

# The Linguistic Cycle and the Language Faculty

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## Abstract

Because there has been a recent surge of interest in the linguistic cycle, this article presents a survey of cyclical change and shows how that change provides a unique perspective on the language faculty. The article provides a general background to the linguistic cycle and cyclical change. It reviews some of the cycles that we know and provides a possible account for them. © 2013 The Author. Language and Linguistics Compass © 2013 Blackwell Publishing Ltd

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## 1. Introduction

A linguistic cycle describes a regular pattern of language, a round of linguistic changes taking place in a systematic manner and direction. For instance, negation may at some stage involve one negative, and then an optional second negative may be added after which the first one disappears. This new negative may be reinforced by yet another negative and may then itself disappear. What I have just described would be a cycle followed by another cycle, and we will look at this negative cycle in more detail. It is known as Jespersen's cycle, after the Danish linguist Otto Jespersen, who may not have been the first to see this change as a cycle (see van der Auwera 2009). Cyclical changes are unidirectional, and they are typically changes where a phrase or word gradually disappears and is replaced by a new linguistic item.

Heine et al. (1991: 245), basing themselves on the work of Givón (e.g., 1971), distinguish three kinds of cyclical change. The first only refers to 'isolated instances of grammaticalization', as 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. This change will be discussed in Section 2.1. The second type of change 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' or when negatives change. Examples of this change will be discussed in Section 3. The third type of cyclical change refers 'to entire languages and language types'. Heine et al. (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 from analytic to synthetic and back to analytic. More on this change will be given later in the current section.

Heine et al.'s reasons for caution about the third type of change, i.e., a cyclical change in language typology, is that we do not know enough about older stages of languages. This cautionary sentiment is reflected in the work of other linguists and, whereas most people 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 toward flexionless stages in a unidirectional manner and that they do not develop new morphology. Jespersen's views are not correct because languages and families such as Finnish, Altaic, and Athabaskan increase in morphological complexity through a cyclical process (see van Gelderen 2011). If we keep in mind

Jespersen's criticisms on the cycle in general, it is ironic that the best-known cycle is now referred to as 'Jespersen's cycle', but note that this cycle is of Heine et al's second, uncontroversial type.

Working within the generative framework, Baker (2001) and, more recently, Biberauer and Roberts (2012) have formulated macroparameters and microparameters. Macroparameters for Baker define the character of a particular language, e.g., polysynthetic or not, whereas microparameters may involve the features of a particular lexical item. In the same vein, it is possible to distinguish two kinds of cycles, a macrocycle and a microcycle. A microcycle involves just one aspect of the language, for instance, negatives or demonstratives being reinforced by adverbs, as in English *those people there*. They include Heine et al's first and second kinds. Macrocycles, more controversially, concern the entire linguistic system, i.e., Heine et al's third kind.

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 is a very clear description.

- (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; my translation, EvG).

Note that 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 new expression after the grinding down of these affixes. The new expression may be 'through word order or clarifying words'.

Having given a brief idea of what a cycle is (Section 1), I now outline in more detail some earlier descriptions of linguistic cycles, both the macro and micro ones, and account as to what sets them in motion, returning to von der Gabelentz's comfort and clarity (Section 2). I then provide a description of three (micro)cycles, namely the negative, agreement, and copula cycles (Section 3). Finally, I argue that the traditional account of comfort and clarity translates into a contemporary formal account (Section 4).

## 2. *The Linguistic Cycle*

In this section, I provide more background on work on the cycle that has been done the last two centuries and an example of a microcycle as well as a macrocycle (Section 2.1). I then look into the explanations that have been given to account for the cycle (Section 2.2).

### 2.1. THE MICROCYCLE AND MACROCYCLE

There are early advocates of the view that language change is cyclical. Robins (1967: 150–159) provides a useful overview of how, for instance, de Condillac (1746) and Tooke (1786; 1805) think that abstract, grammatical vocabulary develops from earlier concrete vocabulary. Bopp (1816) similarly argues that affixes arise from earlier independent words and provides many examples of a phenomenon that Heine et al. would find problematic and that I have termed a macrocycle.

In the early 20th century, work on cyclical change appears by von der Gabelentz (1901). In the quote in (1), von der Gabelentz says that languages develop from inflectional and agglutinative systems to isolating systems and then again develop into agglutinating ones. This too involves a macrocycle. Meillet's (1912) work on language change as grammaticalization is an obvious source for ideas on cyclical change. As mentioned, he too uses the term spiral rather than cycle and describes the addition of words to obtain a more intense meaning and the subsequent weakening of the markers that had been used before (1912: 140–141). 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 verb of motion to future marker; and the Greek *thelō ina* 'I wish that', changing to a future marker that is much reduced in phonology, namely *tha*.

Grammaticalization is a process where new grammatical categories are created from lexical categories. This may go hand in hand with a loss of phonological weight and semantic and pragmatic specificity. It is often put as the following cline: content item > grammatical word clitic > inflectional affix (Hopper & Traugott 2003: 7). The loss in phonological content is, however, not a necessary consequence of the loss of semantic content (see Kiparsky 2011; Kiparsky & Condoravdi 2006; Hoeksema 2009). For instance, Kiparsky (2011: 19) writes 'in the development of case, bleaching is not necessarily tied to morphological downgrading from postposition to clitic to suffix'. Instead, according to Kiparsky, unidirectionality is the defining property of grammaticalization and any exceptions to the unidirectionality (e.g., the Spanish inflectional morpheme *-nos* changing to a pronoun) are instances of analogical changes.

