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Conflicting Constraints in the Comparative Cycle

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Present-day Dutch shows an alternation reflecting a transition from the use of the comparative particle *dan* 'than' toward the particle *als* 'as' in comparisons of inequality. We argue that this transition—as well as the replacement of *denn/dann* by *als* in Early New High German, and *als* 'as' by *wie* 'how' in present-day German—results from a conflict between two competing principles, Economy and Iconicity. The conflict between these two constraints in German and Dutch gives rise to a cycle, in which having two particles—one for each construction—and having one particle for both, comparatives and equatives, alternate over time.*

1. Introduction.

Comparative constructions express comparison of one object, property, or event with another (Campbell & Wales 1969). We use the term *comparative* only for comparisons of inequality, as in 1 (see Stassen 1984, Beck 2012), and the term *equative* for comparisons of equality, as in 2 (Haspelmath & Buchholz 1998, Henkelmann 2006, Rett 2013). When we compare such constructions in three Germanic languages, English and Dutch appear similar in their choice of comparative particles, while German deviates. The cognates *than* and *dan* are used in English and Dutch, respectively, while in German *als* is used in this context, as can be seen in 1. The cognates of the German particle *als*, that is, Dutch *als* and English *as*, are used in equatives, while German uses *wie* here. This is illustrated in 2.

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(1) a. Thomas is stronger **than** Tessa. English
b. Thomas is sterker **dan** Tessa. Dutch
c. Thomas ist stärker **als** Tessa. German

(2) a. Thomas is as strong **as** Tessa. English
b. Thomas is even sterk **als** Tessa. Dutch
c. Thomas ist so stark **wie** Tessa. German

Dutch thus seems to behave on a par with English, with respect to both comparatives and equatives, while German shows a different pattern. However, Dutch *als*, which is used in equatives, happens to occur in comparatives as well. While the use of *dan* in these comparatives is still dominant in present-day Dutch, there is a clear tendency in spoken Dutch to use *als* in constructions such as 1, as illustrated in 3b. This tendency would give Dutch a place in between English and German, as in the well-known sandwich metaphor (van Haeringen 1956). That is to say, apart from constructions such as 1b, one also finds constructions such as 3b in Dutch. Thus, Dutch seems to be moving away from the English-like pattern shown in 1a to the German-like one in 1c. Strikingly, however, in German another ongoing change has been observed (Small 1923, Lerch 1942, Jäger 2010): Present-day spoken German also exhibits the variant in 3c, in which the comparative particle *als* has been replaced by the particle *wie* 'how'—the particle used in equatives in German (see 2c above).

(3) a. Thomas is stronger **than** Tessa. (=1a) English
b. Thomas is sterker **als** Tessa. Dutch
c. Thomas ist stärker **wie** Tessa. German

Hence, one witnesses an ongoing process both in German and Dutch, in which the equative particle (*wie* in German and *als* in Dutch) also occurs in comparatives. In this sandwich metaphor, Dutch seems to appear between English and German, with English being the most conservative and German the least conservative (Small 1923). Early New High German moved from the use of the comparative particle *dann/denn* to *als*, and now present-day German seems to be moving from the use of *als* to *wie*. Dutch also started to move from *dan* to *als* in the second half of the 16th century, but this change has not been completed (yet) or it has

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not been successful, perhaps due to the influence of prescriptive grammar prohibiting the use of *als* in comparatives (see Hubers & de Hoop 2013). English appears to be the most conservative of the three languages in that it has retained the use of *than* in comparatives up to the present day.

The aim of the present study is to explain the (ongoing) changes in comparative particle use in Dutch and German. Section 2 describes the changes attested in Dutch and German. The question is what type of factors have triggered these changes. We argue against the explanation that Hubers & de Hoop (2013) propose for the alternation in Dutch. Section 3 presents our alternative explanation in terms of a conflict between two competing principles, Economy and Iconicity, which can account for both the Dutch and the German data. Section 4 concludes the paper.

2. The German(ic) Cycle in Dutch and German.

As pointed out in section 1 above, an alternation happens to exist in Dutch between the use of the comparative particle *dan*, a cognate of English *than*, and the comparative particle *als*, a cognate of German *als*. Two examples taken from the Spoken Dutch Corpus (see Hubers & de Hoop 2013:92, 95) illustrate this:[1]

(4) a. Ik durf te wedden dat jouw ouders makkelijker
I dare to bet that your parents easier

boeken lezen **dan** dat jij dat doet.
books read **than** that you that do

'I bet that your parents read books much more easily than you do.'

b. Maar zijn wel een beetje zachter **als** dat ze moeten zijn.
but are PART a bit softer **as** that they must be
'But they are a little softer than they need to be.'

[1] Abbreviations used in the glosses: COMP = comparative marker; CONJ = conjunction; PART = particle; PAST = past tense; PRON = pronoun; REFL = reflexive pronoun.

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Note that *dan* and *als* in 4 can be classified as complementizers (that is, subordinate conjunctions), whereas in 1–3 above they can be considered prepositions (Jacobsson 1977, Hoeksema 1983, Napoli 1983, Hendriks 1995, Hubers & de Hoop 2013). Following Jacobsson 1977 and Stassen 1984, we use the cover term *comparative particle* for both instances.

