Title: Homoplasy in diachronic grammar

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Abstract

The application of evolutionary thinking to language change has a long tradition, and especially in functional approaches it is currently widely accepted that certain mechanisms can be fruitfully used to describe both biological and linguistic processes. In this article, the evolutionary concept of homoplasy, the recurrence of similar traits in unrelated lineages, is applied to language change. Extending the earlier application of the concept by Lass (1997), homoplasy is here argued to operate not only on the phonological level, but on the morphosyntactic level as well, and not only between languages but also within languages, at the level of constructions. The idea is that phenotypic resemblance in constructions may hide etymological differences. In other words: what looks the same from a synchronic perspective may derive from multiple source constructions historically. On the basis of four case studies in Dutch diachronic morphosyntax, it is shown that homoplasy can offer an insightful account of some long-standing puzzles.

Keywords: homoplasy, grammaticalisation, degrammaticalisation, reanalysis, analogy, evolution

1 Introduction: evolutionary thinking in linguistics

The application of evolutionary thinking to language change has a long, though not uncontroversial tradition. The reason for the controversy surrounding this line of research is not so much the idea that evolutionary principles can be used to model language change, but rather regarding the precise level at which they operate. In the 19th century, the prevailing idea was that it was not the utterance, or the language user, or language as a biological trait in humans that was the relevant level to look for evolutionary mechanisms, but rather individual languages themselves, which were 'hypostasised': linguists such as Grimm, Humboldt, Schlegel, Schleicher and Max Müller saw language as a living organism, going through a life cycle of birth, growth and death (Bakker, 1977, pp. 120-121; Morpurgo-Davies, 1998, pp. 86-88; Janda and Joseph, 2003, pp. 6-10). In such an organic view, the analytic tools of biology evidently applied to language as well. This view was discredited in later days, by the Neogrammarians (see Harris and Campbell, 1995, pp. 18-19) and others (see Janda and Joseph, 2003, p. 7), but the idea that language change can be modelled by appealing to evolutionary processes in biology had by then become firmly rooted. Currently, the idea is well accepted (see Rosenbach, 2008 for a recent overview), most so in functionalist approaches (see Nettle, 1999), not by stating that languages are biological organisms, but rather by starting from a general evolutionary framework, which is then applied to both biology and cultural systems, including linguistics (Hull, 1988; Dennet, 1995).[1] This idea was elaborated into a full-fledged theory of language change by Croft (2000), but other linguists,

[1] The application of evolutionary thinking to (a) the emergence of language as a biological trait in humans, and (b) language classification and phylogenetic reconstruction will not be considered here.

like Lass (1997), Givón (2002), Ritt (2004), Mufwene (2008) and Landsbergen (2009), to name just a few, have extensively drawn on evolutionary concepts as well.[2]

Some scholars doubt whether applying evolutionary thinking to linguistics is useful. As De Cuypere (2005) argues, some biological concepts are injudiciously borrowed without actually adding explanatory value to linguistic problems. Still, biological concepts can often be used as convenient metaphors. In this paper, we bring together a number of morphological changes that have been less than fully understood, and we suggest that they can be brought together under the rubric of 'homoplasy'. This concept is understood as the independent recurrence of functional traits in distinct lineages.

2 Homoplasy

2.1 Homoplasy in biology

Comparative biologists have long been intrigued by similarity in traits in different organisms. Often, such similarity is due to shared ancestry. Doves and ostriches e.g. both have wings, because they share an ancestor, more accurately their most recent common ancestor, which has wings. This is what evolutionary biologists call *homology*. In its technical sense, it is seen in opposition to *homoplasy*, a term coined by Lankester in 1870, which is defined as the emergence of similar traits in unrelated lineages (see Sanderson and Hufford, 1996; Wake, 1996). Birds and insects have wings, but they have developed them independently. The difference can be schematically represented as in Figure 1 and Figure 2.

[2] Lass and Ritt do in fact argue that languages can be treated as organisms, but their position differs from nineteenth-century organicism.

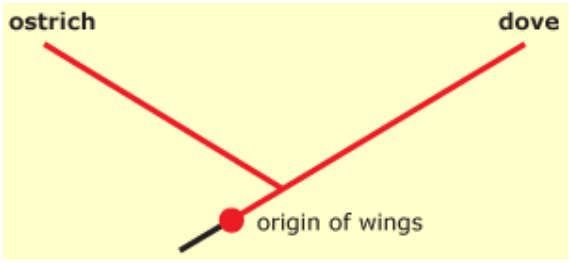

Figure 1: Homology (see http://evolution.berkeley.edu)

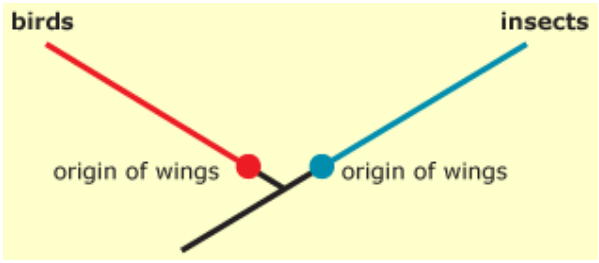

Figure 2: Homoplasy (see http://evolution.berkeley.edu)

Though it is not always easy to reliably detect homoplasy, it is by no means a rare phenomenon, neither at the molecular level, nor at the level of gross morphology. One of the most remarkable examples is the eye, which has evolved independently several times in the course of evolution: eyes of squids, insects and mammals are sufficiently different to argue that they have arisen independently in the different lineages.