Grammaticalization constitutes one step in the cycle. The best-known examples of lexical elements changing to grammatical ones are verbs being reanalyzed as auxiliaries, minimizing words such as *nothing* as negatives, and prepositions as complementizers. The grammatical categories may in their turn grammaticalize (see Andersen 2008), and new lexical words may be added to substitute for the loss of the original meaning, resulting in a cycle. This is a clear case of Heine et al's 'first kind' of cyclical change and what I have called microcycle in this article.

The original lexical element may, however, be kept side by side the grammatical. For instance, the verb *go* has grammaticalized to an auxiliary, as in (2a), but can still be used as main verb, as in (2b).

- (2) a. I'm going to leave for the summer.  
b. I'm going to Flagstaff for the summer.

Hopper and Traugott (2003: 2–3) famously outline the typical characteristics of this grammaticalization. Once the reanalysis from verb to auxiliary has taken place, the new form can undergo processes that typically auxiliaries undergo, such as phonological reduction in (3a). The main verb does not undergo such weakening, as the ungrammaticality of the reduced *gonna* in (3b) shows.

- (3) a. I'm gonna leave for the summer.  
b. I'm gonna to Flagstaff for the summer.

Even if *gonna* in (3a) is now a future auxiliary, it retains some of its earlier flavor of intent to do something but this may also disappear and *be going to/gonna* might become a general future.

Nesselhauf (2012) provides a very precise account of the changes in the various future markers (*shall*, *will*, *'ll*, *be going to*, *be to*, and the progressive) in the last 250 years. She identifies three crucial features, intention, prediction, and arrangement and argues that as the sense of

intention is lost and is replaced by the sense of prediction, new markers of intention will appear. One such candidate is *want* where intention is expressed in (4a), and it is starting to gain the sense of prediction, as in (4b).

- (4) a. The final injury I want to talk about is brain damage ... (Nesselhauf 2012: 114).
- b. We have an overcast day today that looks like it wants to rain (Nesselhauf 2012: 115).

A full cycle, i.e., microcycle, involving *go* could be for it to disappear as a motion verb and for a new motion verb to appear. Nesselhauf's data on BE *going to* show that its use as a future marker has increased, both in the intention and prediction sense, and that the proportion of pure prediction is increasing. Once the sense of prediction prevails, another verb may be taking over to compensate for the feature of intention. In Section 3, I provide fuller examples of microcycles.

Hodge (1970) has done more than anyone to feed recent ideas on the cycle with his short article that is entitled, 'The Linguistic Cycle'. In it, he examines the overall changes in Egyptian, a macrocycle in our terms, and 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, but 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.

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. Words in synthetic languages contain more than one morpheme. Languages with verbal agreement are synthetic. As is obvious from this description, it is 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? Von Humboldt (1836) proposes a third type of language, namely polysynthetic, that is widely accepted.

August Wilhem von Schlegel seems to be the first in 1818 to use the terms analytic and synthetic where languages are concerned. As Schwegler (1990) points out, from the beginning, the terms were not used in precise ways since they include gradations, such as 'elles penchent fortement vers' ['they lean strongly towards'] and 'une certaine puissance de' ['a certain power of']. 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)flexional, as in English and Navajo. Sometimes, this is put as a cycle as well, e.g., in (Crowley 1992: 170) and reproduced in Figure 1.

**Table 1. Developments in Egyptian (from Hodge 1970: 5, where the \* means the stage is reconstructed).**

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

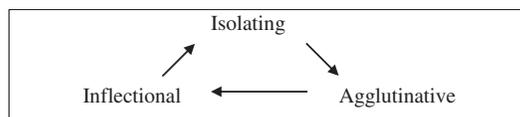


Fig 1. Attachment type cycle.

The attachment cycle is a macrocycle and is similar to what Hodge has in mind but, as mentioned before, it is hard to define what counts as synthetic, and the same would hold for inflectional. Therefore, there is skepticism about how practically useful this cycle is.

In addition to (Hodge 1970), there is research in the 1960s and 1970s by Greenberg (1978), Givón (1976), and Tauli (1958, 1966) that is relevant for cyclical change and the linguistic cycle. The renewed interest in grammaticalization starting in the 1980s is of course essential to understanding the stages of a linguistic cycle, with work such as (Lehmann 1982, 1985), (Traugott & Heine 1991), and others. After the 1960s and 1970s, there are sporadic references to cycles, but recently, work on the negative cycle has started to appear again. For instance, from June 2008 to May 2009, one-day events on the negative cycle took place in Birmingham (<http://www.lhds.bcu.ac.uk/english/cycles-of-grammaticalization>), culminating in Ingham and L'Arrivee (to appear), and a volume on cyclical change, edited by van Gelderen, appeared in 2009.

In short, research on the cycle has gone through various stages of renewed interest. One of the reasons it is currently more popular again is that accounts for cycles are easier to formulate in a formal framework.

## 2.2. CLARITY AND COMFORT

Cycles have often received explanations as in von der Gabelentz (1901), namely in terms of a weakening of the endings due to comfort, as in (1) above, and a strengthening of the original idea due to clarity. In the original, he uses 'Deutlichkeit' ('clarity') and 'Bequemlichkeit' ('comfort') as important competing factors. In this section, I provide a bit more background about what the terms mean.

