John Benjamins Publishing Company

Cyclical change continued

Introduction

Elly van Gelderen

Arizona State University

This introductory chapter outlines what a cycle is, what kinds of cycles are generally accepted, and how the contributions in this book fit the various cycles. Uncontroversial cycles are the negative, future, modal, and determiner cycles; these will be referred to as micro-cycles. More controversial are macro-cycles, i.e. cycles that shift a language from analytic to synthetic and from synthetic to analytic. These cycles are controversial partly because of the use of the terms analytic and synthetic, which will be discussed briefly. The introduction also includes a section on recent work, issues of debate, and on future directions.

1. What is the cycle?

The linguistic cycle is a name used to describe language change taking place in a systematic manner and direction. Cycles involve the disappearance of a particular word and its renewal by another. The most well-known cycle is the Negative Cycle where a new negative word may be added to an already negative construction for emphasis after which the earlier negative disappears. The new negative may be reinforced by another negative and may later disappear as well.

There are early advocates of the view that language change is cyclical. Robins (1967: 150–159) provides a useful overview of how, according to de Condillac (1746) and Tooke (1786–1805), abstract, grammatical vocabulary develops from earlier concrete vocabulary. Bopp (1816) similarly argues that affixes arise from earlier independent words. In the early twentieth century, work on cyclical change appears by von der Gabelentz (1901). Because new cycles are not identical to the old ones, one way of characterizing a cycle is as a spiral, as in the oft-cited passage in von der Gabelentz (1901: 256), which provides a very clear description of cyclical change.

(1) "The history of language moves in the diagonal of two forces: the impulse toward comfort, which leads to the wearing down of sounds, and that toward clarity, which disallows this erosion and the destruction of the language. The affixes grind themselves down, disappear without a trace; their

functions or similar ones, however, require new expression. They acquire this expression, by the method of isolating languages, through word order or clarifying words. The latter, in the course of time, undergo agglutination, erosion, and in the mean time renewal is prepared: periphrastic expressions are preferred … always the same: the development curves back towards isolation, not in the old way, but in a parallel fashion. That's why I compare them to spirals"   (von der Gabelentz 1901: 256; my translation, EvG).

Meillet (1912: 140) also uses spiral as a term ("une sorte de développement en spirale") for what I will continue to refer to as a cycle.

In (1), von der Gabelentz states that languages may have affixes that then require a new expression after they are ground down. The new expression may be constructed "through word order or clarifying words". Von der Gabelentz argues that languages change from inflectional and agglutinative systems to isolating systems and then again develop into agglutinating ones. Meillet's (1912) work on language change as grammaticalization is an obvious source for ideas on cyclical change. For him, these changes come about because of a loss of expressivity and subsequent renewal. Meillet's examples of grammaticalization are many: the French verb *être* 'to be' going from lexical verb to auxiliary, *aller* 'to go' changing from a verb of motion to a future marker, and the Greek *thelô ina* 'I wish that' changing to a future marker that is much reduced in phonology, namely *tha*.

Hodge (1970) has done more than anyone to feed recent ideas on the cycle with his short article entitled 'The Linguistic Cycle' in which he examines the overall changes in the history of Egyptian. He uses lower and upper case to give a visual representation of full cycles from synthetic 'sM', i.e. a language with lots of inflectional morphology as indicated by the capital M and lower case s for less syntax, to analytic Sm, i.e. a language with a lot of syntax, indicated by the capital S, and less morphology, indicated by lower case m. By more or less syntax Hodge means the degree of reliance on function words and word order. His representation is provided in Table 1.

Table 1. Developments in Egyptian (from Hodge 1970: 5, *indicates a reconstructed stage)

Proto-Afroasiatic	Analytic	*Sm
Old Egyptian	Synthetic	sM
Late Egyptian	Analytic	Sm
Coptic	Synthetic	sM

Many of the early works on cyclical change analyze it as a change in the typological character of a language, e.g. from analytic to synthetic. This view, however, is currently

not always accepted and there are challenges in defining the terms analytic and synthetic. Heine, Claudi, and Hünnemeyer (1991:245), basing themselves on the work of Givón (e.g. 1971, 1976), distinguish three kinds of cyclical change. The first only refers to "isolated instances of grammaticalization", when a lexical item grammaticalizes and is then replaced by a new lexeme. An example would be the lexical verb *go* (or *want)* being used as a future marker. Examples of this type of cyclical change are discussed in the present volume by Johanna Wood, Remus Gergel, Robert LaBarge, and Łukasz Jędrzejowski (Chapters 10 to 13). One could argue that these changes have wider implications and should therefore be counted as examples of the second type which refers to "subparts of language, for example, when the tense-aspect-mood system of a given language develops from a periphrastic into an inflexional pattern and back to a new periphrastic one" (Heine, Claudi & Hünnemeyer 1991:245) or when negatives change. Obvious examples of the second type of change are provided in the chapters by Marianne Mithun, Ljuba Veselinova, Johan van der Auwera and Frens Vossen, Clifton Pye, and Tom Givón (Chapters 2, 6, 7, 8, and 9). I refer to these two types as micro-cycles.