What is the main motivation for homoplasy, or convergent evolution?[3] At the molecular level, homoplasy can be the result of random drift, but at higher levels there seem to be two main reasons why homoplasy arises. The first is that organisms respond to similar ecological pressures, and adapt in the same way. The independent emergence of the eye is a good example: using a light-sensitive tool to get sensory information about the environment is obviously advantageous to all sorts of organisms. Another obvious example is the similar

[3] Homoplasy covers convergence, parallelism and reversal/atavism/rudiments. This subclassification will not feature in the present article, where only convergent evolutions will qualify as homoplasy (see also Hall, 2003).

morphology of dolphins and ichthyosaurs (see Figure 3 and Figure 4), who have adapted in similar ways to the aquatic environment.

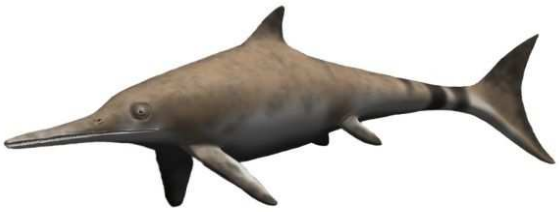

Figure 3: *Ichthyosaurus* communis (see http://en.wikipedia.org/wiki/Ichthyosaurus)

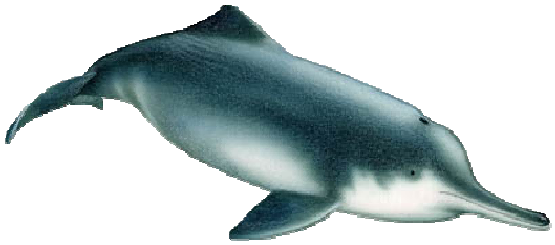

Figure 4: Chinese River Dolphin (see http://en.wikipedia.org/wiki/River_dolphin)

The second reason for convergent evolution is that organisms face design limitations: there are only so many ways to tinker with extant body plans (see Wake, 1991).

2.2 Homoplasy in linguistics

This paper is not the first to apply the concept of homoplasy to language change. In Lass (1997, pp. 118-123, 172-214), it is applied to sound change. This is illustrated by the change in West Germanic */o:/, which appears as /u:/ in both English and German (e.g. *cool/kuhl*). Lass (1997, pp. 120-121) argues that the innovation did not take place prior to the split between English and German, but arose independently in both lineages. Apart from a focus on sound change, Lass's account of homoplasy is also restricted by looking at independent recurrence of traits in two (or more) different languages. In this paper, the linguistic

conception of homoplasy is extended from phonological change to morphosyntactic change, and from the inter-language level to the intra-language level. This last step needs some clarification. What does independent recurrence of similar traits within one language mean? What are the different lineages that the traits are observed in? The upshot of this article is that what looks superficially (phenotypically) similar in different constructions can historically derive from quite different material. To give a simple example (from Joseph 2004, p. 56): English *ear* (of corn) and *ear* (body part) are synchronically indistinguishable, but are etymologically unrelated. They correspond to Germanic **ahuz* and **awz-* respectively. This notion of language-internal homoplasy can be extended to morphosyntax as well: the preterite in Germanic draws on the Indo-European perfect for the singular and on the Indo-European aorist for the plural (Prokosch 1939, p. 146). the original distinction between perfect and aorist was lost, and both forms were subsumed under one paradigm, which was sometimes subject to analogical leveling in later periods. What looks like one paradigm, with one function, can be historically traced back to different lineages. But there is more to it. The singular preterite *steeg* (‘rose’) in Dutch has a long [e:], just like the plural *stegen*. Still, underneath these two indistinguishable vowels, there is an etymological difference: the long e of the singular is an erstwhile long vowel, deriving from Proto-Germanic *ai*, and written as <ê> in descriptive historical morphology handbooks, whereas the long e of the plural is the product of lenghtening of the short ĕ to ē. So besides the language-internal morphosyntactic homoplasy, there is language-internal phonological homoplasy here as well.

This means that constructions form historical lineages, or, in other words, that the concept of a lineage is not restricted to the level of languages, but pertains to the level of constructions as well (see also Croft, 2000). In a sense this resonates with the idea in current biology that organisms are conglomerates of smaller parts, which each follow their own evolutionary

course, and that there is no hard and fast boundary between interspecific and intraspecific coadaptation.

In the next sections, a number of constructions in the history of Dutch will be discussed that have puzzled scholars for quite some time. These constructions have been mentioned in philological publications as early as the latter half of the 19th century, but they still remain problematic for present-day theories. It is argued that in each of these cases, the concept of homoplasy is a convenient way to frame their peculiar nature.

3 Case studies

3.1 Case 1: Big Mess Constructions in Dutch

Middle Dutch features a construction in which an adjective submodified by a degree adverb precedes an indefinite article, as in (1). The construction occurs in English as well (e.g. *so tall a man*), and goes under various names, such as the PDA (predeterminer adjective) construction and the Big Mess Construction (from *so big a mess*, a reference to the intricate syntax of the construction).

(1) So hovesch een cnape is Martinet (Middle Dutch, Van der Horst, 2008, p. 525)
so courtly a fellow is Martinet
'Martinet is such a courtly fellow'

The peculiar nature of this construction has elicited some scholarly interest, by, among others, Jespersen (1970, p. 364), Bolinger (1972), Seppänen (1978), Kennedy and Merchant (2000), Seppänen et al. (2002) for English, and Duinhoven (1988, pp. 147-149, 322-323) for Dutch.

