

Language change

Raymond Hickey
University of Duisburg and Essen

1. Introduction

This overview considers research on language change and the various issues which have arisen and been discussed over the past few decades. The article considers the methodologies applied to the field from the comparative method and internal reconstruction to the text corpus and sociolinguistic/variationist approaches of recent years. Further sections of the article deal with issues such as pathways of change, e.g. grammaticalization, and with explanatory models of language change, such as speaker-induced language change, contact accounts and the typological perspective. The debate between functionalism and formalism is also given consideration.

It is an obvious truism to say that, given the dynamic nature of language, change is ever present. However, language change as a concept and as a subject of linguistic investigation is often regarded as something separate from the study of language in general. Recent research into the topic, however, has strived to highlight the continual nature of change and to emphasize that the synchronic and diachronic views of change can be unified, providing a panchronic perspective in which the relevance of small changes observed in the present can be shown to hold for larger changes viewed over longer periods in the past. Furthermore, research in the last three or four decades has been concerned with understanding the precise mechanisms of change just as much as with providing linguistically acceptable accounts of attested changes.

The field is served well by literature. There are journals which are dedicated specifically to language change, such as *Diachronica*, or to certain aspects of this, such as the *Journal of Historical Pragmatics* or to questions of methodology which have a bearing on recognising and documenting change, such as *Corpus Linguistics and Linguistic Theory*. In addition, other journals strongly favour analyses that illuminate language change, frequently from a certain perspective, such as *Language Variation and Change* (see also the collection by Chambers, Trudgill and Schilling-Estes (eds) 2002). There are many textbooks that deal with language change (Aitchison 2001; McMahon 1994; Bauer 1994), frequently under the heading of *historical linguistics*. From the English-speaking world one could quote as representative examples Bynon (1977); Milroy (1992); Trask (1996); Campbell (1998); Crowley (1998); Fennell (2001); Traugott & Dasher (2002); Beard (2004); Traugott & Brinton (2005); Jones and Singh (2005); Trask and McColl Millar (2010). Some of these deal with the three

main views of change which had been proposed by the middle of the 20th century, namely the Neogrammarian model from historical linguistics in the 19th century (see the discussion in Labov 1981), the structuralist approach, initiated by de Saussure at the beginning of the 20th century and the generative approach, which while beginning in the 1950s as a purely synchronic approach to language description with the work of Noam Chomsky, came in the following decade to be applied to issues in language change, see King (1969) and other influential works such as Lightfoot (1979). As generative grammar has undergone many revisions, the analyses of language change stemming from the standard theory of the mid-1960s have been left aside and more subtle and nuanced approaches have been developed. In particular, deficient analyses, which derive from the model used at the time, have been abandoned. For instance, the scholarly concern of the late 1970s with rule-ordering, particularly in phonology (see Kenstowicz & Kisseberth 1979 and Koutsoudas 1976), is now seen to result not so much from the data examined but from a non-linear, unstratified view of phonology, something which was remedied with the advent of the various forms of syllable-based and metrical phonology.

The study of language change, rather than the analysis of specific instances of change, had already been undertaken in the 19th century. Hermann Paul's *Prinzipien der Sprachgeschichte* (1880), 'Principles of language history', shows a linguist standing back from the monumental task of comparing and reconstructing the many Indo-European languages and discussing the underlying principles of this enterprise (Baldi 1991). It came to be perceived as the definitive statement on the historical approach to language analysis which saw the notion of sound law, German *Lautgesetz*, as central and stressed the exceptionless nature of this, German *Ausnahmslosigkeit*.

It was not until Edward Sapir's *Language* of 1921 that a major twentieth-century work reflected specifically on aspects of language change, although Saussure's seminal work on structuralism provided the theoretical framework for all studies until well into the second half of the 20th century and for many linguists still does. Sapir's most significant contribution to language change is the notion of drift, an imperceptible and slow movement in a particular direction which a language can show over centuries and which can change its typology. Although the notion is controversial and prone to vagueness, a sympathetic interpretation would see it as an abstraction of the tendency in each generation to favour certain types of variants present in a language, and importantly, for some speakers to (unconsciously) select the more innovative of these variants. The latter can then offer a principled account of how drift comes to be observed over long periods of time. It should be stressed that notions of drift, which lie outside the data of a language, are vacuous and misleading.

With hindsight one can see that later American structuralism was restricted in its range, though what it achieved was obviously significant and important for the practical

work of language recording and description. Leonard Bloomfield, as the major figure of the inter-war years, neglected semantics, which he saw as a domain of psychology, and his accounts of language change were mechanistic. It was not until the 1960s with the work of William Labov, when sociolinguistics was established as an independent subdiscipline within linguistics, that a theoretical framework for language change with an innovative approach was presented, see Weinreich, Labov & Herzog (1968). This has led to a paradigm in linguistics in which scholars extrapolate from small present-day changes in language use to larger attested cases of language change in history.

2. Issues in language change

There are recurrent themes in language change. These have to do with the sources of change, the nature of the factors involved and, importantly, the significance attributed to the latter. In the following sections a number of these key issues are presented in summary form. The factors tend to come in pairs because they represent opposing or complementary forces. Furthermore, the relative weight accorded to certain factors varies among scholars. For instance, the question of just what constitutes simplicity or symmetry in language change is a matter of much debate (see the discussions in Lass 1997). The role which language contact plays and has played in language change is also a matter much discussed in recent literature (see the contributions in Hickey (ed.) 2010).

2.1 Internal and external factors

Perhaps the first division to be made among factors in language change is that between those which operate from within the language (internal factors) and those which are active from outside (external factors). These factors are different in themselves (Gerritsen & Stein 1992). For example, internal factors have very often to do with the establishment of morphological regularity (analogical levelling and possible analogical extension, Campbell 1998: 92–99) or with the reshuffling of items in a word field (re-alignment of sense relations). External factors have primarily to do with the symbolic role of language in society. The levels of language first affected are usually phonetics and phonology, though others may be later subject to change. Internal change is furthermore associated with first language acquisition especially when it involves paradigmatic regularisation and levelling, processes typical of children constructing their version of the language they are exposed to. In high-contact scenarios (Dorian 1993) this can apply to adults as well, particularly if they are engaged in language shift in an unguided, non-prescriptive situation.

2.2 Simplicity and symmetry

Internal change, on a morphological level, has first and foremost to do with the establishment of regularity within paradigms. This is probably due to the intuitive grasp which speakers have of word classes and sets of forms within their language. Symmetry in the linguistic sense would thus be interpreted as a force which seeks to establish regularity and predictability in the paradigms of a language. If speakers remove irregularity in paradigms across a broad section of a speech community then the resulting regularisation can lead to language change by being transmitted as default to following generations. There are many well-known cases of this: for instance, umlaut in Middle High German spread from nouns such as *Haus: Häuser* to others like *Baum: Bäume* as speakers assumed similarity in paradigms which showed formal similarity. A similar pathway of change can be assumed for the spread of the *-s* plural in the history of English, replacing earlier *-r* and *-n* plurals.

Simplicity, in the sense of a lack of formal complexity, is something which is much more difficult to quantify in language change. Certainly morphological complexity does not appear to be a sufficient condition for language change, as complex languages such as German, Finnish or Turkish amply testify. Perhaps it is better in the context of language change not to speak of simplicity but rather of the dominance of certain patterns. For instance, it is questionable whether strong verbs in Germanic are more complex than weak ones. But the latter are certainly the dominant pattern and in the history of the Germanic languages there has been a general tendency to replace strong by weak verbs. Talking of dominant patterns does, however, shift the question to another level: the reason why a weak pattern has become dominant has not to do with putative inherent simplicity but rather with the fact that it maintains the constancy of the lexical stem on inflection. Stem constancy would seem to be valued by child language learners, because early in the acquisition process they produce weak verbs. It might be more prudent then not to refer to simplicity but rather to a valued principle in language organization. The issue of frequency is also important here as this has a snowball effect: once a pattern begins to be dominant it accrues further instances and these in turn cause more to be drawn into the orbit of the pattern.