Von der Gabelentz (1901) gives various examples of clarity, namely special exertion of the speech organs (p. 183), 'Wiederholung' ('repetition', p. 239), periphrastic expressions (p. 239), replacing words like *sehr* 'very' by more powerful and specific words such as *riesig* 'gigantic' and *schrecklich* 'frightful' (p. 243), using a rhetorical question instead of a regular proposition, and also replacing case with prepositions (p. 183). He also gives specific examples of comfort, and they include the unclear pronunciation of everyday expressions, the use of a few words instead of a full sentence, i.e., ellipsis (pp. 182–184), 'syntaktische Nachlässigkeiten aller Art' ('syntactic carelessness of all kinds', p. 184), and loss of gender (p. 254).

For von der Gabelentz, the course of the spiral is connected with the agglutination theory, as evident in (1), that says that all affixes were once independent words (p. 255). The examples he gives of clarity and comfort do not specifically relate to the microcycles, however, and even the cases of words turning into affixes are all pretty general, not specific examples.

As we have seen above, Jespersen has reservations about cycles, especially macro ones, and that may be at the bottom of this statement about linguistic change as a tension, a 'tug-of-war' between the speaker's needs and those of the community. Jespersen does not see this 'tug-of-war' resulting in cyclical change, and in that way, it is different from von der Gabelentz's two tendencies. He writes that

the correct inference can only be that the tendency towards ease may be at work in some cases, though not in all, because there are other forces which may at times neutralize it or prove stronger than it (Jespersen, 1922: 262)

although he mainly gives instances of weakening, i.e., phonetic ease, noting that Leskien and Sievers believed the opposite. It is not always easy to decide which sounds are easier

and in which contexts. Most examples of ease that Jespersen gives are phonetic, e.g., [h] being an easier fricative than [s] or [ʃ].

So although cyclical change has often been put in terms such as comfort and ease, such a formulation of, for instance, the negative and agreement cycles, is impressionistic. There is, however, an intuitive appeal to the two forces, and this view provides an insight that can be translated in a more formal account. First, I describe more contemporary ideas of what sets a (micro)cycle in motion and then will come back to this question in Section 4.

There are several different types of answers, language internal and external ones, namely (a) phonetic or pragmatic reasons for reinforcement and (b) language contact, language attitudes, and matters pertaining to language and identity, among other sociolinguistic issues, respectively. In acknowledging weakening of pronunciation ('un affaiblissement de la prononciation'), Meillet (1912: 139) writes that what provokes the start of the (negative) cycle is the need to speak forcefully ('le besoin de parler avec force'). Kiparsky and Condoravdi (2006), in examining Jespersen's Cycle in Greek, find no evidence for phonetic weakening and similarly suggest pragmatic and semantic reasons. A simple negative cannot be emphatic; in order for a negative to be emphatic, it needs to be reinforced, e.g., by a minimizer. Adapting ideas from Dahl (2001), they argue that, when emphatic negatives are overused, their semantic impact weakens and they become the regular negative and a new emphatic will appear. L'Arrivée (2010), examining the history of French negation, argues that a specific pragmatic function, namely accessibility of a proposition to the hearer, plays a role. Language internal reasons have also been argued as responsible for grammaticalization (and the cycle) in (Roberts & Roussou 2003) and (van Gelderen 2004, 2011). These authors have suggested that the child in acquiring its language makes choices based on economy principles. I return to this in Section 4, translating the notions of comfort and clarity into more formal terms.

Heine and Kuteva (2005) examine grammaticalization, and cyclical morphological changes, as set in motion by language contact. For instance, if a language does not have a conjunction such as 'because' of its own, it can, under the influence of a contact language that does have such a grammatical word, use one of its own prepositions to reanalyze as conjunction. This happened to various American Indian languages that came into contact with Spanish. I will not have any more to say on language contact in this paper.

To end this section, I present a partial list of cycles in Table 2. These will be discussed in the next section. As a language reaches the 'zero' stage on the right side, there will already typically be an element that is used for renewal and that may be responsible for the change in the first place. This new lexical element may resemble the one on the left side of the original cline.

### 3. Three Microcycles

As mentioned in Sections 1 and 2, there is a lot of skepticism about the usefulness of macrocycles. In this section, and the remainder of the paper, I therefore only consider microcycles.

**Table 2. Three examples of cyclical change.**

Negative Cycle
Negative argument > negative adverb > negative particle > zero
Negative verb > auxiliary > negative > zero
Subject Agreement Cycle
Demonstrative/emphatic > pronoun > agreement > zero
Copula Cycles
Demonstrative > copula > zero
Verb/adposition > copula > zero

## 3.1. THE NEGATIVE CYCLE

In Table 2, I list two negative cycles, one where the negative has a verb as its source and one where it has a negative argument as source. The former is known from languages such as Chinese where the negative *mei* derives from a verb with the meaning of ‘to die; to not exist’. The latter is known from Indo-European, and here, I will focus on the latter.

Jespersen (1917) discusses changes in negatives with examples from many languages and talks about weakening and strengthening tendencies. A typical chain of changes is given in (5), from the history of English.

- (5) eOE > OE/ME > eModE > ColloqEnglish  
*no/ne* (ne) ... *not* – *n't* – *n't* ... *nothing*

He writes that the ‘negative adverb is first weakened, then found insufficient and therefore strengthened’ (1917: 4). The reason for the weakening is that in negative sentences ‘some other word in the same sentence receives the strong stress of contrast’. Kiparsky and Condoravdi (2006: 5) argue against the phonetic weakening scenario. It is ‘not phonetic weakening of plain negation, but semantic weakening of emphatic negation’. I will now give examples of the types of change in (5), paying special attention to weakening.