Not much is known, however, about the diachronic details of this construction. Though some of the studies just mentioned do take historical data into account, it is not clear where the construction came from or why it has died out in 19th century Dutch. We do know that it is a 13th century innovation, both in English (see Rissanen 1967, p. 266) and in Dutch (see Van der Horst and Van de Velde, 2003; Van der Horst, 2008, p. 525). The emergence as late as the 13th century is mysterious. Predeterminer adjectives of the type exemplified in (2) had already died out during the Old English period (see Wood, 2007), and are not known from the early stages of Dutch either (see Van der Horst, 2008, p. 303).

(2) on wlancan þam wicge (Old English, Mitchell, 1985, p. 70)
on magnificent that horse
'on that magnificent horse'

One of the few studies that do tackle the diachronic issue is Van der Horst and Van de Velde (2003). On the basis of historical corpus data, they argue that the construction goes back to a case of reanalysis: the inflectional ending on the adjective has been mistaken for an indefinite article. The change can be illustrated by the following minimal pair:

(3) Ic hebbe soo grooten lost (...) (Middle Dutch, MNW s.v. lust)
I have so strong desire
'I have such a strong desire'

(4) dat zy zo groot een lust had (...) (Modern Dutch, 18th century, WNT s.v. knikkeren)
that she so strong a desire had
'that she had such a strong desire'

According to Van der Horst and Van de Velde (2003), the inflectional ending *-en* on the adjective *grooten* was reanalysed as the homophonous clitic indefinite article. This goes counter to the account in Van Haeringen (1953/1954), who argues the other way around, that the *-en* in (3) is a clitic indefinite article, which was occasionally reanalysed as an inflectional ending. Still, Van der Horst and Van de Velde (2003) adduce a number of arguments for their view. One is that in Early Middle Dutch the 'enclitic' article is consistently uninflected, even in syntactic contexts where it would normally inflect regularly (as admitted by Van Haeringen, 1953/1954, p. 72). This is illustrated in (5)-(6). If the adjective *subtilen* in (5) indeed hides an enclitic article *-en*, then one would expect to find the inflected article *e(e)nen*, as in the analogous example (6), rather than the uninflected *e(e)n*. This would then yield *van so subtilenen man*, a pattern which is unattested in Middle Dutch.

(5) Van so subtil=en man (MNW s.v. sin)
about so smart=a.UNINFLECTED man
'about so smart a man'

(6) Van een-en man (Middle Dutch, MNW s.v. bediën)
about a-INFLECTED man
'about a man'

Second, Van der Horst and Van de Velde's account explains why in Early Middle Dutch as well as in later periods, the article is often absent.

(7) in so heylighe stat (Middle Dutch, RM 68)

in so holy place

'in so holy a place'

Third, it explains why in early Middle Dutch, the indefinite article is hardly ever orthographically separated from the adjective in this construction. Examples like (1) are rare. Fourth, the adjective never shows any sign of Auslautverhärtung, which is strange if the *-en* is really an enclitic article (see Van Haeringen, 1953/1954, p. 72). So in patterns like (8), we consistently observe /d/ instead of /t/.

(8) so goeden riddere (Middle Dutch, MNW s.v. goet)

so good.INFLECTED/good=a knight

'so good a knight'

(9) *so goeten riddere

There are, moreover, other arguments that support the diachronic account of Van der Horst and Van de Velde. To begin with, it offers an explanation for the observation that the construction is only attested with indefinite articles, not with definite articles or other indefinite articles, a fact that is notably hard to explain, as Baker (1989, p. 327) admits. Note that a semantic explanation will not do, as adjectives with degree modifiers are not per se incompatible with definite and indefinite determiners other than the indefinite article.

(10) die zo hoognodige bescherming (Modern Dutch, 18th century, WNT s.v. werkzaam)

that so urgently.needed protection

that protection so urgently-needed

(11) eenige zo gewigtige Artikelen van onze Staatsregeling (Modern Dutch, 19th century, WNT s.v. bewerkstelligen (aanv.))
some so important articles of our state.regulation
'some of these so important articles of our state regulation'

A further argument against the idea that the *-en* ending on the adjectives is really an enclitic indefinite article, is that the indefinite article is sometimes found in definite NPs, as in (12), or in plural NPs, which normally require bare nominals when indefinite (just as in English), see (13).

(12) Dit zoo brusk een plakkaat (Early Modern Dutch, WNT s.v. brusk)
this so brusque an edict
'this most brusque edict'

(13) zich grootelyx ontzettende oover zoo nieuw en byster een voorstellen (Early Modern Dutch, HH 194)
REFL very horrifying about so new and outrageous a proposals
'being very horrified by such new and outrageous proposals'

In sum, the diachronic facts suggest that the indefinite article in the 'Big Mess' Construction, though acting as a full-fledged indefinite article in Late Modern Dutch, originated as an inflectional adjective ending in Early Middle Dutch. But if this is indeed what has happened, then we have a shift from inflectional morphology to a free (grammatical) word. This is not what is expected under the unidirectionality claim in grammaticalisation theory, which says

that changes normally proceed from left to right on the following cline (see Hopper and Traugott, 2003, p. 7):

(14) content item > grammatical word > clitic > inflectional affix

The Big Mess Construction seems to be an instance of degrammaticalisation then.[4] All in all degrammaticalisation is a rare phenomenon (see Heine, 2003, p. 582), which consequently requires extra explanatory effort.