2.3 Iconicity and indexicality

While it is true that the principle of onomatopoeia is not regarded as being of great significance to modern languages, iconicity is regarded as something which is still visible (Haiman 1985; Fischer & Nänny 2001). It is important here to distinguish between two types of iconicity. The first is what is called 'direct' or 'imagic' iconicity and can be observed where there is an extra-linguistic motivation in the use of certain structural features which establish a parallelism between linguistic form and what is signified (Croft 2000: 141). A good example of this is the word for 'soft' in Irish, a monosyllable

which only contains voiced consonants, *bog*. Equally the word for ‘hard’, *crua*, begins with a voiceless velar. However, one should not be too adamant about the validity of this principle, for instance the English word *big* contradicts iconicity as it has a short front high vowel, usually associated with smallness, cf. *bit*.

The second type of iconicity is what is termed ‘diagrammatic’ iconicity (Haiman 1983) where there is a plurality of signs and where the relationship between these signs mirrors a similar relation between objects or actions. An example of this can be seen in syntax when there is a correlation between the linear order of elements and the sequence of events. For instance, in *John hit Bill*, John initiated an action which resulted in Bill being hit. Again while recognising this correlation there is no way it can be seen as a restraining force on language change. Indeed it is the dominance of other aspects of syntactic organization, such as topicalization, which has often led to the rise of alternative word orders, such as VSO. In semiotics an index is understood as something which points to something else it is closely associated with, e.g. smoke is an index of fire. In this sense, a certain element can become an index of another and be preferred over other elements. For instance, word-final /-s/ is an index of a grammatical inflection in English and probably attained this role from the high phonetic salience of /s/, hence the preference for it in present-tense verbal inflections and of course in the plural. Another element which is frequently an index of a grammatical category is final /-ən/ in German which can be the realisation of many verbal endings, weak adjectives, nasal plurals, etc. It should be stressed that an index in language is a linguistic convention without a causal connection between a sign and what is signified.

2.4 Markedness and naturalness

Among the terms especially appealed to in explanations of language change are *markedness* and *naturalness*. The difficulty with these terms lies in determining exactly what they refer to. The matter is compounded by the fact that the terms are frequently not defined. For the present discussion the term *marked* is taken to apply to an element which is cross-linguistically unusual, i.e. statistically rare in the world’s languages. This fact of course leads to the question why this is the case. For example, dental fricatives do not occur very frequently in the languages of the world. The reason for this may have to do with their low acoustic salience, especially when compared to sibilants. However, the reason for the rise in frequency of such unusual segments may well be linked to a very common process itself. Here intervocalic lenition can lead to dental stops becoming fricatives as happened historically in Spanish. This highlights another aspect of the term *marked*: it is inherently comparative, that is it is a statement about the relative significance of a feature in one language when compared to its possible occurrence in a larger set of languages. But there is also *local markedness*, a feature can be unusual within the context of a single language. The nasal ending as in *ox*: *oxen* is

highly marked in English, however, in German this nasal ending is much more frequent, cf. *die Frau: die Frauen* ‘the woman’, ‘the women’.

The term *natural* is even more fraught with difficulties. A process can be said to be natural when it is not unexpected. Judging what is ‘unexpected’ of course rests on the experience of the individual linguist and this factor in language change is even more difficult to quantify than markedness. One objective yardstick for measuring naturalness could be based on correlations and group affiliation. For instance, it is common for a language which has the word order VSO to have adjectives following nouns and the genitive following the nominative. These correlations have to do with the principle of post-specification. The recognition of group affiliation has led to the notion of *natural class*. This can be seen quite clearly with phonological segments: the set of voiceless stops forms a natural class as all its elements share a lack of voice and an interruption of the airflow and are typically found in syllable onsets.

The correlations one finds between sets of elements has been used as a basis for postulating implicational universals, statements about the structure of languages which seem always to hold. For instance, if a language has voiced stops (B), then it will always have voiceless ones (A), or if a language has nasal vowels (B) then it will have oral vowels (A). The justification for such implicational universals is seen in the fact that in the development of languages over time, elements of the (B) sets are derived from those of the (A) sets.

2.5 Telic changes and epiphenomena

A major issue in language change is whether instances of it can be regarded as therapeutic for a language, that is whether the change can in any way be seen to serve a certain purpose within the system. In any consideration of this kind there is an inherent danger that the language, as a convenient abstraction over the behaviour of speakers, is seen as taking on a life of its own and motivation for change is imputed to it. Again if one adopts the speaker perspective, then many instances of change which appear to be telic (goal-oriented) in fact turn out to be cases of reanalysis by language learners. To illustrate this, consider the functionalization of initial mutation in early Celtic. This is a set of far-reaching phonological changes whereby grammatical distinctions, formerly realised by suffixal inflections, came to be indicated by changes in the initial segments of words, e.g. the change from stop to fricative to indicate third person possession in the masculine: *cuid* /k-/ ‘amount, part’, *a chuid* /x-/ ‘his part’. On closer inspection this development turns out not to be a telic change but the result of reanalysis by child language learners. What appears to have happened is that they interpreted phonetic weakening at the beginnings of words as systemic, i.e. they regarded these initial changes as exponents of grammatical categories (Hickey 2003a). The effect of this was to retain a means for indicating grammatical categories. However, it would

be erroneous to imagine that speakers initiated this shift in order to reach the goal of establishing initial mutation.

If one accepts that language change is largely atelic (not goal-oriented), then the question arises as to whether it is indeed epiphenomenal, whether the observed instances of language change were not intended but resulted from related alterations in the language. The genesis of new forms of language from a dialect mixture situation would appear to confirm this. The processes from the speaker perspective may be dialect levelling and accommodation, but the net result may be the rise of a new variety of a language at a new location, as happened with many overseas forms of English during the colonial period. There is much debate on these issues (Hickey 2003b) and an important consideration is whether speakers are aware of their own linguistic behaviour, at least unconsciously. If this is true, at least in some cases, then instances of language change which seem to be epiphenomenal could be due to speakers moving along an unseen trajectory of change.

2.6 Mergers and distinctions

Much along the same lines as the previous considerations is the question whether language change can be systemically dysfunctional. The question here is really how to determine if something is dysfunctional. There are many attested cases of mergers which might appear to be detrimental to communication. However, this is only so at first sight. The context of any utterance is nearly always sufficient to disambiguate so that considerations of homophony can only in the rarest of cases be postulated as a reason for change occurring or not occurring.

Another separate but related issue is whether a merger, once it has occurred, can be reversed at some later stage. There would appear to be cases of this in the history of English. For instance in London in the 16th century the vowels in the MEAT and MATE lexical sets were both /ɛ:/ but later these turn up as MEAT /i:/ and MATE /e:/ respectively, more or less their values in present-day English. But as scholars such as William Labov and James Milroy have pointed out (Labov 1994: 349–390; Milroy & Harris 1980), one may be dealing with near-mergers, or if indeed with mergers, then not perhaps for the entire population speaking a language. There may be varieties present which did not undergo a merger and which offered a model for the later re-establishment of the distinction MEAT and MATE after the 16th century.

Even where a systemically important merger has taken place, or significant elements of a language are lost, there does not of necessity have to be a typological realignment. For example, in Old Irish the loss of phonological length meant that the contrast of geminate and simplex sonorants was no longer available. Nonetheless, the language did not ‘compensate’ for this loss of grammatical exponence, that is speakers did not consider the resulting ambiguity to be serious enough to force

them to evolve new strategies for the indication of the grammatical categories now no longer formally evident.