The third type of cyclical change that Heine et al. identify applies to entire languages and especially to language types and I therefore refer to these as macro-cycles. The descriptions by von der Gabelentz and Hodge, given above, fit this kind. Other examples of this change are discussed by John McWhorter, Benedikt Szmrecsanyi, and Mariana Bahtchevanova and Elly van Gelderen (Chapters 3 to 5).

Heine, Claudi, and Hünnemeyer (1991:246) argue that there is "more justification to apply the notion of a linguistic cycle to individual linguistic developments", e.g. the development of future markers, of negatives, and of tense, rather than to changes in typological character, as in the development from analytic to synthetic and back to analytic. Their reasons for caution about the third type of change, i.e. a cyclical change in a language's typology, is that we don't know enough about older stages of languages. This cautionary sentiment is reflected in the work of other linguists and, whereas most researchers are comfortable with cycles of the first and second kind, they are not with cycles of the third kind. Jespersen (1922; Chapter 21.9) criticizes the concept of cyclical change. His criticism is based on his views that languages move towards flexionless stages in a unidirectional manner and that they do not develop new morphology. Jespersen's views cannot be correct because languages and families such as Finnish, Altaic, and Athabascan increase in morphological complexity through a cyclical process (see van Gelderen 2011).

Because macro-cycles feature prominently in this volume, I briefly discuss some of the problems in characterizing a language as analytic or synthetic in the next section. It will of course be impossible to do justice to the vast literature on this topic. See Schwegler (1990) for more literature review.

2.   Analytic and synthetic

Analytic languages have words with few morphemes, with the most analytic showing a one-to-one relationship between word and morpheme. Chinese is often cited as a good example of this, and I'll come back to this language below. Words in synthetic languages contain more than one morpheme. Languages with verbal agreement are synthetic. As is obvious from this description, it is relatively easy to decide on a purely analytic language but hard to decide on what counts as a synthetic language: is it having words that contain three morphemes or words with five morphemes? According to Schwegler (1990:10), it was Du Ponceau who proposed a third type of language, namely polysynthetic, although von Humboldt (1836) may be more famous for it. As Sapir (1921:128) puts it, polysynthetic languages are "more than ordinarily synthetic."

Another challenge, pointed out by Douglas Biber (p.c.), is that register plays a role in determining the analyticity of languages such as English. If, for instance, verbs are more inflected than nouns are and if verbs are more frequently used in a certain register, that would skew the results. Szmrecsanyi (Chapter 4) shows that this is in fact the case, making claims about this cycle very hard to evaluate.

Von Schlegel (1818) seems to be the first to use the terms analytic and synthetic where languages are concerned. As Schwegler (1990:5) points out, from the beginning, the terms were not used in precise ways since they include gradations. Thus, the labels don't fit the Germanic languages very well in that, according to von Schlegel, these languages "penchent fortement vers les forms analytiques" ['lean strongly towards analytic forms'] and, at the same time, they have "une certaine puissance de synthèse" ['a certain power of synthesis']. Von Schlegel's reasons for postulating the terms may have been to distinguish the more 'perfect' synthetic languages from the less perfect ones. He sees the reason for change towards an analytic language to be "les conquérans barbares" ['the barbarian conquerors'] (1818: 24) who acquired Latin imperfectly. McWhorter (Chapter 3) engages this question of change towards analyticity in languages that are spoken by a majority of non-native speakers.

Apart from morphemes per word, a second distinction is made as to whether the morphemes in the synthetic languages are agglutinative, as in Inuktitut and Korean, or (in)flectional, as in English and Navajo. From a diachronic perspective, there is a cyclical relationship between these stages, for instance, as formulated by Crowley (1992:170) and reproduced in Figure 1.
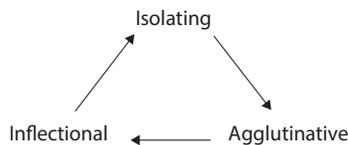

Figure 1.   Attachment type

Thus, in the change from isolating to agglutinative, separate words are reanalyzed morphologically as a part of another word but with their own grammatical features connected to the morpheme. In the change from agglutinative to inflectional, the features of the two are combined. This last change increases the degree of syntheticity of a particular language. Bahtchevanova and van Gelderen examine the development of portmanteau morphemes in French which involves a change from agglutinative to inflectional but also an increase in degree of syntheticity.

How do we decide on the degree of analyticity or syntheticity? Greenberg (1960) provides a system where words are assigned values depending on their complexity. A completely analytic language (one word, one morpheme) would have the value 1.00, a mildly synthetic language would be 2.00 (two morphemes in a word), and a polysynthetic language would average above 3.00. There are many drawbacks to this system and, as Schwegler (1990: 22) points out, that may be the reason Greenberg stops pursuing it. Nichols (1992) is interested in where the synthesis occurs, on the head or the dependent and formulates a point system to determine how head-marking or dependent-marking a language is. She is less concerned how extreme a language is in its marking but more whether it is head-marking or dependent-marking consistently. Szmrecsanyi (2012; Chapter 4) defines analyticity as using "coding strategies that convey grammatical information via free grammatical markers" and syntheticity as "those coding strategies where grammatical information is signaled by bound grammatical markers" and proposes a measure in terms of number of free or bound morphemes per 1000.