Stassen (1984) distinguishes six types of comparatives on the basis of a sample of 110 languages, chosen from genetically diverse language families. The sixth type that he distinguishes contains a comparative particle and is therefore called *particle comparative*. Both Dutch and English belong to Stassen's sample and are characterized as having particle comparatives. Because many of Stassen's languages of this type are European, he considers particle comparatives to be an areal phenomenon (Stassen 1984:158; this is confirmed by Heine 1994). Clearly, German also fits the characterization of having particle comparatives.

Stassen notes that comparative particles vary in their etymological origin, which renders the set of particle comparatives a heterogeneous set in his view. As for Dutch *dan*, Stassen suggests that it might be derived from a temporal adverb meaning 'then', 'thereafter' (as he mentions is also the case for Toba Batak *asa*). A suggestion he puts forward for English is that *than* may have a negative element incorporated into the comparative particle, which he claims also to be the case for Hungarian *mintsem*. Note that Postma (2006) hypothesizes that *dan* in Middle Dutch originated from a merge of the complementizer *dat* with a negative clitic *en* as well. However, Laker (2008) rejects the idea that English *than* has derived from a comparative particle containing a negative element, because in Old English the same form *Þonne* was used as a temporal adverb and as a comparative particle. According to Laker, the distinction between *then* as a temporal adverb and *than* as a comparative particle was a later development which probably took place in the 17th century (Laker 2008:13).

Laker points to the fact that Old High German *danne* was also used both as a temporal adverb and a comparative particle, while Dutch *dan* is ambiguous between a temporal adverb and a comparative particle to the present day. Laker leaves open the possibility that while Old English *Þonne* did not originally contain a negative particle *ne*, it may be true that Middle English speakers started to reanalyze the second syllable as the negative particle *ne*. Such a scenario could hold for Dutch as well

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(see Postma 2006), but as argued by Hubers & de Hoop (2013), this would still not explain the tendency to replace *dan* by *als* in Dutch (*contra* Postma 2006). For now, we assume that the comparative particle *dan* in Dutch, and its cognates *than* in English and *dann/denn* in German, all derive from a temporal adverb meaning 'then', 'thereafter', as indeed was proposed by Stassen (1984) for Dutch.

The history of the German language allows one to observe a phenomenon that Jäger (2010) refers to as the "comparative cycle". In the words of van Gelderen (2009a:2), a linguistic cycle "is a name for changes where a phrase or word gradually disappears and is replaced by a new linguistic item." In the stages of Old and Middle High German (750–1350 AD), *als* or some related form was used in equatives, as in 5a taken from Lerch 1942:345, and *denn/dann* in comparatives, as in 5b taken from Jäger 2010:471.

(5) a. wîz **alsô** der snê
white **as** the snow
'(as) white as snow'

b. Trehtin, diniu wort, diu sint suozzere in minem munde
lord your words these are sweeter in my mouth

danne daz honich unt der flade.
than the honey and the cake

'Lord, your words are sweeter in my mouth than honey and cake.'

In 5a, *alsô* is used as an equative particle, while *danne* in 5b is used as a comparative particle (Jäger 2010). Note that one can still find archaic remainders of this old comparative particle in modern German, as in *besser denn je* 'better than ever'.

In the following stage of German, the Early New High German stage (1350–1650 AD), the equative particle *als* also became the particle for the comparative, causing *denn/dann* to vanish from the system. Instead of two particles, one for each construction, German now had one particle used in both constructions. In 6, *als* is used as a comparative particle where in earlier stages of German, *denn/dann* would have been used (Lerch 1942:353).

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(6) kein feiner und meisterlicher gedicht
no better and more.masterful poem

als das buch von Reinicken
as the book of Reinicken

'no better or more masterful poem than Reinicken's book'

Next, the particle *als* was replaced by *wie* 'how' in equative constructions, as illustrated in 7 (Jäger 2010:473).

(7) Darumb sie auch also schmehlich vnd Gotteslesterlich
therefore they also so ignominious and blasphemous

wie die Mahometisten vom Abendmal des HERRN (…)
how the muslims of.the supper of.the lord

gedencken vnd reden.
think and speak

'That is why they, too, think and speak of the Lord's Supper as ignominiously and blasphemously as Muslims.'

Hence, after a stage in which German had only one particle—*als* 'as'—for both, comparatives and equatives, *wie* 'how' was recruited to replace *als* in equatives, and the language had two separate particles again.

These two particles are still considered standard in German, but it has been observed that the equative particle *wie* 'how' can nowadays also be used instead of *als* in comparatives. This is illustrated in 8 (Lerch 1942:365).

(8) Auf alle Fälle habe ich es bequemer **wie** du
on all cases have I it easier **how** you
'In any event, it is easier for me than for you'

Thus, first *als* replaced *denn* in comparatives; then *wie* was recruited to replace *als* in equatives; nowadays *wie* is reported to occur in comparatives, which is, however, strongly disapproved of by German

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language purists (Jäger 2010). Lerch (1942) and Jäger (2010) also note the use of what seems a combination of both particles *als* and *wie* in comparatives. An example is given in 9 (Lerch 1942:347).