2.7 Possible changes

Closely connected with the question of merger and possible remedial action is the question of what constitutes an impossible change in language, indeed whether this can be specified or not. Inherent constraints would seem to be connected to our cognition, e.g. there appears to be no language which allows more than triple embedding (if at all) of the type *The mouse the cat the man owns chased ran* because such sentences are very difficult to process mentally. Other types of embedding, such as that of relative clauses before the nouns they qualify, are possible, excesses being constrained by short term memory, cf. German *Diese lang überlegte Frage*, lit. 'this long considered question', cf. *Diese Frage, die lange überlegte wurde* 'This question which was considered for a long time'.

Cases of change where the starting and the end points lie far apart may at first sight be unexpected but generally the intermediary steps form a recognisable and fairly usual sequence of steps. Thus Latin *centum* and Modern French *cent* /sā/ 'hundred' or Indo-European *gwena* and Modern Irish *bean* /ban/ 'woman' may look far apart but can be clearly shown to be directly related. There are only a few changes which do not have intermediary steps, metathesis being one of them, e.g. English *kitchen* /-tʃ-/ → Irish *cistin* /-tʃ-/.

By and large one can say that unusual changes are possible if they are carried by the speech community, i.e. if they are markers of the community, have high indexical value and are hence maintained by speakers. Tightly-knit communities with strong internal networks are good bearers of statistically rare changes (Andersen 1988).

2.8 Unidirectionality of change

Apart from types of changes, attested and unattested, another consideration is whether the direction which change takes is only one-way. If unidirectionality existed, it would impose a strong formal constraint on language change. Here, as with universals in language, one must distinguish between absolute and relative unidirectionality. Among the contested types of unidirectionality, which have been recently suggested, is the notion, put forward by William Labov, that peripheral vowels, e.g. /i:, e:, o:, u:/, become more open and non-peripheral vowels, e.g. /ɪ, ε, ɔ, ʊ/, become less open (Labov's *Vowel Shift Principle*, 1994: 13ff.). This is a principle with caveats such as the *Mid Exit Principle* which states that peripheral vowels, rising from mid to high position, develop inglides, thus accounting for the development of the English long vowel system since the Middle English period but with diphthongization of mid (and to some extent high) vowels in the late modern period. The contention that non-peripheral, i.e. centralized, vowels

become less open is borne out by the current Northern Cities Shift in the United States and the raising of short vowels across the Anglophone Southern Hemisphere but not supported by the lowering of short vowels in Scots: /i/ → /e/ as in *stick* [stek].

Unidirectionality is also an issue in grammaticalization theory (see discussions in Fischer 2000; Kim 2001; the contributions in Wischer & Diewald (eds) 2002). From the data presented in various studies it would seem that the path which leads to lexical elements becoming more grammatical in time is largely unidirectional (Norde 2009: Chapter 2). There are few clear cut exceptions, perhaps the Irish example of *muid* ‘we’ which derives from suffix for the first person plural, *-m(u)id*, as in *baileoimid* ‘we will gather’. Such cases do not seem to diminish the overall unidirectionality of grammaticalization (Lass 2001; van der Auwera 2002). But there are related phenomena which do move in the opposite direction, see the discussion of deinflectionalisation and debonding in Norde 2009: Chapters 5 and (6).

It should be mentioned too that the ontological status of grammaticalization has been contested in recent years (for critical discussions see Janda 2001 and Joseph 2001). Indeed some linguists have come to believe that it is an epiphenomenon, resulting from other changes such as cliticization, loss of semanticity, increase in grammatical categoriality (see the discussion in Fischer & Rosenbach 2000).

2.9 Ebb and flow

When observing instances of language change, not only does one see that many are not unidirectional, but there would seem to be a movement backwards and forwards across several generations. A label given to this type of change is *ebb and flow* (see Hickey 2002c for a detailed discussion). It can be clearly illustrated by an example from the history of English, namely that of velarized /ɫ/. There is no doubt that a velarized (dark) [ɫ] has existed in the history of English and has played a significant role in determining the phonological form of words containing it. Already in Old English breaking (diphthongization) occurred before clusters containing /l/ followed by an obstruent as in *eald* ‘old’. This allophone continued in Middle English and was later vocalized in syllable-final, pre-obstruent position, especially before velars as words like *talk* and *chalk* in their modern English pronunciations indicate. Much dialect evidence from England, Scotland and Ireland points to a velarization before alveolar obstruents as well.

In the present-day English of London and the Home Counties a syllable-final velarized [ɫ] is very much in evidence and so the conclusion that this represents historical continuity might seem straightforward. But there is evidence that velarized [ɫ] in syllable-final position was not transmitted in an unbroken fashion for all south, south-eastern dialects of British English. Trudgill (1999) quotes support from the *Survey of English Dialects* (Orton & Halliday 1963) for the view that in large parts of

southern Britain a velarized [ɫ] is a recent phenomenon going back no further than the late 19th century. Thus despite the considerable historical evidence for velarized [ɫ] in Old English (West Saxon) and in the east in Middle English there must have been a swing of the pendulum away from velarization in the late modern period with a fairly recent reinstatement of this secondary articulation which is so prominent in varieties of southern British English today.

3. Change and levels of language

Language change offers evidence for the autonomy, but interconnection, of linguistic levels. While there is general consensus on the organization of language as an arrangement of subsystems, there is equal insistence on the fact that these subsystems have definite points of connection. Although the sound and meaning systems of a language are separate there are definite links between the two, for instance, if there is phonological attrition in a language then this may well lead to the opacity of lexical forms which in turn can lead to later reinterpretation as with the many instances of folk etymology which exist, e.g. *sand-blind* from *samblind* 'half-blind' (OE *sam-* = 'half') or *bridegroom* from *brydguma* 'bride-man' (OE *guma* = 'man').

Before looking at the individual levels of language it is important to point out that in recent research linguists have stressed the gradience of grammatical categories (Aarts et al. (eds) 2004). In English, for example, there is a common practice of using nouns in attributive adjective position which leads functionally to a change in class, e.g. with *fun* (noun) as in *A fun party* or *key* (noun) as in *Some factors are key*. This is still within a single level of language, that of syntax, but it does show that there is a degree of fluidity among categories, something which is long established in English and is perhaps characteristic of analytical languages as a whole.

3.1 Phonological change

On a purely phonetic level one could say that sound change has to do with an increase or decrease in sonority. Segments are usually strengthened in syllable-initial position and weakened in medial and final positions. It is one of the great merits of non-linear phonology to have offered a formal framework for describing these types of change, that is developments which are dependent on syllable structure and syllable position. The natural tendency to increase the sonority in medial and final syllable positions has led in many languages, for example in the Indo-European daughter languages, to a loss of inherited inflections something which has over several centuries led in many cases to a typological realignment of individual languages, e.g. with the Romance languages vis-à-vis Latin or English vis-à-vis the Germanic parent language with analytical

structures becoming generally dominate in such instances. Grammatical reorganization due to phonological change illustrates quite clearly the interface between the sound and grammatical levels of language.

Another common phonetic development is the exploitation of phonetic polarizations. For instance, if glides become absorbed into preceding consonants, then the effect can be palatalization (with later reactive velarization) as in Q-Celtic and Slavic, to mention only two of the more well-known cases. A similar functionalization of polarization can be seen in the development of emphatic consonants in Arabic.

Phonetic changes of the type just described are gradual: but the ultimate effect can be a reanalysis of the exponence of grammatical categories in a language. Two exceptions to gradual phonetic change are epenthesis and metathesis, the introduction of vowels/consonants in specific clusters and the change in the linear order of segments in a word respectively. However, neither of these processes appears to have attained a grammatical function in a language. The reason may well be that a language either has epenthesis and/or metathesis or it does not. But for grammaticalization to occur there must be the option of contrast in a language and this would seem to be precluded with the two processes just mentioned.

