vowel is followed by a *t* or *d* in more than half of the verbs in this class. Therefore, two of the six nonce verbs had a *t* and two a *d* as coda. The place of the third most frequent coda was shared by *v* and *g*, giving the codas for the last two verbs. For the onsets, the same procedure was followed. The resulting set for the first class was *prijten*, *lijten*, *trijgen*,

9 Version 1.2, based on the 1997 edition of the *Algemene Nederlandse Spraakkunst* (Haeseryn et al. 1997).

Note that there are some verbs that can be inflected both strong and weak. If the ANS commented on a certain verb that the weak inflection is more frequent, we did not include this verb.

drijden, *berijven* and *klijden*.[10] Classes containing two different vowels in the present tense, for instance class 2 which incorporates verbs like *vliegen* but also like *duiken*, received both kinds of nonce verbs (see appendix). The total number of nonce verbs for each class was always six.

Next, it was ascertained that the nonce verbs were in concordance with Dutch phonotactics and did not occur in any form in the Dutch language (e.g. as a noun). Furthermore, it was checked whether a strong past tense form of the nonce verbs would not result in an existing word; in the set above, for which the ablaut was intended to be /ɛi/-/e:/, only *klijden* would result in an existing word in Dutch (*kleed*, 'carpet'). It might be the case that participants avoid inflecting a verb in such a way when it results in an existing word. To test this, one nonce verb of this type was included in each of the sets. A list of all nonce verbs is included in the appendix. In total, 46 nonce verbs were created: six in each of the seven classes yielding 42 and an extra four to use as training items.

4.1.3 Procedure

Following Moder (1992), the nonce verbs were presented in a simple sentence frame which had to be completed by the participants (underlined sentences in Table 3 below).

Presentation sentence (intransitive/transitive)	**Fill-in sentence** (intransitive/transitive)	**Response** (alveolar/in-class/other)
Tom houdt van splingen.	*Gisteren … hij ook.*	*splingde/splong/...*
'Tom likes to spling.'	'Yesterday he … .'	splinged/splang/...
Tom gaat het huis beraven.	*Gisteren ... hij het huis ook.*	*beraafde/berief/...*
'Tom is going to rive the house.'	'Yesterday he ... the house.'	rived/rove/...

Table 3: Elicitation procedure for intransitive and transitive verbs (those with a be-prefix)

Four test sentences were used to familiarize the participants with hearing and using nonce verbs. During the test, both the researcher and the participant were provided with a sheet with the presentation sentences and fill-in sentences in front of them. The researcher read each sentence out loud and wrote down the participant's answer immediately after it was produced. If the

[10] The idea of using each phoneme of the verbs as a basis for analogy was taken from Chapman & Skousen (2005).

participant changed his mind, the final answer was taken into account. The test sentences were made to be as short as possible while remaining natural. The participant was asked to reply as quickly as he or she could. The experiment lasted approximately 20 minutes.

Responses were counted in the following way. For each verb, the number of participants using a regular past tense, the number of expected strong past tense pattern responses (in-class response) and the use of non-expected past tense patterns from another strong set (strong-other response) was calculated. Productivity was operationalized as the percentage of in-class responses in each class. In this way, only the analogical strength of each phonological class pattern is taken into account. However, this measure does not incorporate the strength of a class outside of its pattern: participants can in principle inflect verbs according to a certain strong pattern even if there is no phonological similarity with other verbs in that class. It might be the case that participants inflect a nonce verb like *prijten* not as *preten* nor as *prijtten*, which would be in-class or regular respectively, but as *proten*, which is a class 2-inflection. Such 'out-class responses' were counted as well.

5. Results

The mean percentage of regular inflection over all (42*24 = 1,008) items is 60.6%. Participants used a strong inflection for the other 39.4% of the items. In Table 4, the response distribution per class is shown. The most productive classes are classes 1, 3 and 5 (percentage in-class responses), whereas the stimuli from class 4 yielded the highest percentage of regular responses.