In Old English, the typical negative is *ne*, as in (6). This is also possible with indefinite nouns, as with *seldguma* in (7), but many times an additional negative accompanies the *ne*, as in (8) and (9). This is known as negative concord (see Hoeksema 2009 for this as an essential stage in Jespersen’s Cycle).

- (6) *Men ne cunnon secgan to soðe... hwa*  
*Man NEG could tell to truth... who*

‘No man can tell for certain ... who’ (*Beowulf* 50–52).

- (7) *n-is þæt seldguma wæpnum geweorðad*  
 NEG-is that hall.man weapons adorned

‘That is not an (ordinary) hall-man, adorned with weapons’ (*Beowulf* 249–250).

- (8) *forþæmþe hie hiora nan wuht ongietan ne mehton*  
 because they their no thing understand NEG could

‘because they couldn’t understand anything’ (Alfred, *Pastoral Care*, Cotton 4/12).

- (9) *Ac nænig mon in þære mægðe ne heora lif*  
 but no man in that province NEG their life  
*onhyrgan wolde ne heora lare gehyran.*  
 imitate would nor their teaching heed

‘And nobody in that province imitated their life or pay heed to their teaching’ (Bede 302.21).

The next stage is when the negative argument, e.g., *nan wuht* in (8), is reanalyzed as a negative adverb. An example of this is given in (10) and (11), the latter from early Middle English. The *Pastoral Care* only has non-argumental *noht/naht* in sentences that are either phrasal or sentential negation.

- (10) *N-æron*      **naht**    *æmetti3e,*      *ðeah*    *ge*    *wel*    **ne**    *dyden*  
 NEG-were    not    unoccupied.    though    you    well    NEG    did

'You were not unoccupied, though you did not do well' (*Pastoral Care* Hatton, Sweet, 207, 20, from the OED)

- (11) *ne*    **ne**    *helpeð*    **nawiht**    *eche*    *lif*    *to*    *haben*  
 nor    NEG    helps    not    eternal life    to    have

'Nor does it help to have eternal life' (*Katherine* 26/6).

The question – one that remains controversial – is whether the phonological weakening of the *ne*, as evidenced in the frequent contraction with the verb, as in (7) and (10), led to the reinforcement, or whether the reinforcement was pragmatically conditioned and led to the loss of *ne*.

Jack (1978: 296) argues that the choice between *ne* and *ne . . . not* does not depend on simple as opposed to emphatic readings. He bases this on the sheer frequency of *ne . . . not* in early Middle English: 'it would be implausible to suggest that in so many negative clauses additional emphasis was being given to the negation'. This point in time, however, would precisely be evidence for Kiparsky and Condoravdi's stage where emphatic negation was being used as simple negation. That still leaves us to find the contexts where *ne . . . not* first appeared. Jack (1978) notes that *ne . . . not* does not occur with another negative indefinite. *Ne* can be by itself, as in (6), with another negative indefinite, as in (8), or with a form of *not*, as in (10). It therefore seems that the adverbial *not* and the other negative arguments fulfill the same function, namely to strengthen the original *ne*. I will assume with Kiparsky and Condoravdi and others that the strengthening was semantically motivated, not phonetically motivated. My reason for this is that there *ne*-contraction is independent from doubling, as (7) shows, although both contraction and reinforcement are more frequent in the South.

As is well known from varieties of non-standard English, Modern English *-n't* is again reinforced by *nothing* or *nobody*, as in (12), as predicted by the cycle.

- (12) I **can't** do **nothing** for you either, Billy  
 (Ken Kesey, *One flew over the Cuckoo's Nest* 118).

Labov (1972: 176–177) points out 'negative concord is an optional rule for almost all dialects of English', one that has 'strongly emphatic character'. At least since the 18th century, there has been such a prohibition against multiple negatives to express sentential negation that, even though an overt negative object in (12) with a negative *n't* would be expected, this will not happen in most standard varieties of English.

Instead, to renew the weakened negative *-n't*, *never* is used on its own, as in (13).

- (13) I **never** saw the outline of a plane, just this incredible ball of flame  
 (BNC-CH2 12700).

However, even with *never*, prescriptive rules say to only use *never* when you mean 'at no time, not ever' and not for the regular negation. This aversion against the use of *never* as a more emphatic negative is evident from the discussion of the 'vulgar' use of *ne'er* in the 19th century (see Trudgill & Cheshire 1998: 129). That means the use of the reinforcing *never* in (13) is prescriptively 'wrong' and may therefore not be an alternative for (12). Here, we see external reasons interfering with cyclical change.

In short, the negative cycle proceeds as in (5), resulting in (12). The next stage would be for *-n't* to disappear and for another negative to be used for reinforcement. As mentioned, external forces may be stopping this.

## 3.2. THE AGREEMENT CYCLE

I will now look at the reanalysis of pronouns to agreement markers. Givón, arguing that agreement markers arise from pronouns, says ‘agreement and pronominalization ... are fundamentally one and the same phenomenon’ (1978: 151). Many languages indeed have subject pronouns that look like fuller versions of the inflection on the verb. Navajo is such a language. Note that the optional *shi* pronoun and obligatory *-sh-* inflection in (14) are related; the same is true with the other persons.

- (14) *Shi* *diné bizaad* *yíni-sh-ta'* *Navajo*  
 I Navajo language 3-1-study  
 ‘As for me, I am studying Navajo’.