3.2 Morphological change

For many languages morphology is the mediator between deep syntactic case and surface realization. It is obvious that there is no language without syntax and phonology but there are languages with little morphology (prototypically analytical languages). This fact might seem to suggest that morphology is not part of universal grammar, at least that it can remain unrealized. Surface morphology can be seen as the result of performance phenomena such as phonetic attrition, leading in the fullness of time to cliticization and grammaticalization. It is identified as a level of language as it is manifest on the surface and indeed there is a sense in which, in those languages with morphology, that it is a level which can be given a ranking above phonetics.

Although the ultimate status of morphology can be debated (because it is not necessary for human language), it is nonetheless a reality for all language types apart from analytical languages. In the historical development of languages it is probably true to say that morphology has always arisen through the contraction of independent elements. For instance, suffixal inflections can be seen to arise where, in a word dyad, one element is a lexical stem and the other a form word. The latter can go through a process of semantic bleaching and cliticization (attachment to the stem) and ultimately become an inflection, i.e. lose its independent phonetic form and no longer be detachable from the stem. An example would be the unstressed ending *-dom* [dəm] in *kingdom*, *wisdom*, *freedom* which is related to OE *dōm* in the meaning of 'condition, domain'.

Once a language has developed a morphology certain forces become dominant which involve specific pathways of change. Nowhere is the operation of internal factors more in evidence than with morphology. This probably has to do with the fact that morphology leads to the organisation of words into sets of forms and that for speakers, particularly for language learners, regularity within such sets is highly valued. Irregularity may arise for a variety of reasons, for instance due to suppletion, the mixture of elements from two or more sets within a single paradigm. Internal irregularity within a single paradigm may arise due to certain phonological factors. A good example of this is the voicing of segments where the immediately preceding syllable does not carry stress, e.g. *executive* [ɪg'zɛkju:tɪv] versus *execute* ['ɛksɛkju:t] in present-day English, which in the Indo-European context is known as Verner's Law (Trask 1996: 226f.). This together with the shift of /s/ to /r/ (rhotacism) led to considerable irregularity within nominal and verbal paradigms in Germanic. At a later stage analogy (Trask 1996: 105–115), the spread of a dominant pattern to an entire paradigm – the internal factor in language change par excellence – came to bear (Lahiri (ed.) 2000). Hence in English one finds a sibilant in the verb *lose* whereas in German /r/ is found throughout the corresponding verb, *verlieren*. However, in Dutch one has the infinitive *verliezen* (with a sibilant) 'to lose' but the simple past has an /r/: *verloor* 'lost'.

Morphology is rarely involved in externally motivated change. The reason probably is that the latter is driven by social factors, and is dependent on speakers making choices, on inherent variability. This is the case with the phonology of a language: to put it in simple terms one can pronounce sounds/words in different ways and so give social significance to this variation. Equally in syntax one usually has a number of constructions which are roughly equal in semantic terms and so again one has choice. But the system of morphology is much more rigid. However, in those cases where there is variation, for instance in verbal tense marking or conjugation in English (Ihalainen 1994), then this variation can become relevant for language change, frequently leading to the differentiation of varieties of a language.

3.3 Syntactic change

In an overview chapter such as the present one it is impossible to do justice to the vast theme of syntactic change (Roberts 1993; Harris & Campbell 1995; Kemenade & Vincent 1997; Pintzuk, Tsoulas & Warner 2001; Fischer 2006; Roberts 2007; Crisma & Longobardi 2009; for greater time depth see Heine & Kuteva 2007). All that one can do in the current context is to point out some general features of the phenomenon and advise readers to consult the relevant literature for detailed discussion of instances and interpretations of syntactic change. It should also be mentioned that syntactic change tends to be the domain of linguists with a more formal orientation. Functional views of language change are often associated with a sociolinguistic or typological approach

to the field (see the discussion in Newmeyer 1998, 2002). Within the possible formal approaches recent scholars have often contrasted grammaticalisation and generative standpoints with each other, see Fischer (2006: Chapter 3).

There is an essential difference between phonological and syntactic change in that syntactic variables do not occur as frequently in speech as phonological ones. Syntactic variation is more likely to be conditioned by internal linguistic factors or depend on questions of style and context rather than external social factors since syntactic structures are repeated less often than phonological ones and are thus less available for social assessment. Furthermore, syntactic factors are less 'visible' as the structures which they engender are more abstract and hence speakers are less conscious of them.

Syntactic structures do not usually have a social identification function like phonological factors as there may well be stretches of speech in which a given syntactic variable does not occur at all and hence does not offer a speaker a clue as to the linguistic affiliation of an interlocutor.

A corollary of this fact is that emphatic/prominent contexts, such as pre-verbal positions, main clauses, topicalized declaratives and explicit negatives, would appear to be favoured sites for variables which have a social significance in a community. Conversely, less prominent contexts may be the sites at which incoming variants may first appear because of their low salience and spread from here to more marked contexts. So there may well be two types of context: (i) a high profile one used for variables which have high social significance by speakers who identify strongly with a community and (ii) a low profile one used for variables which are incoming and being adopted by diffusion into a community. This second context is important for views of language change: change may at first be in evidence in less common contexts, i.e. it might appear as if less frequent patterns are at the leading edge, contradicting a notion that the more common pattern is the one which leads the way. Typical sites with such a low profile would be post-verbal positions, subordinate clauses, weak affirmatives (Cheshire 1996).

If low profile sites are preferred points of entry for incoming variants this implies that there is a donor community which already has the variants in question in high profile sites. But for various reasons, such as attestations in history, evidence of the high profile primary community might be lacking and the status of low profile sites as entry points for incoming variants may not be evident to later investigators of a language/variety.

4. The study of universal grammar

The remarks so far have all referred to externally triggered syntactic change. However, for many linguists the primary concern is determining the internal constraints

on change. The ultimate goal of such an enterprise is to provide clear contours to the notion of what constitutes a possible human language and, in the historical context, what transitions occur between language states. This quest is generally known as the study of universal grammar and in the last three decades or so much progress has been made in the formulation of constraints on the structure of human language. These constraints are frequently couched in terms which are only understandable within the framework of generative grammar as it developed through the 1980s as can be seen from the following four examples (though example four is more accessible to the non-initiated).

- (1) Subjacency: A moved element cannot be separated from its trace by more than one binding element.
- (2) Tensed S constraint: No rule involves two elements respectively inside and outside a tensed S.
- (3) Disjoint coreference: No two NPs may be interpreted as intersecting in reference.
- (4) Cross-categorical generalization: Verbs and prepositions take formally similar arguments (traditionally accusative case).

For reasons of space details of universal grammar cannot be discussed here and hence it is not possible to show the many insights into language structure which its study has resulted in. Instead one aspect of this complex, namely change in language centred around the language acquisition process will be dealt with briefly to illustrate the type of thinking which is characteristic of formal linguists with regard to language change.

4.1 The principles and parameters model

Among linguists of different theoretical persuasions there is much debate about the locus of language change. For sociolinguists this lies in the inherent variation in language used by adults, especially on the phonological level. For formal grammarians the locus of change is in childhood during the acquisition process (Fischer et al. 2000: 5). The reason for this is that language learners construct their internalized grammar from the performance of those surrounding them. In the model known as *principles and parameters* (Lightfoot 1991; Fischer 2006: Chapter 3), linguists assume that children begin language acquisition from an initial state of *universal grammar* which contains abstract, non-specific structural information about human language and then move during the acquisition process to a state characterized by *grammar*, where various settings for parameters of language have been reached, going on the values in the language which the children are exposed to. Linguists working within this framework may have differing views according to the role they ascribe to universal grammar. Clark & Roberts (1993) assume that language learners match input data from their environment with all possible parameter settings permissible by universal grammar. They proceed to

construct fragments of their grammar and combine existing fragments to larger ones, weighing up competing subgrammars until a final one is reached which then becomes their adult grammar.