(9) Und daß er klüger ist **als wie** man denkt.
and that he smarter is **as how** one thinks
'And that he is smarter than one thinks.'

However, Jäger (2013) convincingly argues that *als wie* in German has not developed as a combination of the "old" comparative particle *als* and the new one *wie*. Rather, *als wie* can be seen as a grammaticalized combination of adjacent *als* 'so' and the current equative particle *wie*. Just like *wie* itself, the combination *als wie* was already present in comparisons of equality (equatives and similatives) before it became used as a particle in comparatives. Jäger (2013:264) presents the following example from 1698, in which *als wie* is used in a similative construction:

(10) der Appetit vergeth, der Schlaff wird verhinderet
the appetite vanishes the sleep becomes prevented

und walzt man sich im Beth herum
and rolls one oneself in.the bed around

als wie die Tür im Angel.
as how the door in.the hinge

'Appetite is lost, sleep is prevented and one rolls around in bed like a door on its hinges.'

Jäger (2013) argues that the grammaticalized combination of *als* and *wie* is thus similar to Dutch *zoals* 'like', which has also developed from a combination of *zo* 'so' and *als* 'as', and which forms the basis of the current equative particle *soos* in Afrikaans, as shown in 11b below. In addition, she notes that a combination of comparative particles has never been identified in diachronic data. When, for example, *denn* was being replaced by *als*, no combination such as **denn als* was observed.

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Crucially, Jäger (2013) also points out that *als wie* is not found in the border area between dialects that use *als* and dialects that use *wie* in comparatives. Thus, she convincingly shows, on the basis of both diachronic and areal data, that *als wie* is not a compromise between *als* and *wie* but an independent variant in its own right. Because the process of grammaticalization of *als wie* as a particle is independent of the comparative cycle as such, we ignore this variant in the rest of this paper.

The changes in the comparatives and equatives in the history of German follow a certain pattern, in that the equative particle has repeatedly replaced the comparative particle. Jäger (2010) refers to this as a "comparative cycle". This comparative cycle is schematized in table 1.

Stage	**Equative particle**	**Comparative particle**
Old/Middle High German	*als*	*denn/dann*
Early New High German	*als*	*als*
New High German	*wie*	*als*
Substandard/vernacular modern German	*wie*	*wie*

Table 1. The comparative cycle (compare Jäger 2010).

As already mentioned in the beginning of this section, Dutch has undergone a similar change, but only partially. The second half of the 16th century witnesses the rise of the comparative particle *als* in Dutch, but a countermovement emerged, led by Huydecoper (1730), who strongly opposed the use of *als* as a comparative marker (Stroop 2011). The *Woordenboek der Nederlandsche Taal* (WNT, 1884) notes that *als* is the dominant variant in *volksspraak* 'vernacular', but argues that written language should not allow this use, because (see Hubers & de Hoop 2013:91):

> *Als* moge op zich zelf ook onberispelijk zijn, maar het is niet gerechtigd om *dan* in de plaats, die het volkomen goed bekleedt, te verdringen. (…) En werkelijk is *dan* bruikbaarder en juister dan *als*.

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> *Als* might, in and of itself, be impeccable, but it is not equipped to supersede *dan* from its justified place. (…) And *dan* is more useful and more correct than *als*. (translated by Hubers & de Hoop)

The article on *als* in the WNT compares the development in Dutch to the development in German, in which *dann/denn* had already been replaced by *als* by that time, and ends with a passionate appeal not to let that happen in Dutch: "Laat ons toezien, dat bij ons niet hetzelfde geschiede" [Let us make sure that this won't happen in Dutch.]

The Dutch prescriptive rule introduced in the 17th century may have slowed down the process of replacing *dan* by *als* in Dutch comparatives. Nonetheless, even after centuries of schooling *als* is still frequently used, and almost all Dutch dialects predominantly use *als* in comparatives (Barbiers et al. 2005). As pointed out to us by one of the reviewers, Afrikaans shows a similar pattern to German and might be placed somewhere in between Dutch and German. Consider the following examples of a comparative and equative construction in Afrikaans (du Plessis 1977:2):

(11) a. Thomas is groter **as** Tessa.
'Thomas is taller than Tessa.'

b. Thomas is so groot **soos** Tessa.
'Thomas is as tall as Tessa.'

The comparative particle *dan* disappeared from Afrikaans (according to the reviewer around 1920) and was replaced by *as*. Subsequently, *soos* 'so.as' (comparable to German *alswie* as discussed above), replaced *as* in equatives.

In order to find out why and when people choose one comparative particle over the other, Hubers & de Hoop (2013) examined the use of these particles in the Spoken Dutch Corpus. They found that the choice between *als* and *dan* strongly correlates with the level of education, such that highly educated people almost always use *dan* in comparatives while people with low levels of education use more *als* than *dan*. Prescriptive grammar rules prohibit the use of *als* in comparisons of inequality, which has given rise to a mechanism of avoidance of *als* in comparisons in general. This is referred to as *hypercorrection*. It happens in particular in equative constructions that express inequality, for example, *en methaan*

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is een 25 keer zo sterk broeikasgas ***dan*** *CO2* 'methane is 25 times as strong a greenhouse gas as CO2' (NRC Handelsblad, cited in Hubers & de Hoop 2013:100).