So what motivates the unusual course of events in the case at hand? Possibly, there is a conflict in the structure of these NPs. The indefinite article is a Late Old Dutch innovation, emerging in the written tradition around 1000AD, and was not fully established yet in Early Middle Dutch (Van der Horst, 2008, pp. 388-392). It could remain absent in all sorts of constructions where it would later become obligatory (see Stoett, 1923, pp. 59-65 for an overview), and so it may have been shunned in complex NPs with a submodified adjective. As mentioned above, the most common construction in Early Middle Dutch is indeed the one without an article, as in (7). As the indefinite article took root during Middle Dutch, it became obligatory in the Big Mess Construction as well. Adding an article in such NPs is, however, problematic. If it precedes the whole AP (degree modifier + adjective), we have a centre-embedded 'brace' construction, which Middle Dutch is much less tolerant about than Present-

[4] At least under a fairly broad conception of degrammaticalisation, applying it to every instance of a grammatical change that goes in the opposite direction of the normal left-to-right trend on the grammaticalisation cline in (14). If degrammaticalisation is more narrowly defined, as e.g. in Norde (2009), then it may be questioned whether we really have a case of degrammaticalisation here (see Norde, 2009, pp. 118-120 for details). This is not crucial for the present article, the upshot of which is that we do have some sort of an unexpected development here, which can most sensibly talked about by making reference to the evolutionary concept of homoplasy.

day Dutch (see Van der Horst, 2008, pp. 526, 759-760; Van de Velde, 2009, pp. 203-206, 246-247).[5] This is not only true for adverbial submodification of the adjective, but also for coordinated APs. The second member of such a coordination is often suspended and follows the noun, as in (15).

(15) Hi was een scone man ende groet (Early Middle Dutch, Van der Horst, 2008, p. 522)
He was a beautiful man and tall
'He was a beautiful and tall man'

If, on the other hand, the indefinite article is inserted after the whole AP, the adjective precedes the determiner, which is impossible in more straightforward NPs. What has happened is that the inflectional ending was conveniently 'exploited', or 'misinterpreted' as an article, a solution that was less disruptive than inserting a full article in an awkward position. In straightforward NPs the adjectival inflection was not invariably expressed anyway: it was (and still is) absent in some syntactic contexts, like e.g. indefinite singular neuters and in a fair number of other, less predictable contexts (see Haeseryn et al., 1997, pp. 400-401, 405-412). This 'unstable' position of the adjectival inflection in Dutch makes it prone to function change (see Lass, 1990, 1997; Van de Velde, 2006).

Indeed, language users do not need to comply with general regulations in language change, but are often driven by local, opportunistically motivated patterns that they perceive in some specific constructions. As Joseph (1992, p. 140) puts it, language users "act as if they were in a fog", without any knowledge of the long-term processes that historical linguists observe.

[5] The intolerance to centre-embedding can be explained by appealing to processing factors (see, among others, Hawkins 1994).

The result is a homoplasy: phenotypically, the normal indefinite article, as e.g. in (6), and the indefinite article in the Big Mess Construction are similar, and they fulfil the same function: marking indefiniteness with singular count nouns. Historically, however, they derive from different sources, and their morphology is not identical. The concept of homoplasy is thus a useful term as it highlights both the functional similarities and structural dissimilarities of both types of indefinite article. The etymologically phoney article is similar in form to the genuine article, as a result of the similarity in function, in this case the overt expression of (in)definiteness in the NP. Underneath this similarity, however, traces of the different etymology can be found. The defective inflection and the peculiar position of the Big Mess article are precisely such traces. The same is true for homoplasy in biology. Behind the obvious similarities in the phenotypic form, driven by functional motivations, dolphins and ichthyosaurs also show morphological differences which testify to their different ancestral lineages.

3.2 Case 2: Middle Dutch negative particle *en* in *niet en twint*

A second case of homoplasy in language change also has to do with the indefinite article in Dutch, but this time the indefinite article is not the resultant construction, but rather the source construction.

Middle Dutch had a double negation, which was, as a rule, expressed by *en* ... *niet*. The element *en* (and its variant *ne*) was the original negation, and the *niet* part derived from an adverbial that was used to add emphasis to the negation.[6] The emergence of the Middle Dutch double negation is part of what is commonly referred to as a Jespersen Cycle (see Hoeksema, 1997). As *niet* had bleached, and was no longer recognised as an intensifying

[6] Note that *niet* itself etymologically contains the negation *ne*.

adverb, it became possible to augment the negation by other adverbs or NPs. One of the many expressions that were around in Dutch was the NP *een twint* (‘a blink’).

(16) hi en bereinde niet een twint (Middle Dutch, MNW s.v. bereinen)
he NEG be-rained not a blink
‘He did not get wet from the rain at all’

Just as its paradigmatic alternatives like e.g. *een hoy* (‘a straw of hay’), *een saet* (‘a seed’) etc. (see Stoett, 1923, p. 165), it denoted a small quantity. The emphasising effect is a result of the fact that such elements denote a scalar endpoint (see Bolinger, 1972; Hoeksema, 2001; Eckardt, 2006, ch.5).

As *een twint* lost its lexical meaning when it functioned as an adverbial emphasiser of the negation, it was no longer parsed as an NP. Instead, the noun *twint* was reanalysed as an adverbial emphasiser, on a par with the adverbial second part of the default negation *niet*. In the course of the reanalysis, the indefinite article was lost, see (17)-(18).