As children obviously have no direct access to the internalized language of the preceding generation, typically as exemplified by their parents, their grammar must of necessity be an approximation to, and not a replica of, the internalized language of their predecessors. For some linguists, for instance for Lightfoot (see Lightfoot 2002) the construction of grammars is highly sensitive to the initial conditions under which children initiate the process, i.e. it is chaotic in the technical sense, and so 'there is no reason to expect to find a predictive theory of change, offering long-term, linear predictions'.

A further point stressed by other formal linguists is that changes frequently come in sets of related instances, as Roberts (1985) has shown in his analysis of the development of English modals which was offered as an alternative to that proposed by Lightfoot (1979) which was based on his *transparency principle* by which children seek to create the simplest path in the derivation of surface structures from underlying ones.

Related to the transparency principle, but not identical, is the earlier notion of *abduction* (Andersen 1973) which states that children reach conclusions about the structure of the language they are acquiring which are not logical consequences of premises, but nonetheless made. An instance of abductive reasoning (from morphology) would be the following: the majority of words ending in *-nis* in German are neuter, a child thus assumes that a new word, like *Erlaubnis*, is neuter, but in reality it is one of the few instances of feminine gender. Another instance can be seen in North and West Germanic: the co-occurrence of a change to high front vowel with certain inflectional endings (*umlaut*) came to be interpreted by language learners as the exponent of the grammatical category in question and the inflections became increasingly indistinct and eventually lost, certainly in English and to a considerable extent in the North Germanic languages.

There has been much criticism of views of language change which see it as determined during the acquisitional process. This assumption implies a certain abruptness to change, a parameter is altered once and for all and after that the language has changed. But surface attestations of languages tell a different story, one of graduality and variation which leads imperceptibly from one language state to another through grey transitions. A theoretical discomfort with the binary notion of language change has led other linguists, see for instance the work of Pintzuk (e.g. 1991) or Kroch (e.g. 1989), to assume that speakers, for many fragments of their adult grammars, have more than one parameter setting. This is a type of bilingualism in which two or more competing subsystems are accommodated within the competence of one speaker. Other models which strive to avoid such abrupt views of change are those which stress the *gradience of change* (Denison 1999; Aarts et al. (eds) 2004) or the gradual spread of change to

encompass all possible inputs (in the lexicon), a view captured by the label *lexical diffusion* (Wang 1969; Chen & Wang 1975; Phillips 2006).

5. Semantic change

Change on the meaning level of language is largely dominated by two forces: metaphor and metonymy (Kittay 1987; Mac Cormac 1985; Barcelona 2000). The first, metaphor, has to do with non-literal uses of words. The second, metonymy, is a type of change where new meanings arise from something closely related to another meaning present in the discourse, frequently within the relationship of part to whole. Metaphorical change can be seen in polysemy where a figurative meaning of a word develops alongside a more literal one, for example *at the foot of the mountain* from the primary meaning of *foot* as part of the body at the base. Polysemy can be said to exist as long as the primary meaning is still available. If this is lost one is left with an instance of metaphorical change, e.g. the word *portfolio* ‘flat case’ contains *folio* ‘sheet of paper’ deriving from the Latin word for *leaf* through Italian. In fact the metaphorical change has been continued with the more recent senses of (i) range of investments or (ii) proof of suitability for employment. Metaphorical extensions can equally be found in phrases and not just single words, e.g. *What flows from that?* ‘What are the consequences?’ *To wear the blame for something* ‘To accept responsibility’, *Demand a level playing field* ‘Insist on fair terms’.

Metonymic change can be seen where associated or partial elements of a meaning become the main bearers of meaning, e.g. *Cologne* as the word for perfume or aftershave from *Eau de Cologne*. The textbook example of metonymic change is the use of a city name for a government, e.g. *Berlin is not interested in adopting the new proposals. London has turned down the offer*. Metonymy can be seen to operate on other levels of relatedness, for instance where the meaning of a word changes to a closely related sphere or process, e.g. English *chase* (from Central French) indicates a process and *catch* (from Norman French) refers to the result. Apart from process and result, other typical metonymic relationships are (i) action and instrument as in *The nine fifteen service to Edinburgh*, i.e. the train which provides the service, (ii) space and time connectivity, e.g. German *Dasein* ‘existence’ which derives from *da sein* ‘to be there [locative], to exist’.

Metaphorical and metonymic shifts are types of changes. There are others which are connected with scope or evaluation. Semantic widening and narrowing are commonly attested changes, e.g. English *joy* is presently being expanded to include ‘success’, *students* now include ‘pupils’. A common motivation for semantic narrowing is social decorum, hence the restriction in the use of the word *intercourse* because of one of its

uses in the sexual sphere. Semantic amelioration is found where the meaning of a word becomes more positive, again a textbook example is *nice* which over the centuries has moved from 'ignorant' (< Latin *nescius* 'not knowing') to 'foolish' to 'harmless' to 'pleasant'. Semantic pejoration can be seen with *silly* which derives from Old English 'blessed' (cf. German *selig* or Dutch *zalig*).

For reasons of space it is not possible here to discuss the various means and devices for creating new words. A good overview of these is offered in Campbell (1998: 273–279). For general overviews of semantics, see Wierzbicka (1996) and the contributions in Lappin (1996). In addition it should be mentioned that in recent years a comprehensive literature has developed within cognitive grammar which is concerned with semantic change. See Allwood & Gärdenfors (1999) on semantics and for more general discussions, see Dirven & Verspoor (1999); Heine (1997); Jansen & Redeker (2000); Langacker (1991, 2000); Ungerer & Schmid (1996).

6. Pragmatic change

As the study of language in use, pragmatics covers a wide and not always tightly structured area. In recent years it has been very much the focus of linguistic attention and specifically its historical dimension has been developed (Jucker 1998). In terms of language change one can note shifts of semantic meaning to pragmatic meaning, that is an increased reliance on contextual information in a number of cases. A clear example of this is provided in Irish where concessive clauses came to be expressed with the simple clause conjunction *agus* 'and' (this has also been carried over to Irish English) *Chuaigh sé amach agus é ag cur baistí*. lit. 'He went out and it raining' (Irish English), i.e. 'He went out although it was raining'. Similar instances of reliance on context are found elsewhere, e.g. German *wenn* = 'if' and 'when', with the context preventing ambiguity: *Er macht die Aufgabe wenn er Zeit hat*. 'He will do the task if/when he has time' (there is also *falls* meaning 'if' which can be resorted to if necessary).

If pragmatics is taken to refer not just to context but also speaker perspective then it can also be seen operating in another type of change, namely where the subjective view of the speaker more and more informs the use of a word or construction (Traugott 1989). Meanings tend to become increasingly rooted in the speaker's subjective belief, state or attitude toward what is being said as with the discourse marker use of such adverbs as *after all* or the performative uses of locutionary verbs such as *promise*, *recognize*. The standard example of subjectification is (concessive) *while* in English (*While she is interested in linguistics, she nonetheless chose literature*) deriving from Old English dative *hwilum* 'at times'. For a detailed discussion of semantic change and the principles and forces which underlie it, see Dasher & Traugott (2002).

The level of language with which pragmatics intersects most often is semantics, but it does relate to others. For instance, the vocative is traditionally regarded as a case and indeed has morphological exponence in classical languages such as Latin and Greek. However, it is largely a pragmatic category which is not as tightly integrated into the internal structure of a language as are other cases such as the genitive or dative. Its function is that of calling attention and has been preserved in many modern Indo-European languages, like Irish, for just this purpose.