Analytic and synthetic stages can co-occur in a language; languages can be in one stage for agreement and in another for TMA and negation. What conspires to make them super-synthetic or super-analytic is an open question. Chinese is analytic in that mood, negation, and aspect are expressed as separate words but might be becoming more synthetic because, for instance, the perfective marker -*le* in (2) cannot be on its own and has grammaticalized from the verb *liao* meaning 'to complete' among other meanings (Sun 1996: 85; 178).

(2)   *ta*   *ba wenjian-jia*   *qingqingde* *fang **zai le** zhuo shang* Mandarin
       she   BA document folder   gently   put on PF table up
       'She put the documents gently on the table.'   (Hui-Ling Yang pc, from
                                                                      ⟨yahoo.com.tw⟩

There are many other such words that can no longer be independent, e.g. the question marker *ma* and the object marker *ba*. LaBarge (Chapter 13) explores a change towards the synthetic as the Chinese word *yào* changes from a full verb meaning 'desire' to a future marker and is increasingly limited to occur before another verb. So, if we look carefully, highly analytic language are grammaticalizing as well (see Post 2007).

Synthetic languages such as Old English change into more analytic languages. For instance, verbs inflected for mood and aspect/tense come to be replaced by auxiliaries

generated in positions just expressing mood and aspect/tense, originating in verbs. Modern English cannot, however, be characterized as a completely analytic language since modals, negatives, and *have* are merging into single words, as in (3a). It is even possible to see the first person *I* as an affix, always occurring before a verb and renewed by an oblique *me*, as in (3b).

(3) a. *I **couldna** done that*   Colloquial English
'I could not have done that.'

 b. ***Me, I** couldna done that*

Not addressed very often is the question of derivational morphology. Especially since the 1500s, English has acquired many morphemes from loans (*trans-, anti-, micro-, ex-, -ion, -able, -ian, -ity*). Should that be included as well?

Modern French presents an interesting case for an analytic to synthetic stage as well. Tesnière (1932) points out that standard French is a synthetic language with an analytic orthography. With this, he means that the pronouns are written separately from the verb but are not in fact independent from these verbs. Bahtchevanova and van Gelderen (Chapter 5) show that the subject cycle has turned the pronouns into verbal agreement but that this has an effect on the preverbal object pronouns, which can be reanalyzed as agreement as well, turning the language into a really synthetic language. These developments show a macro-cycle in progress.

Concluding, it is very hard to give a precise definition of synthetic and analytic. A language with one (grammatical) morpheme per word is analytic and one with more than one per word is synthetic. A language where most arguments are marked on the verb and where nominals are optional is polysynthetic. As already mentioned, it is an open question what factors contribute to a language developing analyticity or syntheticity.

3.   Recent work and emerging questions

Although much work remains focused on the negative cycle, e.g. Larrivée & Ingham (2011), Vossen & van der Auwera (2014), and Willis et al. (2013), the edited volume that came out of the 2008 workshop on the linguistic cycle in Tempe, Arizona (van Gelderen 2009) contains chapters on the other cycles as well, namely the pronominal, demonstrative, copular, modal, and prepositional cycles. Other work includes Jäger (2012), Bacskai-Atkari (2014), Bácskai-Atkári & Dekány (2014), Egedi (2014), and Hegedüs (2014). Cyclical semantic change is getting more attention in the work of Regine Eckardt, Remus Gergel, and Ashwini Deo and it and phonological and prosodic change can also be thought of as cyclical, as in Bermúdez-Otero & Trousdale (2012) and Salmons & Zhuang (2014) respectively.

Looking at changes in a cyclical manner has brought up new questions. Some of the crucial descriptive questions in relation to the mechanisms of the linguistic cycle are summarized in (4).

(4)   Questions in relation to the linguistic cycle are:
    a.   Which cycles exist and why?
    b.   i   Which semantic and grammatical features participate in cycles?
        ii   What are the sources of renewal once a cycle has desemanticized a lexical item?
        iii   At what point in the cycle does the renewing element appear?
    c.   Are there typical steps in a cycle?
    d.   i   Why are some changes frequent or infrequent?
        ii.   What structural factors interfere in this process?
    e.   What's the role of language contact?

Answering (4a) contributes to the 'definition' of the linguistic cycle. From a structural point of view, two main types of cycle occur: those where a full phrase strengthens the original lexical word, i.e. where doubling occurs, such as in the traditional negative cycle (Jespersen 1917; van der Auwera 2009), and those where a new word is used, without co-occurrence of the old and new, such as in Croft's Existential to Negative Cycle (Croft 1991; van Gelderen 2008). In the current volume, Veselinova (Chapter 6) discusses this cycle and many contributors comment on how 'their cycle' is a typical cycle or not, e.g. Mithun and Pye (Chapters 2 and 8).

