

Evidence for cyclicity in anaphors and intensifiers

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Diachronic studies of the English *x-self* anaphor observe that its source is an early *self*-intensifier (as in *the queen herself came*), compounded with a pronoun. Recent work showed that the Arabic anaphor *nafs-x* acquires an intensifying meaning when the anaphoric convention is relatively based, suggesting a reversed process. I propose that both processes can be seen as stages in a cyclic process where the pronoun-*self* compounding is a stage of renewal.

1. Introduction

Anaphors that express coreference in a local setting, such as English *x-self*, have raised interest for showing cross-linguistic regularity and diversity at the same time. On the one hand, anaphors map to recurring morphological patterns and seem to follow a rule-based system in their distribution. On the other hand, anaphors are intertwined in their form and function with a range of elements of different linguistic categories, including intensifiers, focus particles, and middle markers (Faltz 1977; Kemmer 1993; Déchaine and Wiltschko 2017; König and Siemund 2000a).

Faltz (1977) noted that it is a non-trivial task for speakers to draw the line between what linguists see as the core use of anaphors and these other expressions, even with completely different patterns of distribution. While each element on this (non-exhaustive) list has been the center of rigorous literature, it has remained an open question why anaphors exhibit this network of formal and semantic relations across unrelated languages.

In the case of anaphors and intensifiers, there is a well-documented diachronic link in the history of Germanic and Romance languages, in which intensifiers constitute building blocks for anaphoric expressions (Keenan 1994; König and Siemund 1996, among many others). However, this explanation does not naturally extend to anaphor that emerge directly from lexical sources, as in certain Semitic languages (Bassel 2024). One question that rises in this respect is whether the shift from intensifiers to anaphors is unidirectional, on a par with the theory of grammaticalization (Hopper and Traugott 2003), or a potentially unlimited process of reanalysis (Langacker 1977; Eckardt 2006). The answer to this question should project more broadly on the source of homophony between anaphors and intensifiers across languages and the links to other elements.

The current paper proposes that anaphors and intensifiers are part of a cyclic historical change guided by principles of economy. The outline of this change is that anaphors lose

their referential capacity by reduction processes, leading to intensifiers and focus particles on one route, and to clitic and voice markers on the other. As these processes advance, languages may restore the anaphoric function by combining a referential pronoun with an older intensifier, which sets a new cycle. The diverse typology of related elements illustrates different stages in this process.

In what follows, Section 2 presents the theoretical notion of cyclic change and the current proposal of a reflexive-intensive cycle. Section 3 lays out the data for the three historical changes in more detail and shows how they connect under a cyclic analysis. Section 4 concludes the paper.

2. Anaphors and intensifiers

A particular puzzle in the research of anaphoric expressions concerns the link between *self*-anaphors and *self*-intensifiers, illustrated with English examples below.

- (1) The queen invited ***(herself)** to the party. (anaphor)
- (2) The queen (**herself**) came to the party. (intensifier)

The *self* expression in (1) demonstrates a standard use of a locally bound anaphor occurring as an argument of the verb *invite*. In (2), the same expression is adjacent to the noun *the queen* and its contribution is mostly pragmatic. More specifically, it generates an inference that other people of a lower profile than the queen also came, which resembles the additive effect known from the focus particle *even* (Crnič 2011). The link between the two *self* forms seems random on the surface, yet it exists in many languages beyond those related to English. König, Siemund, and Töpper (2013) found formal identity between anaphors and intensifiers in 94 out of 168 languages (56%) in a representative sample of different families and continents. The following sentences present the same homophony for the Modern Standard Arabic anaphor *nafs-x* (3a), which is also used as an intensifier (3b).

- (3) Modern Standard Arabic (Semitic, Middle East and Northern Africa)

(a) *Anaphor*:

al-xutʕatʕ-u la tukarir-u **nafs-a-ha,**
the-plans-NOM NEG repeats.3SG.F-IMP self-ACC-3SG.F
al-ḥurub-u la tukarir-u **nafs-a-ha.**
the-wars-NOM NEG repeat.3SG.F-IMP self-ACC-3SG.F

‘The plans do not repeat themselves, the wars do not repeat themselves.’

(b) *Intensifier*:

w-al kitab-u al-muqaddas-i **nafs-u-hu** ðukir-a
 and-the book-NOM the-holy-GEN self-NOM-3SG.M mentioned.3SG.m-PERF
 fi-hi ma-la jaqel ñan ñiñrina muð^saharaten.
 in-3SG.M NEG-NEG less from twenty manifestation.PL
 ‘and the Bible itself mentioned no less than twenty demonstrations.’

(ArTenTen12)

The history of English offers a simple explanation for this trend in a documented diachronic link between anaphors and intensifiers (Penning 1875; Farr 1905; Visser 1966; Mitchell 1979; Keenan 1994; König and Siemund 1996, 2000b; van Gelderen 1996, 2000; Peitsara 1997; Lange 2001; Bergeton and Pancheva 2012). Historical corpora reveal that *self* morphemes existed in Old English as intensifiers, and their anaphoric use emerged more recently due to compounding with a pronoun, as seen in (4).

(4) Old English (Germanic, 5th-10th centuries CE)

Judas **hine** **selfne** aheng.

Judas him.ACC self.ACC hang

‘Judas hung himself.’