If pragmatics is given a comprehensive interpretation then it can also be seen to encompass features of discourse organisation in a language. Changes can take place in a language, or varieties of a language, which results from the demands of discourse. An example to illustrate this is the maintenance of a formal distinction between singular and plural personal pronouns in many non-standard varieties of English after its demise in standard English. This can be seen in the use of *ye, yez, youse, y'all, you'uns*, etc. to express plurality with second person pronouns (Hickey 2003c).

The relationship of pragmatics and syntax is an issue which has been the subject of increasing scholarly attention in recent years (see the discussion in Fischer 2006: 210–257), after an early distinction between a pragmatic and a syntactic mode was introduced by Givón (1979: 223). Items of change from well-studied languages, such as English, have been (re-)interpreted in the light of the interplay between pragmatic and syntactic factors. An instance would be the development of verb complements consisting of *that*-clauses through *to*-clauses to bare verb stem as in the following (see Hopper & Traugott 2003: 179).

I think that he should be more careful.
We wish to see him back on his feet again.
She saw the old lady fall.

No single analytic model can claim to account exhaustively and accurately for the data and as Fischer points out (2006: 248) apparent grammaticalisation pathways, with clause reduction leading to fusion, are not always upheld by the historical record. Other factors such as frequency and entrenchment as well as adjacency and analogy effects may have been equally if not more important in such diachronic developments.

7. Methodologies

The discussion thus far has been concerned with attestations of language change. But what scholars register as language change depends crucially on the methods used. Traditionally there are two main methods, (i) the comparative method (Durie & Ross 1996; Campbell 1998: 108–162) and (ii) internal reconstruction (Campbell 1998: 201–225).

Both of these are legacies of 19th-century linguistics when the methods were developed and optimized for research into the Indo-European languages.

7.1 Comparative method

The comparative method rests essentially on comparing two or more languages in the attempt to extrapolate backwards and postulate earlier forms common to these languages. It is a legitimate heuristic given certain provisos. It rests on the assumption that there are regular correspondences between languages, and the observation of these led to the formulation of *sound laws* in the 19th century. These in essence stated the regular correspondences across stages of languages. Because sound laws are not without exception the value in comparative linguistics is relative. However, by considering other factors, such as the internal factor of analogy, one can arrive at a fair degree of certainty with regard to earlier postulated forms of non-attested languages. Thus by looking at English *three*, *thou*, *thin*, German *drei*, *du*, *dünn* and Latin *tres*, *tu*, *tenuis* one can find evidence for the Germanic Sound Shift which led to inherited /t/ of Indo-European becoming /θ/ in the early phase of Germanic. Looking at the German data also shows that German (along with Dutch and the North Germanic languages) later fortified and voiced the dental fricative, hence *du* is the form cognate with English *thou* and Latin *tu* in the languages just mentioned.

The comparative method requires that one take various, possibly conflicting developments at different stages of languages into account. For instance, present-day Danish has an ambidental fricative, despite the fortition of Germanic /θ/, but this is the result of a later lenition of stops in positions of high sonority, cf. Danish *mad* /mað/ 'food', Swedish *mat* /ma:t/ 'food', English *meat*.

The importance of chronological sequencing in change was recognized early on by historical linguists. But it is frequently difficult to determine the point in time at which a change occurred by using the comparative method. Instead of trying to attempt an absolute chronology linguists are very often content with relative chronology, i.e. with saying that, of two changes or events, one preceded or followed the other. For instance, in Old English one can say that umlaut followed palatalization so that the word *cyning* 'king' from /kuniŋ/ did *not* have a front vowel at the time palatalization was active and hence did not become /tʃyniŋ/. Another instance is English *blood* from Middle English /blu:d/. With the lowering of /u/ to /ʌ/ in the south of England in the 17th century this word was altered to /blʌd/ because the /u:/ had been shortened beforehand. In the case of *took* the shortening occurred much later and was unaffected by the lowering of /u/ to /ʌ/, hence the pronunciation /tuk/. Relative chronology can also be useful when dealing with borrowings, for instance, English *wine* is a Latin loanword, *vinum*, borrowed in continental Germanic when Latin *v* was /w/. The word *vine* is a later

borrowing of the same word in the Middle English period from Latin via Old French where the pronunciation of *v* was /v/.

7.2 Internal reconstruction

In its type of argumentation, internal reconstruction is similar to the comparative method, but applied to a single language (Campbell 1998: 201). It uses similar techniques, by comparing sound changes, by looking at the operation of analogy and in general by considering the likelihood of certain processes to have taken place. One of the best uses of internal reconstruction is to explain present-day irregularity, that is alternations which are synchronically unmotivated. An example would be stem-final voicing of fricatives in plurals in present-day English as in *knife: knives, wife: wives*. This goes back to an intervocalic voicing rule of Old English which has long since become inactive but whose reflex can be recognized today in these plurals.

7.3 Analogy

When applying the comparative method and/or internal reconstruction the operation of analogy is often to be observed. Traditionally, two types of analogy are recognized (Campbell 1998: 90f.). Proportional analogy is operative when a fourth term is created/ altered on the basis of the second term of a four-term formula, e.g. *drive: drove:: dive: (dived >) dove*. The second type of analogy is non-proportional and has various terms such as analogical creation or analogical levelling depending on what is involved (Trask 1996: 106–109). If analogy leads to a new form then one is dealing with analogical creation, e.g. *female* is a word created in analogy with *male*. The original French word, its source, is *femelle*. Analogical levelling can be seen where diverse terms in a series are made to conform to a dominant pattern. For instance, in Irish there is a process – called nasalization – where after certain numerals a nasal is prefixed to a word, e.g. *dún* ‘castle’ but *seacht ndún* ‘seven forts’. This process was triggered by the numerals 7, 9 and 10, which originally ended in a nasal, cf. Latin *septem, novem, decem*. However, the number 8 also causes nasalization in Irish although it did not originally end in a nasal, cf. Latin *octō*. However, the analogy with 7, 9 and 10 meant that it was brought into line with the numbers preceding and following it, hence *acht ndún* ‘eight forts’.

8. Sociolinguistic investigations

The relevance of sociolinguistics to the enterprise of language change has been repeatedly stressed by scholars in the past few decades. It rests on the assumption that change

as it takes place today is no different from change as it took place in history. Behind this belief is the view that the structure of human language and the use of language in society has not altered to any considerable extent throughout recorded history (the uniformitarian principle, Lass 1980). Going on this assumption, one can use the present to explain the past (Labov 1977). This is the basis of panchronic approaches to language change.

In its methodology sociolinguistics has been instrumental in introducing new rigour to data collection, specifically in the insistence on random selection of informants (quite different from traditional dialectology) and on the backgrounding of the linguist to minimize interference by him/her with the presentation of data by informants (the avoidance of the observer's paradox to put it in Labovian terms).

Many insights from sociology came in the 1970s and 1980s to be applied to sociolinguistics. Suffice it to mention two of these in the present context: (i) social networks and their relevance for linguistic behaviour and (ii) accommodation of speakers to their interlocutors in social settings. Social networks in the work of James and Lesley Milroy have helped to explain the internal cohesion of varieties and the survival of forms of speech much removed from supraregional and/or standard varieties which might co-exist in a society. These two scholars have continually stressed that the locus of language change lies with the members of a speech community (speaker-induced language change, see Milroy 2002). Accommodation, above all in the work of Peter Trudgill, is assumed to account for the rise of mixed dialects through the contact of speakers from different backgrounds (Trudgill 1986). Individual accommodation is cumulative and on a macro level it is responsible for the appearance of compromise dialects such as those which arose due to contact in East Anglia (Britain 1997).