Class	In-class	Alveolar	Strong - other
1. ɛi - e:	44.4 %	40.3 %	15.3 %
2. i:/ʌy - o:	20.8 %	64.6 %	14.6 %
3. ɪ/ɛ - ɔ	31.3 %	63.9 %	4.9 %
4. e: - a	13.9 %	79.2 %	6.9 %
5. ɪ/e: - a	34.7 %	53.5 %	11.8 %
6. a: - u:	20.1 %	66.7 %	13.2 %
7. ɛ/a: - i:	20.1 %	57.6 %	22.2 %
Mean	26.4 %	60.6%	13.0%

Table 4: Responses on each class split out for in-class, alveolar and other (percentages)

Table 4 above displays how many verbs follow the pattern we intended them to be in, by using the most frequent phonological patterns for the stimuli. It is interesting to see whether there are verbs that do not conform to this pattern, but instead follow a different inflection. Therefore, Table 5 shows the percentages of the total productivity of each pattern. Clearly, after the regular type, the first class is still the most productive pattern now, followed by classes 3 and 5. Class 7 is more productive when responses from other class-sets are taken into account: the raw numbers show that with a difference of one, more 'non-class verbs' follow class 7 than in-class verbs (i.e., those with the right phonological pattern). Since all nonce verbs were intended for specific strong classes, the row with regular responses in Table 5 contains only 'out-class verbs'.

Pattern		In-class	Out-class	Total	Percentage
Regular		n.a.	611	611	60.6%
Strong	**1. ɛi - e:**	64	18	82	8.1%
	2. i:/ʌy - o:	30	24	54	5.4%
	3. ɪ/ɛ - ɔ	45	24	69	6.8%
	4. e: - a	20	15	35	3.5%
	5. ɪ/e: - a	50	15	65	6.4%
	6. a: - u:	28	5	33	3.3%
	7. ɛ/a: - i:	29	30	59	5.9%

Table 5: Responses across all patterns.

To answer the question of how these results correlate with the frequencies of the strong verb classes and the diachronic data, Table 6 shows the classes in order of their productivity (in-class responses), followed by their class size and token frequency. The last column shows which classes were productive in the 16th century according to De Vriendt (1965).

Ablaut class	Proportion in-class	Type frequency	Token frequency[11]	16th century productive
1. ɛi - e:	0.44	52	7,299	+
5. ɪ/e: - a	0.35	11	7,606	-
3. ɪ/ɛ - ɔ	0.31	46	8,503	+
2. i:/ʌy - o:	0.21	38	1,267	+
7. ɛ/a: - i:	0.20	11	1,209	+
6. a: - u:	0.19	6	1,679	-
4. e: - a	0.14	6	990	-

Table 6: Classes in order of their productivity with frequency data

At first glance, it looks like there is a relation between the productivity of each pattern and its type frequency, although class 5 does not fit as neatly into this proposition as the other classes: it is the second-most productive pattern but has only 11 members in the ANS-corpus. Significance testing shows that measured over all classes, the correlation between productivity and type frequency is non-significant: $r = 0.654$ with $p = 0.110$ (two-tailed). The correlation between in-class productivity and token frequency is significant, however: $r = 0.877$ with $p = 0.010$ (two-tailed).

Finally, the hypothesis was posed that there would be a difference between the verbs that result in an existing word if they were inflected according to the expected strong past tense pattern (*klijden-kleed*, *ruiven-roof*, *rinden-rond*, *stemen-stam*, *geten-gat*, *traven-troef*, *vlazen-vlies*) and the items that would not have this feature. Table 7 shows the in-class responses, the regular (alveolar) and other responses for both kinds of nonce verbs. On the surface, it looks as if the distribution of responses is similar for the two types. A chi-square analysis reveals that there is no significant difference (χ^2 [2] = 1.03, $p = 0.59$, two-tailed).

11 The class sizes and frequencies are based on the alternation patterns that were included in the test items for each class; therefore, the numbers deviate from those in Table 2. From class 7, three infrequent base form vowels were not taken up in the test items (/a/, /u:/ and /o:/). Including only the ɛ /a:-i: alternations meant excluding the forms viel, riep, wies, liep. This adjustment makes a large difference for the token frequency, as the total including these forms is 3,901.