French has gone through a complete agreement cycle. The Modern French data are well known from Lambrecht (1981) and Zribi-Hertz (1994): the current pronoun has been argued to be verbal agreement. I will start this discussion with Old French. The emphatic subject pronoun is *je*, as in (15). It is not a clitic yet since it can be separated from the verb.

- (15) *Se je méisme ne li di* *Old French*  
 If I myself not him tell  
 ‘If I don’t tell him myself’ (Franzén 1939:20, Cligès 993).

This *je* is possibly being analyzed in this stage because another subject pronoun appears regularly, as in (16).

- (16) *Renars respond: ‘Jou, je n’irai’*  
 ‘R answers “Me, I won’t go”’  
 (Coronnement Renart, A. Foulet (ed.) 1929: 598, from Roberts 1993: 112).

Old French, which is pro-drop, has first and second person *je* and *tu* for nominative and *moi* and *toi* for accusative emphatic. After the loss of pro-drop, *je* and *tu* become the regular clitic pronouns, and *moi* and *toi* become the emphatics for both nominative and accusative, according to Harris (1978).

In the modern period, the situation is different from (15) because the subject pronoun is obligatorily attached to the finite verb, as (17a) shows. If it is not attached, it is ungrammatical, as in (17b).

- (17) a. *Je lis et j’-écris,* *Colloquial French*  
 I read and I-write.  
 b. \**Je lis et écris.*  
 I read and write.

As a result of this obligatory attachment of *je* to the verb, it is no longer possible to separate them, as (18a) shows, whereas a full noun can be separate from the verb, as (18b) shows.

- (18) a. *Je heureusement ai vu ça* *French*  
 I probably have seen that.  
 ‘I’ve probably seen that’.  
 b. *Kurt, heureusement, a fait beaucoup d’autres choses.*  
 Kurt fortunately has done many other things.  
 ‘Fortunately, Kurt did many other things’ (google search of French websites).

Lambrecht (1981: 6) also mentions the elimination of clitic-verb inversion, as in (19). Instead, one hears (20).

- (19) *Où vas-tu* Standard French  
 where go-2S
- (20) *tu vas où* Colloquial French  
 2S go where  
 ‘Where are you going?’

There are other reasons for arguing that the ‘pronoun’ is agreement, for instance, pronouns such as *je* ‘I’ and *tu* ‘you’ cannot be coordinated or modified, as pronouns in other languages can or could in earlier French.

Where and why does the agreement cycle start? It could be similar to the negative cycle in that pragmatic/semantic strengthening, e.g., by *jou* in (16), triggers the weakening of the *je*, or the other way round, namely that the phonetic weakening of *je* triggers the presence of an emphatic. I come back to this question towards the end of the paper.

### 3.3. THE COPULA CYCLES

Li and Thompson (1977) are among the first to examine the change from demonstrative to copula systematically, and Katz (1996) is one of the first to note its systematic nature and to discuss it as a cycle. Copula cycles occur in many typologically and genetically different languages: Turkish, Uto-Aztec, Chinese, Hebrew, Palestinian Arabic, Maltese, Kenya Luo, Lango, Logbara, Nuer, Wappo, West Greenlandic, and Creoles. There are other sources for copulas, mainly prepositions and verbs (see Hengeveld 1992; Stassen 1997; and Pustet 2003).

In the cycle that involves a pronoun, a third person subject pronoun or demonstrative is reanalyzed as a copula verb, initially with its person and number features intact. This change is different from the subject cycle of the previous section, where first and second persons are consistently the first to change and where all persons participate. Full verbs are also reanalyzed as copulas as are prepositions, although I only briefly discuss the verbal origin.

The way the pronoun to copula cycle has been explained is through the reanalysis of a topic or focus construction (see e.g., Li & Thompson 1977).

- (21) The elephant that happy  
 TOPIC SU VP  
 ↓  
 SU copula VP

However, if the reanalysis in (21) is correct, the question is why first (or second) person pronouns are never reanalyzed as copulas since they are frequent topics.

Copulas come in many ‘flavors’. This flavor is due to the semantic features of the source. Let us take an example from English, a language very rich in copula verbs, e.g., *be*, *become*, *go*, *fall*, *turn*, *seem*, *appear*, *stay*, and *remain*. Verbs such as *remain* and *stay*, when they are main verbs, have [duration] as a semantic feature, and *seem* and *appear* have [visible]. These features remain active when the main verbs, such as in (22a), are used as copulas in (22b). I have listed some of these features in (23).

- (22) a. We want to remain at the forefront of developing and building democracy across the region (COCA Washington Monthly 2012).  
 b. You understand, T.J., that you have the right the remain silent (COCA CBS Evening News 2012)

(23)		<i>be</i>	<i>remain</i>	<i>seem, appear</i>	<i>stay</i>
	semantic	[location]	[duration]	[visible]	[duration]
	features	[equal]			

One of the problems with a representation such as (23) is that it seems rather ad-hoc which semantic features we assign to the lexical items. I return to this issue in Section 4.

McWhorter (1997) presents examples of demonstrative pronouns that were reanalyzed as copula verbs in Saramaccan, as in (24), where *da* derives from the English demonstrative *that*.

- (24) a. *Mi da i tatá* Saramaccan  
 I am your father  
 'I am your father' (McWhorter 1997: 87).  
 b. *Hɛn dà dí Gaamá.*  
 He is the chief.  
 'He's the chief' (McWhorter 1997: 98).