For sociolinguists the result of change is less of a concern than the course which change can take. Specifically, they have been concerned with the three stages of (1) actuation, (2) propagation and (3) termination. Sociolinguists have stressed that certain strata of society are particularly active linguistically and likely to initiate change, e.g. through hypercorrection in the lower middle classes striving upwards socially. The spread of a change is characterized by a slow-quick-slow rate, i.e. it begins slowly, goes through a rapid middle phase and slows down again towards the end (this course can be represented in visual terms as an S-curve, Denison 2003). The slow end of a change means of course that not all possible input forms for a change may be reached and a residue may remain. For instance, in early modern southern English there was a general lowering of /u/ to /ʌ/, cf. *cut* /kʌt/. However, this did not apply to all words, that is, the change did not go to completion. It fell short, so to speak, and a small residue remains, as can be seen from words like *pull* or *bush*. Frequently there is a phonetic motivation for such a residue, in this case the unrounding of /u/ (and its later lowering) was inhibited by a following velarized -l [-ɫ] or -sh [-ʃ].

8.1 Data collection methods

In diachronic investigations the data used has come to be much more robust through the use of large collections of texts available in electronic form. The practice of compiling structured texts into coherent groups, often representing different authors, genres and periods, goes back to the 1960s. But it was not until the early 1990s with the widespread availability of comprehensive corpora like the Helsinki corpus of diachronic English texts and with the increased processing power of personal computers that scholars looked to corpora for corroboration or refutation of theses concerning the diachronic development of languages.

The first decade of the 21st century has seen a great expansion in the compilation of large corpora, often specialising on a particular variety or text type. The potential for discovering and documenting minute changes, especially in the major European languages, which are served well by corpora, has increased greatly in the past decade. New studies of change which have such corpora as their data basis have appeared, for instance, Leech, Hundt, Mair and Smith (2009).

8.2 Genre variation and stylistics

The range and size of recent corpora has meant that the study of different genres, style levels, text types, etc. has received much impetus. Register variation is now fairly easy to quantify (Biber 1988) and questions of style and not least of authorship can be tackled with much greater confidence than in the days before large corpora were available. The increasing engagement of colleagues in university departments in the task of compiling corpora has led to a welcome diversification of text types. These now encompass not just written texts but dialogues and transcribed colloquial speech as well.

9. Pathways of change

The movement away from the reconstruction of languages after the heyday of Indo-European studies in the 19th and early 20th centuries has meant a reduction of interest in specific instances of language change. The emphasis moved rather to types of change and in particular what one could term 'pathways of change'. Two particular directions in this sphere can be recognized, grammaticalization and typology, both of which have in common that they are concerned with long-term changes.

9.1 Long-term change: Grammaticalization

The essence of grammaticalization is a transition in category from lexical to grammatical for an element or elements over a fairly long period of time (Heine & Traugott 1992;

Pagliuca 1994). The label ‘grammaticalization’ is used by many scholars so that one can identify different meanings of the term. One is a formal meaning, e.g. the path of change from a full independent noun, as with OE *lic* ‘body, form’, to a suffix, ModE *-ly* as in *friendly*. This is a change in form starting with an unbound lexical morpheme and ending with a bound grammatical morpheme. A second meaning of ‘grammaticalisation’ is found which is more semantic: it refers to a shift in meaning or an additional use which rests on figurative usage, e.g. the use of *go* as a marker of the future in English or *werden* ‘become’ in German for the same purpose. These are cases of metaphorical extension with the original full lexical meaning still available.

The merit of grammaticalization is to have shown that there are specific pathways of change, many of which are largely independent of specific languages. However, the matter is often more complex because the specific course of grammaticalization depends on the synchronic state of a language when the process begins and on other changes which might be running concurrently in a language. This point is made clearly in an investigation of infinitival *to* in English, German and Dutch, all Germanic languages but typologically somewhat different (Fischer 1997).

An example of largely language-independent grammaticalization is that given in Schwenter & Traugott where they discuss the pathway PERSON > OBJECT > ACTIVITY > SPACE > TIME > QUALITY with each category on the right more abstract than that on the left (Schwenter & Traugott 1998: 262). Another instance of a pathway would be the development of reflexive pronouns from intensifiers. This is well attested in the history of English where in Old English the form *sylf/seolf* was an intensifier and used much as Modern German *selbst*. The frequent co-occurrence of these intensifiers with personal pronouns, as in *Christ sealde hine selfne for us* ‘Christ gave himself for us’, meant that in time, through coalescence and univerbation (pronoun + intensifier), reflexive forms developed: *him + self* → *himself*.

A feature of such pathways, which is stressed by the scholars who formulate them, is their unidirectionality, i.e. increasingly abstract interpretations of linguistic structures or the shift from pragmatic markers (intensifiers) to grammatical elements tend to be one-way movements in the history of a language. This view is not uncontested, see the discussion in Section 2.8 above.

9.2 Large-scale changes: The typological perspective

In general one can say that instances of grammaticalization are punctual and do not necessarily lead to typological re-alignment in a language. But there are developments which have this effect. For re-alignment to take place, change must be on a broad front. This stands to reason: for a different organisational principle to arise in a language there must be sufficient movement across the majority of the language’s structures. Such movement can be seen in phonetic attrition, which affects all inputs irrespective

of class or category. It can also be seen where an organisational principle is borrowed through language contact as with shifts in word order, often with a switch in the order of elements from post-specification to pre-specification or vice versa.

Linguistic typology has led to classifications of languages according to dominant principles of organisation. Traditionally, there are four types, *synthetic* (polyfunctional inflections, flexible word order as in Latin), *analytic* (few inflections, higher functionalization of word order as in modern English), *agglutinating* (monofunctional, concatenating inflections as in Finnish or Turkish) and *polysynthetic* or *incorporating* (very high density of opaque inflections as in many native American languages). There are other axes along which classifications have been suggested. For instance Lehmann (1992: 106) suggests adopting a contentive typology (after Klimov 1977, 1983) in which the basic distinction among languages is that between types in which government or agreement is the dominant principle. The government type may be accusative or ergative. The accusative type is the normal Indo-European type, e.g. English or German, with a separate case for nominative and accusative. The ergative type has a case for the subject of transitive verbs; the subject of intransitive and the object of transitive verbs is in a separate case called the absolutive (the parallel in English would be: *She saw her* and *Her went*). In agreement-type languages there is a formal parallelism between word classes depending on their semantics, e.g. animate nouns and active verbs pair as would inanimate nouns and stative verbs (Lehmann 1992). Another classification for this type of language is 'active' where both nouns and verbs fall into an active or inactive class. Active languages may have two words for concepts rendered by one in government-based languages, e.g. *water* (moving or still).

Mention should also be made of the classification of languages according to head-marking or dependent-marking, something which has been the object of detailed investigation by Johanna Nichols (see Nichols 1992). What is meant here is that in constructions which involve a head and a dependent, e.g. English *the man's house*, where *house* is the head (the modified element) and *man* the dependent (the modifier), those languages which mark the dependent element do so consistently and are labelled 'dependent-marking'. Other languages, like Hungarian, cf. *az ember háza* 'the man's house', where *ház* 'house' is marked with the pronominal suffix *-a* (Fox 1995: 266f.), are termed 'head-marking'. Nichols notes that such marking is very stable over time and can thus be used as a criterion for the relatedness or non-relatedness of languages.

10. Contact accounts

In accounts of language change, contact looms large. Analyses based on language contact have repeatedly been made because in so many instances contact is a possibility (Hickey 2010). Furthermore, in some studies, notably Heine & Kuteva (2005), language

contact scenarios are seen as loci of grammaticalisation processes, an opinion not shared by all scholars (see Hickey 2007: Chapter 4 for a relevant discussion).