(17) (…) die in die scrijfture sijn blint, ende van rechte **en** weten **twint** (Middle Dutch, MNW s.v. anxtelijc)
who in the writing are blind and of right NEG know blink
‘(…) who are illiterate and have no knowledge of law at all’

(18) Joncfrouwe, mi **en** berouwe=s **twint** (Middle Dutch, MNW s.v. berouwen)
lady me.DAT NEG regret=this.GEN blink
‘Lady, I do not regret this at all’

One possible explanation is that the indefinite article withered away as a result of phonetic erosion due to increased frequency, which is a common process in grammaticalisation. Another explanation, though, is that the indefinite article *een* was analysed as the homophonous preverbal negation *en*. Upon closer scrutiny, the second explanation seems more plausible. First, the confusion between indefinite article and negation particle is supported in the orthography. The indefinite article before *twint* is often written as *en* (see MNW s.v. twint). This orthographic form is rather uncommon for non-clitic indefinite articles in other contexts. The examples in the MNW dictionary (s.v. een, lidwoord) of indefinite articles spelled as *en* are either clitics in the Big Mess Construction, which are suspicious for reasons discussed in section 3.1, or occur before *twint*. A quick search in a selection of Middle Dutch texts[7] on orthographically isolated *en* (n = 256) yielded no instances of indefinite articles. Moreover, we sometimes find the spelling *entwint*, which is again an unusual orthographic form for an indefinite article, but which is reminiscent of the *en* negation in the negator *engeen* ('not-any') as in (21), which may have functioned as an analogical model for *entwint*.

(19) Hi en antwerde hem niet **en** twint (Middle Dutch, MNW s.v. twint)
He NEG answered him not a blink
'He didn't answer him at all'

(20) ende ic ne ebbe gheslachts **entwint** (Middle Dutch, Van der Horst, 2008, p. 519)
and I NEG have offspring.GEN at.all
'and I have no offspring whatsoever'

[7] *Esopet, Floris ende Blancefloer* and *Reynaert*, in de cd rom *Klassieke literatuur*.

(21) Sine hadden **engheen** kint (Middle Dutch, MNW s.v. negeen)
They.NEG had not.any child
'They did not have any children'

Second, in the phonetic erosion account we would expect to see intermediate stages in a long-term gradual process. There is, however, no sign of phonetic erosion when *twint* is used in combination with *niet*: the combination *niet twint* and *twint niet*, without the indefinite article, are exceedingly rare, whereas bare *twint*, without *niet* and *een* is attested in Early Middle Dutch texts already, see (22) from 13th century *Ferguut*.

(22) Die swerte en scheen **twint** vervaert (Early Middle Dutch, MNW s.v. twint)
the black NEG seemed blink afraid
'The black one did not seem afraid at all'

It seems then that the indefinite article became confused with the negation particle *en*, even though the negation particle is a preverbal clitic in Middle Dutch and was thus positionally distinct from the indefinite article before *twint*. This positional difference is not crucial. Note that in other contexts as well, negation particle *ne* can either combine with an emphasising element or with the verb: in (23) *ne* (a free variant of the negation particle *en*) precedes the emphatic particle *bore*, whereas (24) has the *ne* in its usual preverbal position.

(23) Daer was die tale ne bore lanc (Middle Dutch, MNW s.v. bore-)
there was the speech NEG EMPH-PTC long
'The speech was not very long'

(24) Hi die dat sprac ne=s bore vroet (Middle Dutch, MNW s.v. bore-)
He who that spoke NEG=is EMPH-PTC wise
'Whoever said that was not very wise'

The preverbal negation *en* is a clitic (see Hoeksema, 1997), and as such, it represents a more advanced stage on the Hopper and Traugott grammaticalisation cline in (14) than the free-standing function word *een* as an indefinite article. The shift from indefinite article to clitic negation is thus consonant with the normal course of events that is expected under the (strict) unidirectionality claim, but it is not a cross-linguistically recurrent grammaticalisation path. The motivation behind this rather idiosyncratic case of grammaticalisation is again the ad-hoc nature of language users' dealing with the patterns they inherit from previous generations. The result is a homoplasy: the clitic negation *en* in the *twint* construction is phenotypically (and functionally) similar to other instances of clitic negation *en* elsewhere, but etymologically, it derives from a different source. The resultant construction in (17)-(18) shows how the language user manages to let the pattern conform to what a regular Middle Dutch double negation looks like: a combination of the clitic *en* and an adverbial part. The indefinite article is 'redundant', and so it is recast (see also below, section 4). This kind of analogical design to make sense of what are perceived as irregular patterns, is not uncommon in language change (see e.g. De Smet, 2010, pp. 80-81 for further examples and references).

3.3 Case 3: Middle Dutch genitive-comparative confusion

Middle Dutch displays a construction, illustrated in (25), which defies straightforward description. The *-er* ending on the adjective has alternatively been considered a genitive plural and a comparative ending.

(25) wat groter anxt (Middle Dutch, Stoett, 1923, p. 103)

what great.GENITIVE/COMPARATIVE fear

'what great(er) fear'

The reason why there is no agreement in the literature on how to parse the construction is that etymologically, a genitive ending seems to be the most plausible analysis (see below), but that in Middle Dutch, we find patterns like (26)-(27), where the *-er* does not agree with the noun. The *-er* ending is either a genitive singular of the feminine or a genitive plural (all genders), but in (26) the noun *wijn* is an accuative masculine singular and in (27) the noun *man* is a nominative masculine singular.