Questions (4bi) and (4ii) are best answered by studying Heine and Kuteva (2002) who provide an incredibly helpful encyclopedia of grammaticalization. In it, they identify categories that are typically grammatical in languages of the world: time, space, cause, completion/telicity, intention, existence, negation, number, and person. The prevalence of certain cycles shows which of these categories are important for all languages and shed insight on the (human) cognitive faculty. Mithun's chapter adds the distributive cycle to the set of cycles, a rarer cycle, where verbal affixes cause the event/state to be spread in space, time, and participants.

Answers to question (4biii) remain controversial: will the old form first weaken phonologically or not? Although Meillet (1912:139) acknowledges the role of the weakening of pronunciation ("un affaiblissement de la pronunciation"), he believes that what provokes the start of the (negative) cycle is the need to speak forcefully ("le besoin de parler avec force"). Therefore, the loss in phonological content is not a necessary consequence of the loss of semantic content (see also Hoeksema 2009). Veselinova's contribution (Chapter 6) provides an interesting perspective on the question of when the renewing element appears and how long it stays around: stages with variation are quite stable. Likewise, Kiparsky (2011:19) argues "in the development of case, bleaching is not necessarily tied to morphological downgrading from postposition to clitic to suffix". The pronoun cycle shows different results in that a stage with just the

affix is possible. Thus, there are estimates that only 30% of languages have pronouns (see Chapter 5).

As for question (4c), van der Auwera (2009) carefully lays out the typical steps of the negative cycle but also some variation in the stages. Van der Auwera and Vossen (Chapter 7) provide further evidence for solid Jespersen Cycles in two families of the Americas and one possible cycle that starts in a different position. Gergel (Chapter 11) compares English and German comparative temporal adverbs that acquire modal meanings and shows why they end up undergoing slightly different changes.

As for (4di), we have some sense what keeps the negative cycle going. As was mentioned above, because negatives are so important in language, pragmatic strengthening is frequent and this stimulates new forms next to pragmatically weaker ones (see also Meisner et al. 2014). Modal cycles are also omnipresent, as e.g. Nesselhauf (2012) has shown. Using Traugott and König's (1991) influential inferencing model, one can say that modals originate in verbs of motion, ability, volition, and intention that 'invite' certain inferences of futurity and possibility. A new modal is the result of the reanalysis of a pragmatic function into a grammatical category or feature.

The circumstances surrounding some of the other cycles are still mysterious, e.g. why subject pronoun cycles do not occur in East Asian languages. Chinese, Thai, Korean, and Indonesian (to name but a few) do not show tendencies to phonologically reduce the subject pronoun or to restrict its occurrence to a preverbal position. Subject pronouns themselves have been renewed through nouns in some of these languages (Thai and Indonesian) and, in these, there is a variety of pronouns to choose from but there has been no instance where the pronoun is reanalyzed as agreement marker.

Regarding (4dii), structural chance factors, such as word order and the particular position of the verb 'to be', may play a role, e.g. negatives are focused and therefore may be highlighted by 'be' and a combination of 'be' and the negative can become the new negative. Cycles may conflict and this structural conflict may constitute a slowing (or accelerating) factor, e.g. Croft's and Jespersen's cycles seem to work together (in Athabaskan and Ugric, see van Gelderen 2011), and subject and object pronoun cycles do interact (see Bahtchevanova and van Gelderen, Chapter 5). Copula verbs have many sources, demonstratives, adpositions, existence and motion verbs, and the choice of which of these emerges as the copula must be due to structural factors. English has a strong tendency to recruit verbs and that may be because it has a prominent T(ense) position; many Semitic languages and most creoles reanalyze demonstratives as copulas because these languages use topicalizations.

Regarding (4e), external reasons for accelerating or impeding the rate of change need to be studied. Heine and Kuteva (2005) have argued for accelerated grammaticalization due to language contact. In this volume, van der Auwera and Vossen's data show areal clusters in the stages of the negative cycle and Mithun suggests language

contact as a potential contributor to cyclical change in the languages of Northern California because certain cycles appear in certain linguistic areas. She shows for Central Pomo, a Pomoan language, that directional prefixes on a verb are renewed through adverbs that are themselves being cliticized on a verb which is a feature present in the other languages as well. Szmrecsanyi's data show that something major happened in English around 1200; a contact explanation with Celtic or Old Norse would of course make sense (see e.g. Filppula et al. 2002 and Emonds & Faarlund 2014, respectively). McWhorter (2007, this volume) argues that languages with a lot of adult language learning may be stuck in one stage.

Related is the question of complexity and simplicity when the former is seen as due to social isolation and the latter as due to language contact (see Trudgill 2011). The linguistic cycle predicts that any language will accrue complexity when it changes from analytic to synthetic and lose this when it goes from synthetic to analytic again and the same with the other cycles. Modern English, with more non-native than native speakers is still accruing complexity, as shown in (3).