	In-class	Alveolar	Strong-other	Total
Non-existing product	215	496	111	822
Existing form product	51	115	20	186
Total	266	611	131	1,008

Table 7: Responses (raw numbers) split out for existing and non-existing products.

6. Discussion

First of all, our study replicates Moder's finding of 61% alveolar inflection for nonce verbs: we found that 60.6% of all items were inflected regularly. However, contrary to the conclusion in Moder (1992), this study finds that token frequency (the overall frequency of a pattern) correlates more strongly with productivity of the patterns than type frequency (the number of verbs following a pattern). This conforms to the theory defended by Maslen et al. (2004). Recall that if productivity followed token frequency, the most productive patterns should be those of classes 1, 3 and 5. This is indeed the case (cf. Table 5).

Moder writes that "the only factor which varied significantly with productivity was the applicability of the pattern" (1992: 189). We find that for Dutch strong verb patterns, token frequency is crucial and that it does not matter how large the class is for the pattern to be productive. With a small type frequency (small class) and a large token frequency (verbs occur often), the productivity is nearly as high as with a large type and a smaller token frequency. This can be seen in the top rows of Table 6, repeated here:

Ablaut class	Proportion in-class	Type frequency	Token frequency	16th century productive
1. ɛi - e:	0.44	52	7,299	+
5. ɪ/e: - a	0.35	11	7,606	-

As can be seen in the last column, the connection between productivity and historical change is impeded by the high position of class 5. Recall that the classes that have gained verbs over time are classes 1, 2, 3 and 7. The productivity of the class 5-pattern is unexpected in that sense, but not if token frequency is taken as the crucial factor.

The findings in this paper thus argue for strong past tense pattern productivity to be dependent on the overall (token) frequency of this pattern. This is reminiscent of Langacker's concept of the entrenchment of language structures (1987: 59) – basically, the idea that frequent word forms are more

easily activated than less frequent ones, which was later coupled with the productivity of those same language structures (Tomasello 2003; Goldberg 2005). Tomasello proposes that frequently occurring word forms constrain the possible outcomes of what a child can abstract as a schema (2003: 321). Turning this reasoning around, schemas must be based on frequently occurring word forms. Recall that Maslen et al. (2004) argue that as soon as the child has more alveolar past tense types than strong past tense verbs, s/he starts overgeneralizing the alveolar past tense to strong verbs. However, it cannot be the case that only type frequency triggers productive schemas, since class 5 with its low type frequency and high token frequency is also very productive.

It is clear that of all classes, the regular class is the most productive pattern, which is claimed to consist of many types with a low token frequency (i.e. De Vriendt, 1965). It would be interesting to see whether its overall token frequency is higher than that of the strong patterns, however; does the 60% regular nonce verb inflection correspond to the token frequencies in Dutch? If this is so, we would have another motive to take token frequency as the crucial factor. However, pattern productivity might also be caused by an interplay between type and token frequency. Further research is needed to confirm this.

Because both the regular and the strong patterns are productive, the patterns with a high token frequency mostly so, both strong and regular past tense inflections must be entrenched schemas that can become active for a new form. Using Langacker's concept of entrenchment, the findings in this paper argue for the idea that a 'pattern trench'[12] can be 'dug' by many verbs – either regular or strong – with a lower frequency as well as by a small number of verbs with a high frequency. This is visualized in Figure 1 below.