This occurrence of hypercorrect *dan* in equatives reflects the strong influence of the prescriptive rule taught in schools against the use of *als* in comparatives. Hubers & de Hoop (2013) argue that from a linguistic point of view, *als* would be a better candidate than *dan* in comparatives because *als* is used as a complementizer or a preposition inside and outside comparatives. In contrast, *dan* is not used as a complementizer or a preposition outside of comparatives. Instead, *dan* is used as a modal particle or a temporal adverb. Also, the use of *dan* as a modal particle or a temporal adverb is much more frequent than its use as a comparative particle. Because *als* is always used as a complementizer or a preposition, it would be favored in comparatives too, according to Hubers & de Hoop 2013.

However, Hubers & de Hoop's (2013) analysis cannot be maintained in view of the process in present-day German by which the comparative particle *als* is being replaced by the equative particle *wie*. In order to test their hypothesis for German, we conducted a small corpus study using Twitter data.[2] As a data source, Twitter seems to be a good alternative to spoken language, because it contains contemporary written language that is rather similar to spontaneously spoken language. We collected 291 tweets containing the words *als* 'as' or *wie* 'how' and determined their word classes. It turned out that German *als* is only used as a preposition or a complementizer, just like Dutch *als*. Other constructions besides comparatives that use *als* as a preposition and a complementizer are presented in 12a and 12b, respectively.

(12) a. Im Iran wurden vier Fußballnationalspielerinnen
in.the Iran were four women.national.footballers

als Männer entlarvt.
as men unmasked

'Four members of the Iranian women's football team turned out to be men.'

[2] We used the computer program *Tweet Archivist*, taken from https://www.tweetarchivist.com/, accessed on February 15, 2014.

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b. Musste mich erst mal setzen, **als** der Anruf kam.
must.PAST me PART PART sit.down **as** the call came
'I had to sit down when the call came.'

By contrast, *wie* can not only function as a preposition and a complementizer, but also as an adverb, as, for example, in 13.

(13) a. **Wie** sich Jolina erstmal fast auf die Fresse legt…
how REFL Jolina PART almost on the face lies.down
'How Jolina almost falls down on her face…'

b. **Wie** schön!
how nice
'How nice!'

As a consequence, the hypothesis put forward by Hubers & de Hoop (2013) for Dutch cannot explain the pattern in German. Whereas *dan* is not used as a preposition or complementizer outside of comparatives, its competitor *als* is. This would explain the use of *als* in comparatives, according to Hubers & de Hoop 2013. However, German *als* is always a preposition or a complementizer, just like its Dutch cognate *als*. There is no reason why it should get replaced by *wie* 'how', even more so because unlike *als*, *wie* 'how' is not only used as a preposition or complementizer outside of comparatives. The next section presents our alternative analysis of the comparative cycle attested in Dutch and German.

3. Economy versus Iconicity.

This section argues that the comparative cycle witnessed in German and Dutch can be analyzed as the reflex of a principled conflict between two general constraints in language, Economy and Iconicity. Within Optimality Theory, Economy is a general markedness constraint (or rather, a family of constraints) that favors the least complex linguistic outputs. Iconicity is a family of constraints that require as many distinctions to be present in the linguistic output as there are in the input (see Hendriks et al. 2010). Economy applies to the linguistic output only (in this case, the form that is used), whereas Iconicity applies to the relation between the linguistic input and the output (in this case, the relation between meaning and form). A general assumption is that

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Economy is a principle for the speaker's sake (ease of production), whereas Iconicity is a principle for the hearer's sake (ease of comprehension), and because they are necessarily conflicting, languages vary and change while trying to resolve this eternal battle.

For example, Malchukov (2006) proposes two general principles that determine the encoding of a transitivity parameter: An Iconicity constraint that requires a parameter to be marked on the argument to which it pertains, and an Economy constraint that penalizes marking on the primary argument. Malchukov (2006:347–348) explicitly argues that these competing motivations from functional typology can be viewed as two conflicting constraints within the framework of Optimality Theory. Whereas Economy can sometimes explain a certain pattern (for example, case ellipsis in Korean, as argued by Lee 2010), in other cases Iconicity seems to play a major part (for example, in the choice of certain prepositions, as discussed in Hendriks et al. 2010, chapter 8). Of course, instantiations of the general constraints Economy and Iconicity conflict with each other at different linguistic levels and in different contexts. It is clearly not the case that in one language Economy always outranks Iconicity while in another it is the other way around. Instead, the ranking will vary from construction to construction, and may change over time.

Another example of the interaction between Economy and Iconicity is presented by Hendriks et al. (2010), who argue that Iconicity requires the expression and the interpretation of negation, while Economy penalizes negation. These two core constraints are assumed to govern the expression of negation in natural language. As for negation, there is even a universal ranking between the two constraints: Iconicity always outranks Economy in that negation is always expressed. However, other constraints come into play to derive preverbal, postverbal, and discontinuous negation, thereby accounting for the Jespersen cycle, which is currently the most widely studied example of a linguistic cycle (see, for instance, various contributions to van Gelderen 2009b).