4.   Contributions to the cycle in this volume

Having given a brief idea of what micro- and macro-cycles are and of the questions we have regarding cycles, I discuss each contribution in terms of what it tells us about the big picture. The theoretical framework used by the various contributors varies because cyclical change can be examined from a variety of angles. To me, cycles are fascinating because of their systematicity. Systematicity in syntactic change, as Gianollo et al. (2015:4) put it, represents "an absolute novelty in the area of historical linguistics, where only sound change was considered to be subject to regularity". This systematicity provides a window on the universality of language or the language faculty, depending on one's theoretical disposition.

Marianne Mithun provides detailed examples of cycles in related languages that all proceed somewhat differently. She organizes them as due to phonological, semantic, or pragmatic change and chronicles reflexive, demonstrative, distributive, pronominal, and negative cycles in the Iroquoian languages. Each of the changes has its own local flavor. For instance, the cognate of a reconstructed reflexive is still present in many languages but was renewed through reduplication in all of the modern languages and the demonstrative cycle shows the classic change from demonstrative (still present in Cherokee) into one kind of article in Mohawk and another kind in Tuscarora, with a renewal through a locative in the latter. As mentioned, the chapter also considers the influence of contact and she concludes with what she sees driving this change, namely a "cognitive propensity for routinization" and a subsequent loss of salience in phonology, semantics, and pragmatics.

The chapters by John McWhorter, Benedikt Szmrecsanyi, and Mariana Bahtchevanova and Elly van Gelderen all address changes involving the status of a language (or family) as analytic or synthetic, i.e. macro-cyclical change. **McWhorter** asks why very analytic languages are mainly spoken in Southeast Asia and West Africa and argues that "radical analyticity is neither plausible nor documented as a stage that grammars reach amidst a cycle of inflectional growth and decay" but is "the result of widespread adult acquisition in the past". Most of the emphasis in the remainder of the chapter is devoted to showing that for the three sub-subfamilies of the Niger-Congo family, namely Gbe, Yoruba, and Nupoid, a scenario of second language acquisition makes sense.

Szmrecsanyi uses corpus-data from the history of English between 1100 and 1900 and argues that analyticity rises until the 17th century and then decreases; the opposite is true for syntheticity. So, after the 17th century, the trend is towards more syntheticity and less analyticity. Hence, Szmrecsanyi speaks of a spiral. His data also reveal that the text type makes a difference and that, by looking at which categories are responsible for the analytic or synthetic character of the stages, we arrive at a better sense of what we think of as analytic or synthetic. For instance, his results show that determiners and expletive *there* increase but that pronouns do not. This results in a much more complicated picture.

Bahtchevanova and van Gelderen discuss the status of French subject and object pronouns. If they are right, French is not only renewing its erstwhile synthetic subject agreement system but also moving towards more syntheticity in the object system. In their chapter, data is added that shows that in addition to first and second person singular subject pronouns, which are well on their way to being agreement, third person singular and plural pronouns are also changing. Some of them are skipping a stage in the cycle in that the agreement prefix is left out and the emphatic form serves as the regular pronoun. A second point to their chapter is to see if there are changes to preverbal object pronouns. They argue there are three kinds, namely a loss of the object pronoun, a reanalysis to agreement marker, and a change from pre- to postverbal position. These changes are to be expected because object clitics and inflectional subject affixes are mixed in preverbal position. The result is an accelerated object cycle. They also add an account for the changes in object pronouns that result from the changes in subject markers using a generative model with feature checking.

Negative cycles are discussed by Ljuba Veselinova, Johan van der Auwera and Frens Vossen, and Clifton Pye. **Veselinova** looks at the negative existential cycle in which negative existential verbs are reanalyzed as negative markers after which new existential verbs may arise. This cycle is also known as Croft's Cycle (Croft 1991 being one of the first to write about it). Using data from six families (Berber, Dravidian, Polynesian, Slavonic, Uralic, and Turkic), Veselinova raises the issue of the seemingly long time that it takes for this cycle to proceed, namely that it is "consistently of a lengthier kind".

Croft's Cycle predicts three stages, i.e. having the same negative for all verbs, having different negatives for existential and non-existential verbs, and having the negative existential used as the negative marker for all verbs (again). A wealth of data shows that the transitional periods in between these three stages are relatively long and stable. Concluding, she emphasizes that the difference between negation of actions and negation of existence must be so crucial to cognition that it keeps being renewed.

Van der Auwera and Vossen present data on negatives in 530 languages of the Americas. The negative precedes the verb in 48% of the languages surveyed and it follows the verb in 28% of languages and they find double marking in 20% of the languages in their sample. These percentage fit in a negative cycle picture if a doubling stage is followed by a new negative in final position. They then focus on three families of Central and South America, Mayan, Quechuan, and Maipurean, for the first two of which there is diachronic data. Their study reveals a clear negative cycle in Mayan from single to double negation to single marking again; it also shows an areal dimension to this change. The Quechuan languages show a very similar negative cycle with again an areal dimension, the central languages being the most progressive. Maipurean languages show more variation in the pre- and post-verbal negatives and the situation is much more complex. The authors provide a number of scenarios with one possibly showing a Jespersen Cycle 'in reverse' because the renewing element is on the left of the verb.