(26) wat goeder wijn droncken wi ghisteren (Middle Dutch, Stoett, 1923, p. 103)

what good wine drank we yesterday

'what good wine we drank yesterday'

(27) Wat duvelscer man dat es (Middle Dutch, MNW s.v. duvelsc)

what devilish man that is

'what a devilish man that is'

This example seems to suggest that *-er* is really a comparative ending, and indeed, Paardekooper (1970) argues that it is, by pointing out that in Dutch dialects the use of comparatives instead of positives is attested in other contexts as well.[8]

[8] The adjective *goed* has a suppletive comparative *beter* (Middle Dutch: *bet*, *bat* or *beter*), but in Middle Dutch *goeder* is also used (see MNW s.v. goet).

The genitive analysis is, however, supported by the observation that in older Germanic languages, we do indeed have a partitive genitive in the cognate construction (Van Helten, 1883, pp. 131-135; Van der Horst, 2008, pp. 597-598), see (28), and that the partitive genitive with indefinite pronouns is attested in Middle Dutch as well.

(28) hwo mizdono habaiþ (Gothic, Matthew 5:46)[9]
what reward.GENITIVE have.2PL
'what reward do you have?'

But how did Middle Dutch end up with the feminine or plural ending before masculine (and neuter) singulars? According to Stoett (1923, p. 103) this happened because *what* was reanalysed as an attributive modifier. Indeed, partitive genitives have massively been reanalysed as head nouns, with the indefinite pronouns as attributive modifiers (Duinhoven, 1988, 2001; Van de Velde, 2009, pp. 99, 104-105, 110, 223-232, 244).

(29) $[\text{wat}]_{\text{head}}\ [\text{groter anxt}]_{\text{partitive genitive}} > [\text{wat}_{\text{mod}}\ \text{groter}_{\text{mod}}\ \text{anxt}_{\text{head}}]$

Still, it is hard to see why the *-er* ending was so easily adopted in syntactic contexts where it did not make much sense, like e.g. masculine and neuter singulars.

A solution to this problem is provided in the detailed account in Duinhoven (1972, pp. 349-354). He argues that a reanalysis along the lines of (29) indeed took place, but on top of that the *-er* ending was reanalysed as a comparative. This was possible because the construction was often used in exclamatory sentences, in which the emphasising meaning provides a semantic context for (implicit) comparatives. Such implicit comparatives can be

[9] Gothic examples extracted from http://www.wulfila.be.

found in other syntactic context as well in Middle Dutch, as illustrated in Duinhoven (1972, p. 352). The advantage of this account is that it combines the two earlier conflicting views, by recognising both the partitive genitive etymology of the *-er* morpheme and the analysis as a comparative morpheme in later periods, when it came to be used in other syntactic contexts.[10]

Contrary to the Big Mess Construction discussed in section 3.1, the change from genitive to comparative does not go manifestly against the trend predicted in the Hopper and Traugott cline. Still, the genitive is indisputably a core inflectional category, while gradation morphology is a form of inherent inflection, and is thus closer to derivation (Booij 1996, p. 3). If one holds that derivational morphology represents a less grammaticalised stage than inflection morphology (see Norde, 2009, pp. 155-157 for arguments), then the shift from genitive to comparative does count as an instance of degrammaticalisation.

Following Duinhoven's account, we may again consider the historical development of the construction at issue as a case of homoplasy. Phenotypically, the *-er* ending in the *wat duvelscer man* construction is indistinguishable from the comparative *-er* ending, and it serves a similar function, namely to encode emphasising meaning. But historically (or: etymologically) we have two distinct *-er* endings here.

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[10] Comparatives in Dutch can either inflect or remain uninflected, so we find both (i) and (ii). The genitive-comparatives, on the other hand, cannot inflect, so we do not find (iii) as a variant of (25).

(i) een indrukwekkend.er prestatie
an impressive.COMPARATIVE performance
'a more impressive performance'

(ii) een indrukwekkend.er.e prestatie
an impressive.COMPARATIVE.INFLECTION performance
'a more impressive performance'

(iii) *wat groot.er.e anxt
what great.COMPARATIVE.INFLECTION fear

3.4 Case 4: Dutch adverb *te*

In Dutch, *te* is a highly polyfunctional morpheme. It is best known as a preposition that has evolved into an infinitive marker, see (30), a pathway that is not uncommon in the grammaticalisation literature (see Heine and Kuteva, 2002, p. 37), and is observed in English as well (*to* before infinitives).

(30) De minister vergeet te melden dat (...) (INL38M)
'The minister forgets to mention that (...)'

More relevant to the current paper is the homophonous *te*, which is used as a degree adverb with adjectives, as in (31)-(32). The difference between the two types of *te* is the same as the difference between *to* and *too* in English. Etymologically they are, however, the same word (see OED s.v. too (adv); WNT s.v. te (II); Philippa et al., 2009, pp. 352-353).

(31) Het is te gevaarlijk (INL38M)
'It is too dangerous'

(32) een te streng oordeel (INL38M)
a too harsh judgment
'too harsh a judgment'

As shown in (31)-(32), the degree adverb *te* precedes an adjective in the positive grade. The process by which an erstwhile preposition turns into a degree adverb is not fully understood

(see Philippa et al., 2009, p. 353), but the WNT dictionary observes that other prepositions like *door*, *in* and *over* can function as emphasisers as well, see (33)-(35). The preposition can be morphologically incorporated in the noun, as in (34)-(35), but it can also remain free, as in (33).[11] The difference is acknowledged in the orthography.