With respect to the comparative cycle, Jäger (2010) appeals to the principle of Economy to explain the tendency to reduce the number of forms from two to one in comparatives and equatives. Because comparatives and equatives both involve comparisons, the use of one particle in the two constructions would satisfy Economy, whereas having two different particles would violate it. Jäger does not account for the other direction of change, however. When in Early New High German

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als was used in comparatives as well as equatives, thus satisfying Economy, *wie* 'how' got recruited as a new equative particle, thereby again violating Economy. In order to account for the whole comparative cycle, Iconicity has to be brought into play.

A first guess in relation to Iconicity could be that the comparative particle is used to express a comparison of inequality, while the equative particle is used to express a comparison of equality. If that were the case, having two different particles would be necessary in order to distinguish between the two types of comparison, equality and inequality. However, this is not the case in Dutch and German. The comparative particle in Dutch does not contribute to the meaning of inequality, as also pointed out by Hubers & de Hoop (2013). The meaning of inequality lies in the comparative morpheme *-er* (Wellwood 2015). That is, when the part of the sentence introduced by the comparative particle is omitted, the sentence is still interpreted as a comparison of inequality. This is illustrated for English, Dutch, and German in 14.

(14) a. Thomas is stronger. English
b. Thomas is sterker. Dutch
c. Thomas ist stärker. German

For equatives, there can be parameter markers (in the terminology of Haspelmath & Buchholz 1998) such as English *as*, Dutch *even*, and German *so* in the equatives in 2 above, which seem to express a comparison of equality. Thurmair (2001) points out that the parameter markers used in equatives in German may vary (and the same holds for Dutch), and even that they are not necessarily present. This would mean that the equality meaning is not provided by the parameter marker, but rather by the equative particle *als* in Dutch and *wie* in German. Haspelmath & Buchholz (1998) provide numerous examples of equatives in languages that have an equative particle but no concomitant parameter marker, such as Turkish in 15a, Basque in 15b, and Italian in 15c.

(15) a. Istanbul Amsterdam **kadar** soğuk. Turkish
Istanbul Amsterdam PART cold
'Istanbul is as cold as Amsterdam.'

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b. Arantxa, Itziar **bezain** polita da. Basque
Arantxa Itziar PART pretty is
'Arantxa is as pretty as Itziar.'

c. Mia sorella è alta **come** me. Italian
my sister is tall **how** me
'My sister is as tall as me.'

Moreover, in so-called generic equatives such as in 16 there is no parameter marker present (Haspelmath & Buchholz 1998, Henkelmann 2006). This means that in this construction, the equative meaning comes exclusively from the particle itself, that is, *as* in English, *als* in Dutch, and *wie* in German.

(16) a. Thomas is strong **as** a bear. English
b. Thomas is sterk **als** een beer. Dutch
c. Thomas ist stark **wie** ein Bär. German

Clearly, if one leaves out the part of the sentence introduced by the equative particle in 16, the equative meaning disappears (unlike the comparative meaning in 14):

(17) a. Thomas is strong. English
b. Thomas is sterk. Dutch
c. Thomas ist stark. German

A final argument in favor of the idea that the meaning of comparison is situated in the equative particle itself rather than in the parameter marker comes from similative constructions, which can be seen as the verbal counterparts of adjectival equatives. In the similatives in 18, no parameter marker is present, and the similarity meaning thus comes from the similative particle itself, which often happens to be the same particle as the equative one (Haspelmath & Buchholz 1998, Rett 2013).

(18) a. Thomas smokes **like** a chimney. English
b. Thomas rookt **als** een schoorsteen. Dutch
c. Thomas raucht **wie** ein Schlot. German

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If indeed the presence of a parameter marker is not necessary to obtain an equative meaning in equatives, this meaning must come from the equative particle itself, at least in Dutch and German (see Umbach 2015). Hence, a crucial difference between the particles used in equatives and the ones in comparatives is that equative particles carry a meaning of comparison, while comparative particles do not. Since particles used in a comparative are merely present for grammatical reasons, they lose their semantics over time, which is a common feature of grammaticalization. Van Gelderen (2009a) notes that sources for renewal in linguistic cycles are characterized by providing new semantic features for what was "grammaticalized away". Whereas the equative particle *als* in Dutch still bears a comparison meaning, as in 16b and 18b, its German cognate *als*, which is nowadays used as a comparative particle and no longer as an equative particle, has lost this meaning. This can also be seen in 19.

(19) a. Thomas raucht **wie** Tessa. German
Thomas smokes **how** Tessa
'Thomas smokes like Tessa.'

b. Thomas raucht **als** Tessa. German
Thomas smokes **as** Tessa
'Thomas smokes when he is Tessa.'

c. Thomas rookt **als** Tessa. Dutch
Thomas smokes **as** Tessa
'Thomas smokes like Tessa' or 'Thomas smokes when he is Tessa.'

We conclude from the difference between 19b and 19c that German *als* has lost its comparison meaning 'like' when it grammaticalized as a comparative particle, while Dutch so far has retained this meaning. That is why German *als* can no longer be used in equatives. It had to be replaced by a new element, *wie* 'how', that provided a new source for the comparison meaning, in accordance with the common pattern in a linguistic cycle (van Gelderen 2009a).