Pye reconstructs the history of negation marking in the Mayan languages and shows that one Mayan language exhibits the start of a typical Jespersen Cycle but that the majority of Mayan languages provide no evidence for a negation cycle that uses indefinite renewals. To strengthen the negative, the latter use adverbial clitics that are external to the clause. Pye attributes this to the "the unique syntactic organization of the Mayan languages". Pye adds that "French and the Germanic languages recruit words in the verb phrase to modify negation [and w]hen they become NPI they begin to interact more with negation than with the verb phrase, but still remain in the VP. The Mayan negation domain is independent of the VP and the verb complex. Its independence allows the languages to modify negation marking directly rather than reanalyzing a piece of the VP" (Pye, 22 November 2014 e-mail).

The last five chapters look at micro-cycles involving pronouns, quantifiers and modals. **Tom Givón** examines Ute clitic pronouns, contrasting them with other reference-coding devices, namely demonstratives, independent pronouns, zero anaphora, and flexible word-order. The conclusions he reaches are that most independent pronouns "are used in contexts of referential discontinuity" and most zero and clitic pronouns show "extreme referential continuity–a one-clause anaphoric gap". The fronting of pronouns and nominal groups is "strongly associated with referential or thematic discontinuity" whereas the post-posing of pronouns and nominals goes with referential continuity. This shows evidence of a typical cycle. His chapter also contributes to structural questions: why do pronouns cliticize to verbs and why in the particular position.

The DP Cycle is relatively well-known as a cycle where demonstratives are reanalyzed as articles which then in turn are reinforced by deictic element, e.g. adverbs or other demonstratives. **Johanna Wood** expands on this relatively well-known cycle by looking at changes in demonstratives in other parts of the DP, namely the Adjective Phrase. The demonstratives *this, that*, and *thus* have seen changes from manner to degree and Wood explores various paths of change and also renewals of erstwhile functions.

Remus Gergel illustrates cyclical semantic change in the domain of intensionality and degree marking. He looks at spirals involving the English adverb *rather* and its German counterpart *eher* ('sooner, earlier, rather'). *Rather* changes from a temporal comparative meaning of 'sooner' to a modally marked one, whereas *eher* retains the earlier temporal meaning and has more epistemic flavors. As Gergel puts it, the "difference lies in the fact that while *rather* appears to have grammaticalized to order propositions primarily with respect to desires, *eher* orders them primarily with respect to likelihood based on knowledge and evidence". The reason for the difference, he suggests, is because it fills a void in English, a void left by the loss of *leofer* 'preferably', where German retains this adverb in the form of *lieber*.

Łukasz Jędrzejowski looks at the relationship between three verbs in the history of German that now introduce or used to introduce negative complements and are therefore referred to as NPIs (Negative Polarity Items). The three verbs are *dürfen, bedürfen*, and *brauchen*, all having a basic meaning of 'need'. He shows a cyclical replacement of the one by the other and then by the third one. Big questions are what causes this cycle: is there a loss of features that sets it in motion or is there a position to which the verbs move and in which they are stuck.

Robert LaBarge discusses a change in the Chinese verb *yào* that resembles the one undergone by *will* in English, namely a change from verb of volition to future auxiliary and then the renewal of the older meaning by another verb of volition. He pays attention to the semantic features that change, the syntactic environment, and the position in the sentence in arguing that certain uses of *yào* are indeed auxiliary. The paper contributes to connecting cyclical change to structural positions and to discussions of layering in grammaticalization. It also provides an explanation for this change in terms of a relatively new approach in generative grammar: problems of labelling invite a reanalysis.

5.   Conclusion and future directions

In this introduction, I present the cycle and also the differences between micro- and macro-cycles. The reason for the distinction is the acceptance of the former but the unease many people have with the latter. I have also reviewed the contributions each of the chapters make. Enduring questions concern predicting the speed and the steps of a cycle.

Future directions can be theoretical and empirical. For instance, Chomsky (2013; 2015) suggests that certain configurations are unlabelable because they are both maxi-

mal projections or because their features clash. This idea provides an avenue to see if certain reanalyses can be predicted. Van Gelderen (2015) follows this up and looks at change involving phrases to heads, as occur in the Negative and Demonstrative Cycles, and LaBarge (Chapter 13) for head to head changes.

Another possible direction that might be fruitful to account for the absence of change is the one suggested in Bisang (2014). He compares the strength of morphological paradigms in highly analytic languages and notes that radical pro-drop is possible in East and mainland Southeast Asian languages but not in West African Niger-Congo languages. He argues that the ancestor languages of the latter had paradigms that "were strong enough to remain relevant in syntax after they got lost in morphology" (p. 24). This suggests covert features may be active in one language and drive renewal.