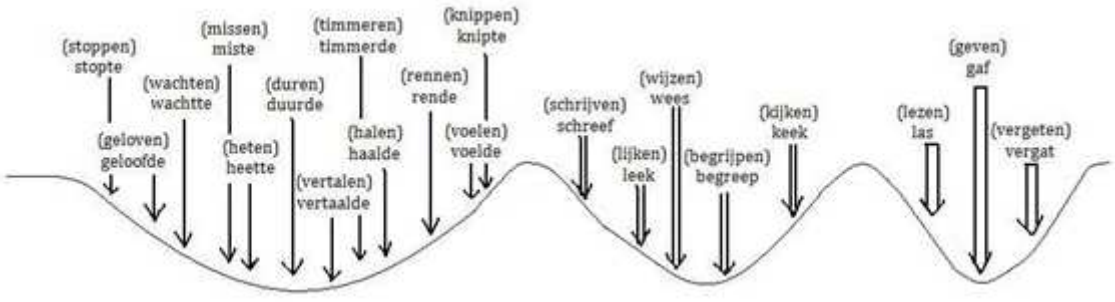

Figure 1: Entrenched patterns based on verb frequency.

12 The concept of language experience digging holes which can attract other words if deep enough is taken from Lise Menn at a presentation by Menn & Boersma (2008).

The first trench above is dug by all the verbs that have an alveolar past tense form. The second is slightly smaller, dug by strong verbs with /ɛi/ - /e:/ inflection, namely the verbs in class 1. The third trench is dug by verbs from class 5.

What remains unclear is whether the method measuring productivity used in this study is really based on accessing abstract patterns. Since nonce verbs are by definition not stored, the two possibilities remain that the past tense patterns that were used by the participants were either accessed through direct analogy to verbs that are in the lexicon, or through more abstract schemas ('trenches'). Either way, I hope to have shown here that the frequency of the verbs involved is crucial in accessing the patterns, and that both the strong and the regular pattern can be accessed by the same mechanism.

7. Conclusion

The nonce verb inflection experiment reported in this paper conforms to the findings of earlier studies (Bybee & Slobin, 1982; Moder, 1992; Ramscar, 2002) that not only the regular past tense inflection is capable of attracting new forms, but that the strong past tense inflections are productive as well. It seems that participants choose the most likely inflection of the nonce verbs on the basis of frequency information and form analogy, i.e. they use associative strategies for both weak and strong inflection.

Further research should establish whether the percentage of regular inflection conforms to the distribution of regular past tense inflection in Dutch. Furthermore, it might be necessary to replicate this study to check for possible biases in participants' preferences and stimulus items. Despite these caveats, I hope this study has shown that the single-route approach to morphological processing is better able to explain the phenomenon than the idea of separate processing of weak and strong forms.

Appendix

Table A 1: List of test (nonce) verbs

Class	Examples	Test items			Corresponding test sentences
		Intransitive verbs	Transitive verb	Existing past	
1. ɛi - e:	blijven, rijden	prijten, lijten, trijgen, drijden	berijven	klijden	11, 23 ,30, 40, 5, 16
2. i:/ʌy - o:	pluizen, gieten	plieden, prieten, pluiten, struiven	bepluiken	ruiven	10, 17, 33, 43, 29, 39
3. ɪ/ɛ - ɔ	zingen, smelten	klingen, schrinnen, welten, schergen	berinken	rinden	6, 15, 25, 35, 13, 22
4. e: - a	breken, nemen	spremen, neken, premen, prelen	berelen	stemen	9, 18, 31, 42, 46, 34
5. ɪ/e: - a	zitten, meten	bitten, geden, pritten, preten	bereten	geten	14, 21, 28, 45, 36, 7
6. a: - u:	dragen, graven	tragen, kraven, javen, nagen	beraven	traven	8, 20, 26, 38, 41, 44
7. ɛ/a: - i:	zwerven, blazen	splerven, terven, gerven, plazen	beperven	vlazen	12, 24, 32, 37, 19, 27

Table A2: Responses split out over class-items (raw numbers)

Class	In-class	Strong-other	Alveolar
1. ɛi - e:	664	22	58
2. i:/ʌy - o:	30	21	93
3. ɪ/ɛ - ɔ	45	7	92
4. e: - a	20	10	114
5. ɪ/e: - a	50	17	77
6. a: - u:	28	19	96
7. ɛ - i:	29	32	83
Total	267	128	613

Test sentences can be obtained by emailing the author.

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