In German, *wie* was recruited to replace *als* in equatives because at that time *wie* was already used as a particle in similatives (Jäger 2013).

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Jäger (2013:291) provides the following table that shows the spread of *als* and *wie* throughout constructions of comparison:

Stage	**Similiatives**	**Equatives**	**Comparatives**
Old/Middle High German	*so/als(o)*	*so/als(o)*	*denn*
Early New High German	*wie (/als)*	*als*	*als*
New High German	*wie*	*wie*	*als*
Substandard/vernacular modern German	*wie*	*wie*	*wie*

Table 2. The comparative cycle in German.

The pattern of replacing *denn* by *als* and *als* by *wie* shown in table 2 goes hand in hand with a loss of the comparison meaning of the particles. The meaning of a similative construction crucially depends on the presence of a particle. The particles *like* in English, *wie* in German, and *als* in Dutch express the comparison meaning in similatives. In (nongeneric) equative constructions, this meaning is only partly expressed by the particle. In the sentences in 2 above, the standard markers *as* in English, *als* in Dutch, and *wie* in German are accompanied by the parameter markers *as* in English, *even* in Dutch, and *so* in German (Haspelmath & Buchholz 1998:279). In other words, in (nongeneric) equatives, the comparison meaning is attributed to the combination of the two particles rather than to the equative particle alone. This indicates that the comparison meaning of equative particle has diminished compared to their similative counterparts. The next step in the process is that comparative particles have lost the comparison meaning entirely. The comparative morpheme itself is responsible for the comparison meaning, and not the particle. As illustrated in table 2 above, the replacement of *als* by *wie* follows a diachronic path from similatives to equatives to comparatives, which we propose goes hand in hand with a gradual loss of the comparison meaning.

Jäger's (2013) analysis of the pattern differs crucially from ours. Jäger proposes a semantic typology of comparison constructions in which similatives are unmarked and unspecified for comparison meaning, whereas comparatives are the most marked, being specified for two

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features, that is, inequality and degree semantics. Equatives are in between comparatives and similatives in that they are specified for degree semantics, but not for inequality. By contrast, as we have argued above, in our semantic analysis we propose more or less the opposite pattern, in that comparative particles carry the least specified semantics, whereas similative particles carry the most specified semantics (and just as in Jäger 2013, equative particles are in between).

At this point, the particular instantiations of the principles of Iconicity as a faithfulness constraint and Economy as a markedness constraint in the conceptual domain of comparison can be defined as follows:

(20) a. Economy: Use the same particle in comparatives and equatives

b. Iconicity: Express the meaning of comparison in comparatives and equatives

In comparatives, Iconicity is satisfied by the comparative morpheme *-er* independently of the presence of a comparative particle, but in equatives Iconicity is satisfied by the presence of a meaningful particle. We propose that the original German particle *dann/denn* had already lost its temporal meaning 'then' in comparatives when it got replaced by *als* in order to satisfy Economy. The latter particle in that stage still carried a comparison meaning due to its use as an equative (and similative) particle. Because of its use as a comparative particle, this comparison meaning faded away, not only in comparatives but eventually also in equatives. The principle of Iconicity then triggered the introduction of a new particle *wie* in equatives, in order to express comparison meaning.

However, Economy has not completely been beaten yet, and nowadays the comparative particle *als* gets replaced by *wie* in German. We thus present the German(ic) comparative cycle in terms of this conflict between Economy and Iconicity. The pointing finger in table 3 points to the winning constraint in a certain stage.

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Stage	**Economy**		**Iconicity**
Old/Middle High German	*als*	☞	*denn/dann*
Early New High German	*als*	☜	*als*
New High German	*wie*	☞	*als*
Substandard/vernacular modern German	*wie*	☜	*wie*

Table 3. The comparative cycle in terms of Economy and Iconicity.

Table 3 shows the alternation between having two particles and having one particle for equatives (in the left column) and comparatives (in the right). The pointing finger points to the winning constraint in a certain stage: When there are two particles, Iconicity wins; when there is only one, Economy wins. The competition between Economy and Iconicity sketched here might suggest the existence of comparative cycles in other languages as well. Indeed, Lerch (1942) reports a comparative cyclic change in French. In Old French, the particle *que* was used in comparatives, whereas *comme* was used in equatives, as shown in 21.

(21) aussi belle **comme** une rose
also beautiful **like** a rose
'as beauiful as a rose'

In present-day French, the particle *comme* in equatives has been replaced by the comparative particle *que*. So, in French the same particle *que* is used in comparatives and equatives, as illustrated in 22 (Lerch 1942: 330–331).

(22) a. plus belle **qu'** une rose
more beautiful **than** a rose
'more beautiful than a rose'

b. aussi belle **qu'** une rose
also beautiful **than** a rose
'as beautiful as a rose'

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It seems that in French, Economy has won the competition at the expense of Iconicity. Note, however, that in French it is actually the parameter marker *aussi* 'also' that carries the equative meaning and not the particle *que*. This is supported by the fact that in generic equatives as well as in similatives, when no parameter marker is present, the old equative particle *comme* 'like' is still used, as illustrated in 23a (Haspelmath & Buchholz 1998:311) and 23b (Haspelmath & Buchholz 1998:279).