In short, cycles continue to provide an exciting window on the language faculty!

Acknowledgements

References

Bácskai-Atkári, Júlia. 2014. Cyclical change in Hungarian comparatives. *Diachronica* 31(4): 465–505. doi:10.1075/dia.31.4.01bac

Bácskai-Atkári, Júlia & Dekány, Éva. 2014. From non-finite to finite subordination. In Kiss (ed.), 148–223. doi:10.1093/acprof:oso/9780198709855.003.0006

Bermúdez-Otero, Ricardo & Trousdale, Graeme. 2012. Cycles and continua. In Nevalainen & Traugott (eds), 691–720.

Bisang, Walter. 2014. On the strength of morphological paradigms. In *Paradigm Change: In the Transeurasian Languages and Beyond* [Studies in Language Companion Series 161], Martine Robbeets & Walter Bisang (eds), 23–60. Amsterdam: John Benjamins. doi:10.1075/slcs.161.07bis

Bopp, Franz. 1816. *Über das Conjugationssystem der Sanskritsprache in Vergleichung mit jenem der griechischen, lateinischen, persischen und germanischen Sprachen.* Frankfurt-am-Main.

Chomsky, Noam. 2013. Problems of projection. *Lingua* 130: 33–49. doi:10.1016/j.lingua.2012.12.003

Chomsky, Noam. 2015. Problems of projection: Extensions. In *Structures, Strategies and Beyond: Studies in honour of Adriana Belletti* [Linguistik Aktuell/Linguistics Today 223], Elisa Di Domenico, Cornelia Hamann & Simona Matteini (eds), 3–16. Amsterdam: John Benjamins. doi:10.1075/la.223.01cho

de Condillac, Etienne Bonnot. 1746. *Essai sur l'origine des connaissances humaines*. Paris.

Croft, William. 1991. The evolution of negation. *Journal of Linguistics* 27: 1–27. doi:10.1017/S0022226700012391

Crowley, Terry. 1992. *An Introduction to Historical Linguistics*. Auckland: OUP.

Egedi, Barbara. 2014. The DP cycle in Hungarian. In Kiss (ed.), 56–82. doi:10.1093/acprof:oso/9780198709855.003.0003

Emonds, Joseph & Faarlund, Jan Terje. 2014. *English: The Language of the Vikings*. Olomouc: Olomouc Modern Language Monographs ⟨http://anglistika.upol.cz/vikings2014/⟩

Filppula, Markku, Klemola, Juhani & Pitkänen, Heli (eds). 2002. *The Celtic Roots of English*. Joensuu: University of Joensuu.

von der Gabelentz, Georg. 1891[1901]. *Die Sprachwissenshaft. Ihre Aufgaben, Methoden und bisherigen Ergebnisse.* Leipzig: Weigel. Reprint Tübingen: Narr, 1972.

van Gelderen, Elly. 2008. The negative cycles. *Linguistic Typology* 12(2): 195–243. doi:10.1515/LITY.2008.037

van Gelderen, Elly. (ed.) 2009. *Cyclical Change* [Linguistik Aktuell/Linguistics Today 146]. Amsterdam: John Benjamins. doi:10.1075/la.146

van Gelderen, Elly. 2011. *The Linguistic Cycle*. Oxford: OUP. doi:10.1093/acprof:oso/9780199756056.001.0001

van Gelderen, Elly. 2015. Problems of projection: The role of language change in labeling paradoxes. *Studio Linguistica*, published online: 28 October 2015. doi:10.1111/stul.12041

Gianollo, Chiara, Jäger, Agnes & Penka, Doris (eds). 2015. Language change at the syntax-semantics interface. Perspectives and challenges. In *Language Change at the Syntax-semantics Interface*, Chiara Gianollo, Agnes Jäger & Doris Penka (eds), 1–32. Berlin: De Gruyter.

Givón, Talmy. 1971. Historical syntax and synchronic morphology. *Chicago Linguistic Society Proceedings 7*: 394–415.

Givón, Talmy. 1976. Topic, pronoun, and grammatical agreement. In *Subject and Topic*, Charles N. Li (ed.), 151–188. New York NY: Academic Press.

Greenberg, Joseph. 1960. A quantitative approach to the morphological typology of language. *IJAL* 26: 178–194.

Hegedüs, Veronika. 2014. The cyclical development of Ps in Hungarian. In Kiss (ed.), 122–147. doi:10.1093/acprof:oso/9780198709855.003.0005

Heine, Bernd & Kuteva, Tania. 2002. *World Lexicon of Grammaticalization*. Cambridge: CUP. doi:10.1017/CBO9780511613463

Heine, Bernd, Claudi, Ulrike & Hünnemeyer, Friederike. 1991. *Grammaticalization: A Conceptual Framework*. Chicago, IL: University of Chicago Press.

Heine, Bernd & Kuteva, Tania. 2005. *Language Contact and Grammatical Change*. Cambridge: CUP. doi:10.1017/CBO9780511614132

Hodge, Carleton. 1970. The linguistic cycle. *Linguistic Sciences* 13: 1–7.