(33) een door en door corrupt regime (INL38M)
a through and through corrupt regime
'a totally corrupt regime'

(34) een inslechte vent (WNT s.v. inslecht)
a in.bad fellow
'a fellow, bad through and through'

(35) overijverige werknemers van CSC (INL38M)
overzealous employees of CSC
'overzealous CSC employees'

[11] The free nature of *door en door* in (33), as acknowledged in the orthography, can be syntactically argued for by looking at examples like (i), where the emphasiser is split off from its adjective:

(i) Iemand die door en door en door een slecht politicus is pik je er instinctief uit (Internet example)
someone who through and through an evil politician is pick you there instinctively out
'Someone who is a peculiarly evil politician you can intuitively pick out.'

The adverb *te* not only precedes an adjective in the positive grade, but can occur before an adjective in the comparative grade as well, as in (36). The construction is currently obsolescent.

(36) De vreugde was te grooter na de vrees, die vooraf was gegaan (WNT s.v. te (III))
The joy was TE greater after the fear that beforehand was gone
'The joy was all the greater after the fear that had preceded'

Though the adverb *te* in this construction is identical to the adverb *te* in (31)-(32), it derives from a different source: it can be traced back to an old instrumental case of the demonstrative pronoun, which appears as *þe* in Gothic, *thiu* in Old Saxon and *diu* in Old High German.

(37) akei ni þe haldis airþeins was nih us <air>þai rodjands (Gothic, Skeireins 4:8)
but not TE more earthly was nor out earth speaking
'But he was definitely not earthly, nor was he speaking an earthly language'

Originally, the instrumental demonstrative expressed cause or reason. This is still visible to some extent in an example like (38), where *te* translates as 'therefore'. The meaning shifted, however, to express emphasis, the result being that the cause or reason had to be expressed by a new element. This can clearly be seen in (39), where the pronominal adverb *erom* ('therefore', 'because of that', 'in that case') is added to express the meaning that was formerly expressed by the instrumental *te*.[12]

(38) Leyt in de saeck ghevaer, te grooter is de eer (Early Modern Dutch, WNT s.v. te (III))

[12] Note that the pronominal adverb is realised discontinuously here (*er … om*).

Lays in the thing danger, TE bigger is the honour

'If there is danger in the issue, the honour is therefore bigger'

(39) (…) ik geloof, dat zij 'er niet te beter om geweest zou zijn (Late Modern Dutch, WNT s.v. te (III))

I believe that she there not TE better about been would be

'I believe that she would not have been better off in that case'

The formal merger of *te*-before-positives and *te*-before-comparatives was by no means 'inevitable'. It did not happen in English or German (which have other mergers, see footnote 13). The Dutch merger - opportunistic as it was - is semantically motivated by analogy: in combination with a comparative, instrumental *te* was often used in a context of emphasis, which is precisely the function it has when it functions as a degree adverb in combination with a positive.

The shift from an instrumental demonstrative functioning as an adverb of reason to emphasiser seems in line with the expected direction on the grammaticalisation cline, as the item undergoing change loses lexical-semantic content in the process. But just like the *e(e)n twint* case (section 3.2), the particular grammaticalisation path is cross-linguistically unprecedented, and there is a striking similarity between *te* and the other cases discussed so far: again, we have phenotypic resemblance, both in form and function, but different source constructions. The result is a homoplasy. By opportunistically exploiting extant morphological material, the language user expresses a particular semantic feature, arriving at similar structures as the older functions become opaque.[13]

[13] That the process is indeed opportunistic can be deduced from the differences between the West Germanic languages. In English, the instrumental demonstrative has undergone a merger as well, though not with the

4 Why do we need homoplasy?

As all of the instances of morphosyntactic change discussed so far follow totally idiosyncratic grammaticalisation or degrammaticalisation pathways, they are difficult to accommodate in a theory that looks for regularity in morphological changes. Still, they can all be described in terms of 'reanalysis', which is a well-known mechanism in morphosyntactic change (see Langacker, 1977; Harris and Campbell, 1995, pp. 61-96; Croft, 2000, pp. 117-144; Hopper and Traugott, 2003, pp. 39-70). The obvious question then is whether we really need homoplasy as an additional concept in diachronic linguistics.

As we see it, homoplasy is a convenient concept, as it offers a more specific account of what is going on here than the rather broad notion of reanalysis. It is not the case that we have to chose between reanalysis and homoplasy, just as the concept of 'evolution' or 'adaptation' does not render the concept of 'homoplasy' in biology superfluous. Sure enough, the evolutionary process that shaped the bat's wing involved a number of 'reanalyses' of the arm it evolved from. But the concept of homoplasy is helpful in that it brings out the *distinction* between birds' wings and bats' wings. In other words: both types of wings are the result of 'reanalysis', but the latter concept is far too general to talk sensibly about the fundamental ancestral differences underlying these superficially similar traits. The same applies to homoplasy in language change.

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degree adverb *too*, but with the definite article (as in: *the more the merrier*), for reasons totally unclear. In German, we find yet another form *(des)to*, with a clear vowel rather than a schwa, which nevertheless renounces its demonstrative origin by switching from a voiced stop /d/ to an unvoiced stop /t/ (*des**t**o*) (just as in Dutch), probably by regressive assimilation with the /s/ of the genitive demonstrative *des* which often preceded it.