(23) a. Thomas est fort **comme** un ours.
Thomas is strong **like** a bear
'Thomas is strong as a bear.'

b. Thomas fume **comme** une cheminée.
Thomas smokes **like** a chimney
'Thomas smokes like a chimney.'

So, in French Economy and Iconicity are both satisfied, but in a different way than in German and Dutch.

Another but similar type of change appears to have happened in Chinese, as reported by Sun (1996). In Old Chinese (500 BC–200 AD), the particle *yu* was used as comparative marker, as illustrated in 24 (Sun 1996:38).

(24) Ji-shi fu yu Zhou-gong.
Ji-family rich COMP Zhou-duke
'(The head) of the family of Ji is richer than the duke of Zhou.'

As can be seen in 24, *yu* in Old Chinese was not a meaningless comparative particle; it expressed the meaning of the comparative itself. The word *bi* was used as a verb, meaning 'to compare', as shown in 25 (Sun 1996:38).

(25) Zi bi er tong zhi, …
sir compare CONJ same PRON
'(If) you compare them and (regard) them (as) the same, …'

In Middle Chinese (201–1000 AD), the verb *bi* could be used as a similarity marker, meaning 'like'. In other words, *bi* had

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grammaticalized from a verb to a preposition, as illustrated in 26 (Sun 1996:39).

(26) bi han miao dai mu yu chun yu
like dried seedlings await wash PART spring rain
'like dried seedlings that await washing in the spring rain'

Modern Chinese uses the same word *bi* as a comparative marker. This is illustrated in 27 (Sun 1996:38).

(27) Ta bi meimei piaoliang.
3SG COMP sister pretty
'She is prettier than her sister.'

Thus, one can observe Chinese *bi* following a path from a verb meaning 'compare' to a preposition meaning 'like' to a comparative marker (Sun 1996). This shows another type of comparative cycle in which a particle expressing similarity ends up as the marker of comparative meaning, suggesting that a competition between Iconicity and Economy in comparison constructions might be a more general phenomenon that is not limited to Germanic languages.

Returning to the sandwich metaphor introduced in the beginning of this article, one may wonder why English has not shown a cyclic change similar to the ones observed in German and Dutch in the use of its comparative and equative particles. English appears to have retained its distribution of comparative and equative particles throughout the years, thereby apparently satisfying Iconicity but violating Economy. Small (1923:43) notes that in English, too, from the early middle period down to modern Scottish dialects, the particle *as* (or *als*) sometimes replaces *than* in comparatives. However, apparently, "[i]t has … never secured a hold on the idiom, although it occurs in ME. and in dialects, and even today is often used by careless speakers after the comparative" (Small 1923:43). The fact that Small (1923) refers to speakers who often use *as* instead of *than* in comparatives as being "careless" suggests that in English, as in Dutch, prescriptivism may have successfully inhibited the process of replacing *than* by *as* in comparatives. The fact that *as* is used in English dialects is reminiscent of the Dutch situation, in which the majority of dialects use *als* in comparatives (Barbiers et al. 2005). Apart

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from the prescriptive pressure that may have blocked the comparative cycle in English, the principle of Economy might be less strong than in German and Dutch. Alternatively, it might be satisfied in a different way, or English might have found another type of compromise between Economy and Iconicity. Note that in English, the particle *like* is also used in generic equatives and similatives but not in equatives.

4. Conclusion.

We have argued that the alternation between particles in German and Dutch comparatives and equatives reflects a cyclic change (van Gelderen 2009a, Jäger 2010) caused by a conflict between the principles of Economy and Iconicity. Economy requires a reduction of two particles of comparison to one, whereas Iconicity favors the use of an equative particle that expresses the meaning of comparison. The comparative particles *als* in German and *dan* in Dutch have grammaticalized into meaningless particles that do not carry such a comparison meaning. German *als* once had this comparison meaning but lost it due to its use as a comparative particle. Then the element *wie* entered the equative construction to satisfy Iconicity. In present-day spoken Dutch and German, Economy is gaining ground again with the equative particle *als* in Dutch and *wie* in German being used in comparatives. The never ending conflict between Economy and Iconicity thus results in an ongoing comparative cycle in German and Dutch.

REFERENCES

Barbiers, Sjef, Hans Bennis, Gunther De Vogelaer, Magda Devos, & Margreet van der Ham. 2005. *Syntactische atlas van de Nederlandse dialecten Deel 1*. Amsterdam: Amsterdam University Press.

Beck, Sigrid. 2012. Comparison constructions. *Semantics. An international handbook of natural language meaning*, vol. 2, ed. by Claudia Maienborn, Klaus von Heusinger, & Paul Portner, 1341–1389. Berlin: Mouton De Gruyter.

Campbell, Robin N., & Roger J. Wales. 1969. Comparative structures in English. *Journal of Linguistics* 5. 215–251.

Gelderen, Elly van. 2009a. Cyclical change, an introduction. van Gelderen 2009b, 1–12.