Already in 19th century Indo-European studies contact appears as an explanation for change though by and large mainstream Indo-Europeanists preferred language-internal accounts. One should stress that strictly speaking contact is not so much an explanation for language change as a suggestion for the source of a change, that is, it does not say why a change took place but rather where it came from. For instance, a language such as Irish or Welsh may have VSO as a result of early contact with languages also showing this word order. However, this does not explain how VSO arose in the first place (assuming that it is not an original word order for any language). The upshot of this is that contact accounts frequently just push back the quest for explanation a stage further.

Considerable criticism has been levelled at contact accounts because scholars have often been all too ready to accept contact as a source, to the neglect of internal factors or inherited features within a language. This readiness to accept contact, particularly when other possibilities have not been given due consideration, has led to much criticism of contact accounts in the 1970s and 1980s (see Lass 1997 as a representative of this line of argument). However, a certain swing around can be seen from the 1990s onwards, a re-valorisation of language contact when considered from an objective and linguistically acceptable point of view as demanded by Thomason & Kaufman (1988), see the various contributions in Hickey (ed., 2010).

A further issue in contact studies is just what can be traced to contact. The view is prevalent that any feature of a language can be the result of contact if the conditions of contact have been intense and prolonged enough (Thomason & Kaufman 1988; Thomason 2001). Difficulties arise in situations where an attested feature or structure can have arisen through contact or retention from earlier input. This issue is a major one with varieties of English, particularly in the study of overseas forms of English (Filppula 2002; Hickey ed. 2002).

One should note that language contact is a convenient shorthand for what is, of course, speaker contact. This fact is not trivial because the results of contact depend on the nature of speaker contact. In the history of English there is a considerable difference between the contact between Scandinavian and Old English, which was of an everyday nature, and that between Middle English and Anglo-Norman which was confined to certain strata of society (the upper clergy, military, aristocracy and court) not to mention the indirect contact with Central French in the second half of the Middle English period after the 13th century.

Language contact provides evidence for the autonomy of linguistic levels. In general it is the open classes, words and phrases, which are most easily affected and hence borrowings take place here with only slight contact or with what has been termed 'cultural contact', indirect contact of the type just mentioned between Middle English

and Central French. Here there is little or no speaker contact. In contemporary societies this contact can be seen in the massive influence of English on other languages. It is more the result of a one-way exposure to English through the media than of any contact in the sense of face-to-face interaction. In such instances, the closed classes of a language, the phonology, morphology and syntax remain unaffected by this exposure to another language. Possible influence on closed classes does, of course, depend on the intensity of the contact and the age of the speakers in contact as well as on the typological distance between the languages involved in a contact situation. For instance, Swahili (a Bantu language spoken in large parts of eastern Africa) has been influenced lexically by Arabic for centuries but it has not adopted the stem-inflecting principles of the latter language.

Returning to the position of speakers in a contact situation, one can distinguish between a type of contact in which speakers retain their inherited language and one where they switch to the language they come in contact with. This distinction has been captured in the two terms *contact-induced change* and *shift-induced change* (a distinction stressed by Sarah Thomason, see Thomason 2001). There are differences in the type of influence which arise in these two kinds of change. Shift-induced change is seen where speakers abandon their inherited language (see the contributions in Dorian 1989) and move to a new one, usually over a period of at least a few generations. This has happened historically in many countries, for instance in Ireland with the shift from Irish to English and in South Africa with the shift from Bhojपुरi to English among the Indian population in KwaZulu-Natal (Mesthrie 1992). Contact with shift leads to new varieties of a language arising and here it is often the closed classes – the sound and grammar systems – which are affected. This is due to the fact that in language shift (during adulthood, through a process of unguided second language acquisition) speakers search in the second language for equivalents to categories which they know from their first language. Historically, this can be clearly seen in the rise of certain aspectual categories in Irish English. Indeed a case can be made for speakers taking afunctional elements in the second language, such as the unstressed, declarative *do* of early modern English, and employing them for their own purposes, in the case of Irish English, to express the habitual aspect (Hickey 1997) as in sentences like *She does be worrying about the children* ‘She is always worrying about the children.’

The relative social status of speakers in a language shift situation is an important consideration. This is usually captured by the terms ‘substrate’ and ‘superstrate’ for the language in the socially inferior and superior position respectively. If the shifting group has high social prestige (not the case with the Irish and Indian populations just alluded to) then they may transfer their speech habits to the speakers of the language they are shifting to. This is technically known as *imposition* (Guy 1990) and it has been proposed that it happened in many historically attested situations, such as the Scandinavian period in early medieval Scotland, with Vikings who switched to Gaelic,

or the late medieval period in Ireland with the Anglo-Normans who later switched completely to Irish. Imposition may account for the appearance of borrowings from core vocabulary in a contact situation. If, for instance, the Normans retained French words in their form of Irish, then the Irish themselves may have picked up these words from the Irish of the Normans who were the military and aristocratic leaders in Ireland for a few centuries after their first arrival in the late 12th century. This would help to account for why the words for 'child' (*páiste* < *page*) and 'boy' (*garsún* < *garçon*), for instance, are from Norman French in Irish.

Finally one should mention that contact is an essential part of the twin processes of pidginization and creolization, but a consideration of these developments is beyond the remit of the present article.

11. Language areas (Sprachbünde)

The cases of contact discussed so far have been unidirectional. But contact can go both ways. Specifically, if languages in a contact situation are roughly equal in status (adstrate languages) then the influence can be mutual. There must be something like parity between the languages involved otherwise if one gains the upper hand, socio-linguistically speaking, it is unlikely to accept elements from the other language in the contact situation anymore. If the contact lasts for several centuries then a situation of convergence may arise where certain structural features come to be shared between languages. The duration of contact is important here: convergence presupposes a long period of stable bilingualism/multilingualism throughout an entire area in which the languages in question are spoken. This leads to a situation where, to put it in Lehiste's words, 'genetic heterogeneity is gradually replaced by typological homogeneity' (1988: 59).

Convergence due to prolonged contact is characteristic of geographically delimited regions and hence the term *linguistic area* is often used (Campbell 1998: 299–310). The original German term, however, is *Sprachbund* 'language federation' which stresses the common ties between languages and not their geographical proximity. This latter aspect is probably a necessary but by no means a sufficient condition for the rise of a *Sprachbund*.

In the literature on linguistic areas a continuous theme is the number of defining features necessary. This issue is difficult to resolve to the satisfaction of all scholars in the field. For instance, is it necessary for all languages in a linguistic area to share all features used to define the area? This maximal requirement is obviously too strict a yardstick because even in cases where there is much agreement, such as the Balkans, all features are not found in all languages. Another issue is the approach to areal features. Some studies just list features and imply that these have arisen through diffusion,

while others attempt to trace common features and to account for their appearance by establishing historical connections and by considering genetic relationships in an area or the typological unusualness of features (Campbell *loc. cit.*).

There have been many suggestions for linguistic areas in the relevant literature. The best known cases are the Balkans, the Indian subcontinent, Mesoamerica, the Baltic region, the north-west coast of North America and Ethiopia. Other cases, such as the British Isles (Wagner 1959), or northern Britain and Scandinavia (Borgstrøm 1974), have been considered in literature dating back to the mid 20th century and have been re-assessed again in the light of recent developments in the field (Hickey 1999).

12. Conclusion

Research into language change is becoming increasingly diversified. There are many new approaches which seek to expand and extend models already available. Linguists who formerly might just have looked at a single type of language change have come to consider several approaches, e.g. principles and parameters along with grammaticalization (Fischer 2006). The historical dimension which has been added to sociolinguistics since the seminal work of Romaine (1982) is a good instance of the expansion of an established approach. Another approach which has been beneficial to the field is that of diachronic corpus analysis which has led to many new insights, particularly into the history of English, and has caused revisions of standard wisdoms. The more such approaches come together the greater the opportunity for cross-fertilization and the greater the likelihood that hitherto unobserved shifts in languages can be described in terms which are factually accurate and linguistically acceptable.

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