He argues that early Saramaccan had a zero copula, and the demonstrative subject pronoun *da* 'that' was reanalyzed as an identificational equative copula (an equative is the term used when two entities are equated). McWhorter also argues that earlier *mi* 'I' and *hɛn* 'he' in (24ab) were in topic position but that they are now in subject position. I am assuming this scenario is correct and therefore a clear case of a demonstrative pronoun reanalyzed as copula followed by a new pronoun appearing in subject position.

Apart from the copula *da*, there is another copula in Saramaccan that is derived from the English locative adverb *there*, namely *dɛ* in (25). Simplifying the situation a little, this form can be used for locatives, with the locative features of the adverb *there* transferred to the copula.

- (25) *Dí wómi dɛ a wósu*  
 the woman is at house  
 'The woman is at home' (McWhorter 1997: 88).

Baptista (2002) provides sentences from Cape Verdean Creole (hence CVC) showing a similar origin of the copula. In (26), the copula form *e* (used with individual-level predicates) derives from the third person pronoun *el* 'he' and has kept its person and number features since this copula can only be used for third person singulars.

- (26) a. (**El**) *e nha pai* CVC  
 'He is my father.'  
 b. (**El**) *e spertu* CVC  
 'S/he is smart.' (Baptista 2002: 255)

The copula *e* in (26) has none of the deictic features since it is purely equational. Because (26) is limited to third person singular, we could also argue that *e* still is the subject and that the optional *el* is a topic. This is what Baptista (2002: 102) suggests: '*e* occupies the syntactic position of a copula but behaves like a pronoun'. Later on, she argues that it is also used as a focalizer, as in (27).

- (27) **E** *mi ki ta fika ku kes minizu* CVC  
 FOC 1S REL ASP stay with the kids  
 'It is me who stays with the kids' (Baptista 2002: 103).

This means that, as copula, it can also move to the left periphery and that being a topic or cleft marker is a natural extension of the copula.

Cape Verdean Creole also has a stage-level copula *sta* that can be used with any subject, as (28) shows; when used without a pronoun, it can be first, second, or third person.

- (28) *Bu sta livri* CVC  
 ‘You are free’ (Baptista 2002 : 255).

The origin of *sta* is verbal – I assume *estar* ‘be’ in Portuguese, which derives from the Latin *stare* ‘to stand’. So, CVC shows that a third person pronoun can be used as an individual level copula. It does not show evidence of a demonstrative being reanalyzed in a more locational way.

If demonstrative pronouns have deictic features, they can be ‘confused’ with copulas, i.e., are ambiguous and can be reanalyzed. This is what we see in Saramaccan and CVCs. The former also grammaticalized a locational adverb and the latter a verb to express nuances of copular meaning.

#### 4. A Feature-based Account for the Cycle

In Section 2, I have mentioned several reasons that have been posited to account for cycles. The main ones I discussed were phonetic and pragmatic weakening. These are in fact more sophisticated ways of saying cycles are due to comfort and clarity. Here, I reformulate the cycle’s two tendencies in a minimalist framework. I will argue that grammaticalization finds an account in the Minimalist Program’s reliance on formal features and so do cycles.

Chomsky (1995) focuses on features as the locus for language acquisition. It is only in features that languages differ. Baker, while disagreeing with this view of parameters, calls this the Borer–Chomsky Conjecture (Baker 2008: 156): ‘All parameters of variation are attributable to differences in the features of particular items (e.g., the functional heads) in the lexicon’. This emphasis makes it possible to see the cycle as a loss of features, followed by a renewal, a conclusion that is not surprising considering traditional work in grammaticalization. First, we need a little more background on features.

Many types of features are introduced in Chomsky (1995), and I focus on semantic (e.g., abstract object) and formal features. The formal ones are relevant to syntax and are divided into intrinsic or optional. The intrinsic ones are ‘listed explicitly in the lexical entry or strictly determined by properties so listed’ (Chomsky 1995: 231) and include categorial features, the case assigning features of the verb, and the person and gender features of the noun. Optional features are predictable from linguistic principles (e.g., nouns need case or some kind of licensing). They include the tense and agreement features of verbs and the number and case features of nouns. The person, number, and gender features are usually referred to as phi-features. A schematic representation can be found in Table 3.

Formal features can be interpretable or uninterpretable. The case features on nouns and the agreement features on verbs are uninterpretable (in English) because they are not relevant

**Table 3. Features of *airplane* and *build* (adapted from Chomsky 1995: 231).**

	<i>airplane</i>	<i>build</i>	
<b>semantic:</b>	e.g. [artifact]	e.g. [action]	
<b>formal:</b>			
intrinsic	optional	intrinsic	optional
[nominal]	[number]	[verbal]	[phi]
[3 person]	[CASE]	[assign accusative]	[tense]
[non-human]			

for the interpretation. In English, (29) is perfectly understandable but grammatically incorrect. That means the incorrect accusative case of *me* is not relevant nor is the incorrect agreement on the verb.

(29) Me sees him.

The interpretable features are the tense of the sentence, the person and number features on nouns, and the case assigning features of the verb (e.g., a verb such as *paint* can check/value the accusative of its object but *arrive* cannot). These are relevant for the interpretation of a sentence: the [i-3S] in (30a) stands for interpretable third person and singular number features on the noun and the [u-phi] for uninterpretable, and as yet unspecified, person and number features on the verb. The latter are crossed out in (30b) after having been checked because they are not relevant for the interpretation. In (30), I just show the phi-features.