Gelderen, Elly van (ed.). 2009b. *Cyclical change*. Amsterdam: John Benjamins.

https://doi.org/10.1017/S1470542716000131 Published online by Cambridge University Press

Haeringen, Coenraad B. van. 1956. *Nederlands tussen Duits en Engels*. Den Haag: Servire.
Haspelmath, Martin, & Oda Buchholz. 1998. Equative and similative constructions in the languages of Europe. *Adverbial constructions in the languages of Europe*, ed. by Johan van der Auwera, with Dónall P. Ó Baoill, 277–334. Berlin: Mouton de Gruyter.
Heine, Bernd. 1994. Areal influence on grammaticalization. *Language contact and language conflict*, ed. by Martin Pütz, 55–68. Amsterdam: John Benjamins.
Hendriks, Petra. 1995. *Comparatives and categorial grammar*. Groningen, The Netherlands: University of Groningen dissertation.
Hendriks, Petra, Helen de Hoop, Irene Krämer, Henriëtte de Swart, & Joost Zwarts. 2010. *Conflicts in interpretation*. London: Equinox.
Henkelmann, Peter. 2006. Constructions of equative comparison. *Sprachtypologie und Universalienforschung (STUF)* 59. 370–398.
Hoeksema, Jack. 1983. Negative polarity and the comparative. *Natural Language and Linguistic Theory* 1. 403–434.
Hubers, Ferdy, & Helen de Hoop. 2013. The effect of prescriptivism on comparative markers in spoken Dutch. *Linguistics in the Netherlands* 2013. 89–101.
Huydecoper, Balthazar. 1730. *Proeve van taal- en dichtkunde* [edn. Frans van Lelyveld & Nicolaes Hinlopen, Leiden: A. en J. Honkoop, 1782–1794].
Jacobsson, Bengt. 1977. Adverbs, prepositions, and conjunctions in English: A study in gradience. *Studia Linguistica* XXXI. 38–64.
Jäger, Agnes. 2010. Der Komparativzyklus und die Position der Vergleichspartikeln. *Linguistische Berichte* 224. 467–493.
Jäger, Agnes. 2013. Mehr als (wie) die Summe seiner Teile. Vergleichspartikeln in den Dialekten Hessens mit besonderer Berücksichtigung von *als wie*. *Zeitschrift für Dialektologie und Linguistik* 80. 261–296.
Laker, Stephen. 2008. The English negative comparative particle. *Transactions of the Philological Society* 106. 1–28.
Lee, Hanjung. 2010. Explaining variation in Korean case ellipsis: Economy versus iconicity. *Journal of East Asian Linguistics* 19. 291–318.
Lerch, Eugen. 1942. Ist schöner wie ein Sprachfehler? Zum Streit die Berechtigung der Sprachregelung. *PBB* 65. 329–372.
Malchukov, Andrej. 2006. Transitivity parameters and transitivity alternations. Constraining co-variation. *Case, valency and transitivity*, ed. by Leonid Kulikov, Andrej Malchukov, & Peter de Swart, 329–357. Amsterdam: John Benjamins.
Napoli, Donna J. 1983. Comparative ellipsis: A phrase structure analysis. *Linguistic Inquiry* 14. 675–694.

https://doi.org/10.1017/S1470542716000131 Published online by Cambridge University Press

Plessis, Hans G. W. du. 1977. Die vergelykingskonstruksie in Afrikaans. *Taalfasette* 22. 1–17.
Postma, Gertjan. 2006. Van *groter dan* naar *groter als*—structurele oorzaken voor het verval van het comparatieve voegwoord *dan*. *Nederlandse Taalkunde* 11. 2–22.
Rett, Jessica. 2013. Similatives and the argument structure of verbs. *Natural Language and Linguistic Theory* 31. 1101–1137.
Small, George W. 1923. *The comparison of inequality. The semantics and syntax of the comparative particle in English*. Baltimore, MD: The Johns Hopkins University dissertation.
Stassen, Leon. 1984. The comparative compared. *Journal of Semantics* 3. 143–182.
Stroop, Jan. 2011. De lange arm van de grammatici. *Praagse perspectieven* 7. *Handelingen van het colloquium van de sectie Nederlands van de Karelsuniversiteit te Praag, op 24 en 25 maart 2011*, ed. by Zdenka Hrnčířová, Ellen Krol, Kees Mercks, Jan Pekelder, & Jesse Ultzen, 137–153. Prague: University Press.
Sun, Chaofen. 1996. *Word-order change and grammaticalization in the history of Chinese*. Stanford, CA: Stanford University Press.
Thurmair, Maria. 2001. *Vergleichte und Vergleichen: eine Studie zu Form und Funktion der Vergleichsstrukturen im Deutschen*. Tübingen: Niemeyer.
Umbach, Carla. 2015. The meaning of German *wie* in equative comparison. Unpublished manuscript, Zentrum für Allgemeine Sprachwissenschaft, Berlin.
Wellwood, Alexis. 2015. On the semantics of comparison across categories. *Linguistics and Philosophy* 38. 67–101.

Corpora and Other Data Sources

Corpus Gesproken Nederlands [Spoken Dutch Corpus]. Available at http://lands.let.ru.nl/cgn/.
NRC Handelsblad. Available at www.nrc.nl.
WNT (Woordenboek der Nederlandsche Taal [Dictionary of Dutch Language]). 1884. Available at http://gtb.inl.nl/.

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