A further advantage of introducing the biological metaphor of homoplasy in diachronic linguistics is that in the cases at hand it accounts for the idiosyncratic directions in which the morphemes proceed. If a morpheme comes to play a role in a particular grammatical context and acquires a new function, it can analogically converge on what typical morphemes in this grammatical contexts look like. This is an adaptive response, as it enhances its chances of survival because it is recognised and selected by the language user on the basis of having a motivated form. The morpheme can thus be said to conform to the new ecological space it operates in. This is then a functional motivation for (rare) cases of 'degrammaticalisation'. Morphemes may occasionally go against the grammaticalisation cline, not because change is ultimately random and non-directional, as some opponents of grammaticalisation theory argue, but rather because there is a special motivation, trumping the natural pathway. Take e.g. the case of *e(e)n twint* discussed in section 3.2. As *e(e)n twint* came to occupy a niche in the ecological space of negation, it adapted its morphology and ended up looking like what a typical (discontinuous) negation looked like in Middle Dutch, namely as a combination of a clitic preverbal negation *en* and an adverbial part. This is not unlike the process by which dolphins ended up looking like unrelated aquatic creatures in the course of their evolutionary history. Furthermore, the evolutionary process of losing limbs for terrestrial locomotion and have them exchanged for fins or flippers (as the ancestors of dolphins have done), seems to run along an 'irregular' path as well: it goes against the common trend that can be observed in fossils that document the earlier water-bound tatrapods' colonisation of terrestrial niches.

But if homoplasy in morphology is indeed the result of adaptations to the ecological space, why is the result maladaptive to some extent? To take the example of the Big Mess Construction: if the overt expression of the indefinite article is indeed the ecological pressure that drives the change, as argued above, why has the article not simply emerged in its regular

position at the left end of the NP? Wouldn't that have been a more straightforward response? Or in the case of the genitive-comparative confusion: why does the comparative lack inflection (see footnote 10)? Or in the case of the adverb *te* before comparatives: why is emphasis expressed twice (once in the degree adverb and once in the comparative ending)?

The expectation that adaptation leads to perfect design is unwarranted. In biology, adaptive imperfection ('bad design', 'dysfunctionalism') abounds, and can be due to different factors (see Ridley, 2004, pp. 272-286), and the same goes for linguistic evolution (see Lass, 1997, pp. 309, 353, 30 fn. 38; Nettle, 1999, pp. 456-457). One reason is the existence of historic constraints (Ridley, 2004, pp. 281-284). Former evolutionary paths cannot simply be by-passed. In biology this is due to the fact that natural selection cannot favour disadvantageous changes that will work out in the long run. Admittedly, language evolution does not proceed by natural selection, but it is not the product of skilled human design either. As mentioned above, language users do not obey the laws of diachronic linguistics, but act 'shortsightedly' to produce local generalizations. From a synchronic point of view, all the constructions in sections 3.1-3.4 are strange: though they all seem to belong to some well-known construction type (indefinite article, discontinuous negation, comparative adjective, degree adverb), they do not share all the characteristics of the construction type, and can be said to be imperfectly designed in some respects.

The concept of homoplasy is thus not at all incompatible with the idea of adaptive imperfection. On the contrary, it explains why in diachronic language change the new construction is highly similar, though not fully identical to the construction it is analogous with: as in biological evolution, language change is the result of tweaking the fortuitously available morphological material, which under comparable conditions can lead to analogous structures.

Still, the analogy between biological homoplasy and linguistic homoplasy is not perfect. In the case of the ichthyosaur-dolphin homoplasy the two species have *independently* arrived at a similar morphology. The ichthyosaur's morphology is not used as an analogical model for the dolphin. In the linguistic examples, on the other hand, there seems to be one exemplar construction (the 'normal' indefinite article, negation, comparative, degree adverb), which the language user has used as a model for the other construction. The question is whether this is not more reminiscent of the biological concept of 'mimicry', rather than homoplasy. However, already in 1871 objections have been raised against drawing a distinction between mimicry and homoplasy. If mimicry is defined in terms of 'imitation' it problematically suggests "a conscious effort at convergence" (Bennett, 1871, p. 12). If it is defined in terms of 'protective resemblance', the difference with homoplasy concerns "results, and not the nature of the phenomenon itself" (Bennett, 1871, p. 12). The point is of course not to question the existence of mimicry here, but only to argue that it can be subsumed under the more general notion of homoplasy (see e.g. Simpson, 1961). The notion of homoplasy that is intended in this paper is a broad one: convergence in unrelated ancestral lineages, whatever the motivations behind it are. Whether the new form-function pairing in linguistics is shaped by the external context, or by analogical attraction of another construction is not decisive for considering it to fall under the rubric of homoplasy. The crucial criterion is whether perceived phenotypic similarity hides etymological disparity.

5 Conclusion

In this paper, a number of morphosyntactic changes in the history of Dutch have been discussed that have puzzled scholars for quite some time. The resultant constructions behave syntactically in peculiar ways. Things become more clear if the analysis is cast in the

evolutionary concept of homoplasy, i.e. the recurrence of similarity in unrelated lineages. The gist of the proposal is that phenotypic morphological similarity may hide etymological disparity, and that convergent evolution can be the result of adaptive change.

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