(30)		He	reads	books
	a. before checking	[i-3S]	[u-phi]	[i-3P]
	b. after checking	[i-3S]	<del>[u-phi]</del>	[i-3P]

An uninterpretable feature is called a probe, and it needs an interpretable feature, i.e., the goal. An interpretable feature is independent of other features, and we will see this is important for the cycle.

Chomsky (1995: 230; 381) writes that ‘formal features have semantic correlates and reflect semantic properties (accusative Case and transitivity, for example)’, and later (Chomsky 2001: 10), he says that semantic and formal features ‘intersect’. This intersection was not there in (Chomsky 1965: 142) where semantic features are defined as not involved in the syntax. I take the intersection to mean that the interpretative component does not distinguish between these features and that semantic features may provide the valuation for the uninterpretable ones.

After the derivation is built, it splits into a part that goes to the sensory-motor interface to be pronounced, and a part that goes to the conceptual interface to be interpreted. Figure 2 shows the derivation and the interfaces. Interpretable features end up at SEM, the semantic interface; uninterpretable features are transferred to PHON, phonological interface.

I now return to the three cyclical changes, negatives, agreement, and copulas that we have seen before to show there is a change from semantic/interpretable to uninterpretable features.

Let us start with the negative cycle. In (11), we saw a renewal of the Old English negative *ne* by means of *nan wuht* ‘no creature’. At the early stages of the renewal, the renewing element can be any negative argument that reinforces the negative *ne*, e.g., *nan Ding* ‘no thing’, *nan wuht*, *na(n)wuht*, *nan scild* ‘no shield’, and *na mon* ‘no man’. There is not one designated form. The semantically negative features of these arguments aid in the renewal. The next step is for these semantic features to be reanalyzed as interpretable ones, as has happened in the early Middle English (11), where *nawiht* is no longer an argument. The final step in the cycle is for the *nawiht/noht* to be reanalyzed as weak, i.e., uninterpretable, and for renewal to start again.

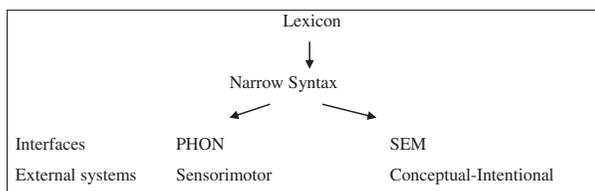
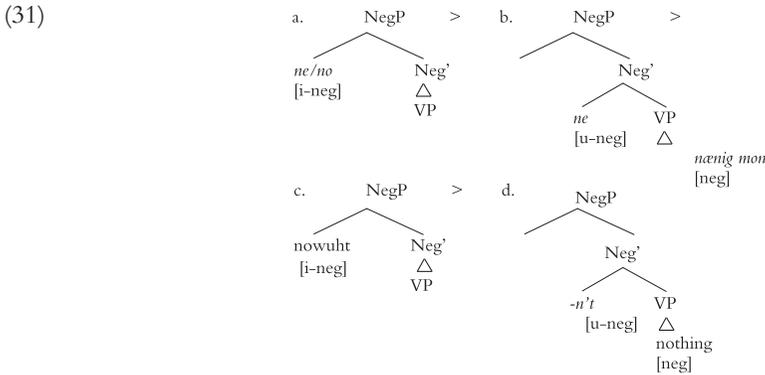


Fig 2. Interfaces.

In tree form, using a Neg(ation)Phrase, the changes are represented in (31). In (31a), the negative features are analyzed by the language learner as interpretable, but they are (re)analyzed in (31b) as uninterpretable because there is an argument that is negative in semantic features. The uninterpretable negative feature acts as a probe looking for a goal. In (31c), the *nowuht* becomes the designated negative with interpretable features, which it loses in (31d) and so on.



Changes in negatives can be explained by arguing that their (initially) semantic features are reanalyzed as interpretable and then as uninterpretable. So, the pragmatically renewed negative has semantic features that end up being used grammatically, initially as a full phrase in the specifier position, as in (31a), and then in the head, as in (31b). Once the phrase is reanalyzed as a head (e.g., Old English *ne* ‘not’), another element is required. Van Gelderen (2008, 2011) formulates these changes as an Economy Principle, as in (32).

(32) **Feature Economy**

Minimize the semantic and interpretable features in the derivation, e.g.:

DP in the VP	Specifier of NegP	Head Neg	negative affix
semantic	> [iF]	> [uF]	> [uF]

This means the child, in acquiring his or her words, will initially connect these with semantic features but later extrapolate the grammatical ones.

In Figure 3, the changes can be represented as follows: semantic features are reanalyzed in the specifier position as interpretable and in the head as uninterpretable features.

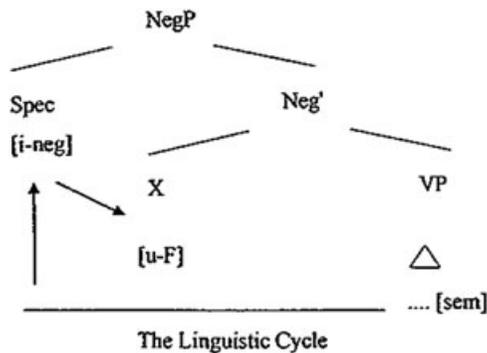


Fig 3. The linguistic cycle.

Above, in relation to (23), I mentioned that features are very numerous and possibly ad-hoc. According to Roberts (2009: 47), we need

an appropriate feature system which breaks down major categories (N, V, etc) into smaller ones (count noun, transitive verb, etc.) up to a fairly fine-grained level. In the case of functional categories, which will be the major concern in what follows, we will be dealing with categories such Modal, which can be divided into epistemic, alethic, deontic, etc.