Hoeksema, Jack. 2009. Jespersen recycled. In van Gelderen (ed.), 15–34.

von Humboldt, Wilhelm. 1836. *Über die Verschiedenheit des menschlichen Sprachbaus und seinen Einfluss auf die geistige Entwicklung des Menschengeschlechts*. Berlin.

Jäger, Agnes. 2012. 'How' to become a comparison particle. DiGS 14 talk.

Jespersen, Otto. 1917[1966]. *Negation in English and other Languages*. Copenhagen: A.F. Høst.

Jespersen, Otto. 1922. *Language*. London: Allen & Unwin.

Kiparsky, Paul 2011. Grammaticalization as optimization. In *Grammatical Change Origins, Nature, Outcomes*, Dianne Jonas, John Whitman & Andrew Garrett (eds), 15–51. Oxford: OUP.

Kiss, Katalin É. (ed.). 2014. *The Evolution of Functional Left Peripheries in Hungarian Syntax*. Oxford: OUP. doi:10.1093/acprof:oso/9780198709855.001.0001

Larrivée, Pierre & Ingham, Richard. 2011. *The Evolution of Negation: Beyond the Jespersen Cycle*. Berlin: Mouton de Gruyter. doi:10.1515/9783110238617

McWhorter, John. 2007. *Language Interrupted*. Oxford: OUP. doi:10.1093/acprof:oso/9780195309805.001.0001

Meillet, Antoine. 1921[1912] L'évolution des formes grammaticales. In *Linguistique historique et linguistique générale*, Édouard Champion (ed.), 130–148. Paris: Librairie Ancienne Honoré Champion. Reprint 1958.

Meisner, Charlotte, Starke, Elisabeth & Völker, Harald (eds). 2014. Jespersen revisited: Negation in Romance and beyond. *Lingua* 147: 1–8. doi:10.1016/j.lingua.2014.05.014

Nesselhauf, Nadja. 2012. Mechanisms of language change in a functional system: The recent semantic evolution of English future time expressions. *Journal of Historical Linguistics* 2(1): 83–132. doi:10.1075/jhl.2.1.06nes

Nevalainen, Terttu & Traugott, Elizabeth Closs (eds). 2012. *Oxford Handbook on Historical English Linguistics*. Oxford: OUP. doi 10.1093/oxfordhb/9780199922765.001.0001

Nichols, Johanna. 1992. *Linguistic Diversity in Space and Time*. Chicago IL: University of Chicago Press. doi:10.7208/chicago/9780226580593.001.0001

Post, Mark. 2007. Grammaticalization and compounding in Thai and Chinese. *Studies in Language* 31(1): 117–175. doi:10.1075/sl.31.1.05pos

Robins, Robert H. 1967. *A Short History of Linguistics*. London: Longman.

Salmons, Joe & Zhuang, Huibin. 2014. East Asian prosodic templates: Change and Cyclicity. Ms.

Sapir, Edward. 1921. *Language*. New York NY: Harcourt, Brace and Company.

von Schlegel, August Wilhem. 1818. *Observations sur la langue et la literature provençales*. Paris.

Schwegler, Armin. 1990. *Analyticity and Syntheticity*. Berlin: Mouton de Gruyter. doi:10.1515/9783110872927

Sun, Chao Fen. 1996. *Word Order Change and Grammaticalization in the History of Chinese*. Stanford: Stanford University Press.

Szmrecsanyi, Benedikt. 2012. Analyticity and syntheticity in the history of English. In Nevalainen & Traugott (eds), 654–665.

Tesnière, Lucien. 1932. Synthétisme et Analytisme. *Charisteria Gvilelmo Mathesio Qvinqvagenario*. Prague Linguistic Circle.

Tooke, John Horne. 1786–1805. *The Diversion of Purley*. London.

Traugott, Elizabeth Closs & Ekkehard König. 1991. The semantics-pragmatics of grammaticalization revisited. In Elizabeth Closs Traugott & Bernd Heine (eds), *Approaches to Grammaticalization,* 1: Theoretical and Methodological Issues [Typological Studies in Language 19], 189–218. Amsterdam: John Benjamins. doi:10.1075/tsl.19.1.10clo

Trudgill, Peter. 2011. *Sociolinguistic Typology*. Oxford: OUP.

van der Auwera, Johan. 2009. The Jespersen cycles. In van Gelderen (ed.), 35–71.

Vossen, Frens & van der Auwera, Johan. 2014. The Jespersen cycles seen from Austronesian. In *The Diachrony of Negation* [Studies in Language Companion Series 160], Maj-Britt Mosegaard Hansen & Jacqueline Visconti (eds), 47–82. Amsterdam: John Benjamins. doi:10.1075/slcs.160.03vos

Willis, David, Lucas, Christopher & Breithbart, Anne (eds) 2013. *The History of Negation in the Languages of Europe and the Mediterranean*, Vol. I. Oxford: OUP. doi:10.1093/acprof:oso/9780199602537.001.0001