How does the child know which features are available? This will have to be from universal grammar. Even as early as 1965, Chomsky writes that ‘semantic features . . . too, are presumably drawn from a universal “alphabet”’ Chomsky (1965: 142). He continues to say, up to the present, ‘UG must at least provide atomic elements, lexical items . . . , each a structured array of properties (*features*)’ Chomsky (2007: 6). So, let us assume that the inventory of features is given and that the semantic and phonological interfaces require that their input is legible, this being responsible for the various formal features.

The change represented in (32) occurs in the case of the negative cycle as well as the subject pronoun to agreement cycle: the interpretable person (and gender) features of a full pronoun are reanalyzed as uninterpretable when they become agreement, as represented in (33).

- (33) Subject Agreement Cycle
- |                   |   |              |   |              |   |                   |
|-------------------|---|--------------|---|--------------|---|-------------------|
| emphatic pronouns | > | full pronoun | > | head pronoun | > | agreement         |
| [phi]             |   | [i-phi]      |   | [u - 1]      |   | [i - 2/3] [u-phi] |

Let us take the Old French in (15) above and repeated as (34). In (34), the emphatic pronoun is *je*; it is optional and need not immediately precede the verb *di*. It has first person singular features, but these are semantic features<sup>1</sup>, not necessarily involved in checking. If Old French is pro-drop (cf. Adams 1987; Vance 1997), it is the null subject that provides the interpretable features for the verb’s uninterpretable ones to check with.

- (34) *Se je meisme ne li di* Old French  
 If I myself not him tell  
 ‘If I don’t tell him myself.’

In most languages, pro-drop is lost earlier for first person and later for second and third (van Gelderen 2000) and, hence, my differentiation between first and second/third person in (33). Once pro-drop is lost, the uninterpretable phi-features on the verb need new semantic or interpretable features, which they find in the emphatic *je* pronoun of e.g. (34). This stage is then reached for all persons and *je* ‘I’, *tu* ‘you’, and *il/elle* ‘he/she’ and others are reanalyzed as valuing the phi-features of the verb. Currently, the last stage of the cycle is taking place because the first and second person pronouns are being reanalyzed as agreement on the verb, i.e., as having uninterpretable phi-features in need of another semantic or interpretable phi-marker. This is the reason (35) is frequent.

- (35) *Moi, je dit toujours que..* Spoken French  
 me, I say always that . . .  
 ‘I always say that . . .’

Now we have come full cycle where a pronoun becomes agreement and is replaced by a new pronoun.

As for the copula cycle, in (van Gelderen 2011), I argue that the change is due to the deictic features of the demonstrative, which translate into locational features on the copula, as in (36).

(36)	semantic	$D$	$>$	$V$
	formal	[distance]		[location]
		[i-3S]		[u-phi]

In conclusion to this section, I have translated the traditional ideas of comfort and clarity, and phonetic and pragmatic weakening, into minimalist features to account for the cycle(s).

### 5. *Conclusions and Further Remarks*

In this article, I have provided some background on the linguistic cycle and have given three examples of such cycles. Macrocycles that affect the character of a language remain controversial, and I have therefore mainly restricted the discussion to microcycles. I have also considered accounts of what sets the cycle in motion. The traditional ideas of clarity correspond to pragmatic strengthening and that of comfort to phonetic weakening. I have argued that one can also look at the two forces in terms of Feature Economy. Loss of semantic features occurs when full verbs such as Old English *go* with features such as [motion, direction, and intention] are reanalyzed as having only the feature [future] in Middle English. The features can then be considered grammatical or formal rather than semantic.

The urge of speakers to be innovative may introduce new, loosely adjoined elements into the structure, and that may provide evidence to the language learner to reanalyze the older form as uninterpretable. Hagège (1993: 153) uses the term ‘expressive renewal’. Speakers may want to be explicit and therefore choose full phrases rather than heads. One source of renewal is through borrowing. In conclusion, languages change in systematic ways. The only plausible reason for this is that the learners have principles guiding these changes.

### *Abbreviations*

BNC British National Corpus	OE Old English
COCA Corpus of Contemporary American	OED Oxford English Dictionary
CVC Cape Verdean Creole	P plural
e early	S singular
F any functional category	u uninterpretable
i interpretable	UG Universal Grammar
ME Middle English	1, 2, 3 First, second, third person

### *Short Biography*

Elly van Gelderen received the Dutch equivalent of a BA and MA from Utrecht University and a PhD from McGill. She has taught in Canada and the Netherlands and is currently Regents' Professor at Arizona State University, typically teaching syntax, grammar, linguistics, typology, and history of English. She is the author of a textbook on English grammar (*An Introduction to the Grammar of English*, 2010, John Benjamins), one on the history of English (*A History of English*, 2006), and one on syntax (*Clause Structure*, forthcoming, Cambridge University Press), in addition to five other single-authored books (the most recent is *The Linguistic Cycle*, 2011, Oxford University Press). Her research interests focus on what linguistic change can tell us about the language faculty.

## Notes

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<sup>1</sup> In the case of English and French pronouns, it is not so obvious that they have semantic person features. Southeast Asian languages show this better. Indonesian *saya* 'I' originates from 'servant, slave' but is now the regular first person. Thai is reported to have over 20 first and second person markers, all derived from nouns.

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