(Visser 1966 p.423)

Synchronic analyses show that the meanings of anaphors and intensifiers can both be described in terms of identity, which motivates the diachronic path (Moravcsik 1972; Eckardt 2001; Hole 2006; König and Gast 2006; Reuland and Winter 2009; Charnavel and Sportiche 2022; Bassel 2024). It was previously assumed that the reflexive-intensive homophony reflects one order of emergence across languages (e.g., König and Siemund 2000b). However, historical data involving the Arabic anaphor *nafs-x* and cognates in Hebrew and Aramaic suggest an opposite order (Bassel in preparation; Bassel and Keshev forthcoming).

Combining the information from English and Arabic seems to indicate that anaphors and intensifiers emerge through two possible directions of semantic change, in which the anaphor evolves from the intensifier and vice versa, as in Figure 1.

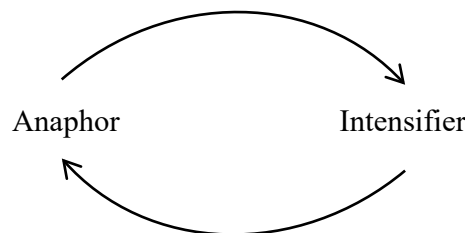


Figure 1: A multidirectional analysis of anaphors and intensifiers.

This result is surprising for a theory of grammaticalization that speaks of unidirectionality in language change (Roberts 1992; Hopper and Traugott 2003). Works that center on the process of reanalysis describe changes that are not predetermined in terms of directionality (Langacker 1977; Campbell 2000; Lightfoot 2006; Eckardt 2006). These are processes in which grammar generates more than one possible output per structure, where the choice between outputs may be random, filtered by the conversational context (Heine 2002), or motivated by grammatical principles, like considerations of economy (Lightfoot 1979; van Gelderen 2004; Kiparsky 2012). In this line of analysis, semantic change is unidirectional if it is motivated and unlimited otherwise (Bar-Asher Siegal, forthcoming).

This raises the question of whether the interaction between the anaphor and the intensifier is motivated, and in which direction. In the current paper, I propose to consider these changes as part of a cyclic process, in which the seemingly reversed clines are two unidirectional phases that are motivated by economy. Arabic demonstrates the formation of an anaphor from a lexical phrase, which then spreads to the meaning of the intensifier. The English process is a stage of renewal that forms a new anaphor.

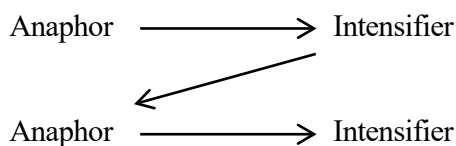


Figure 2: A cyclic analysis of anaphors and intensifiers.

In the suggested scheme, the horizontal lines represent reduction of the pronominal component, and the diagonal represents compounding with a new one.

This analysis has three main advantages. First, it offers one explanation for the anaphor-intensifier homophony in English and Arabic. Second, it explains the asymmetry in which anaphors can extend their meaning to that of intensifiers with no formal change, while intensifiers merge with a pronominal element to acquire an anaphoric status. Finally, it sets anaphors and intensifiers within a broad range of well-known cyclic phenomena such as negation and tense marking, previously explained by rules that guide speakers to assign simplified representations to complex input for economy considerations (e.g., Lightfoot 1979; van Gelderen 2004, 2011). A cyclic analysis of anaphors and intensifiers would provide further support for this general insight and explain related phenomena as additional stages in the process.

2.1 Linguistic cycles

A cyclic process in the historical sense is one where a semantic construction undergoes successive steps of reduction, which conclude in a renewal of the original semantic function with new linguistic material. Well-known examples include periphrastic markers of tense and aspect (Tauli 1956; Bybee, Perkins, and Pagliuca 1994; Krug 2011; van Gelderen 2011), modal verbs (Gergel 2009, Marušič & Žaucer 2016, Chatzopoulou 2019), negation (Jespersen 1917; Givón 1978; Zeijlstra 2004; Dahl 1979; Croft 1995; Bar-Asher Siegal and De Clercq 2019; Bar-Asher Siegal 2020; Hansen 2011; Breitbarth, Lucas, and Willis 2020), and shifts from progressive to imperfective (Deo 2015), definiteness to person marking (Lyons 1999; van Gelderen 2011), pronoun to agreement (Greenberg 1978; Fuß 2005; van Gelderen 2011; Maddox 2021), pronoun to copula (Katz 1996). A few abstract illustrations for documented linguistic cycles are given in Table 1.

Phenomenon	Cycle
Subject agreement	noun > pronoun > agreement > ∅
Object agreement	pronoun > agreement > ∅
Determiners	demonstrative > definite article > “Case” > ∅
Negation	negative argument > negative adverb > negative particle > ∅

Table 1: Documented cycles (van Gelderen 2011: p.8)

Van Gelderen (2011) explains the recurrence of such changes as a general consequence of syntactic derivation under cognitive constraints known collectively as economy principles. The argument begins with an axiom that any operation in phrase structure raises the complexity of its input. The basic operations of minimalist syntax, merge and move, present an obvious example: the merge of two objects A and B is a construction made of three objects (A, B, AB), while movement duplicates the features of one object to a second position. Against this background, historical changes like the ones in Table 1 balance the computational load through stages of simplification that reduce the number of objects.

Economy Principles are rules of grammar that capture reduction under this general motivation. An early formalization is the Transparency Principle from Lightfoot (1979), quoted in (5), which limits the possible delta between a string’s phonetic realization and its underlying structure.

(5) *Transparency Principle (Lightfoot 1979: p. 344):*

Derivations may be of a limited degree of complexity.

This principle predicts that representations with many covert operations will be disfavored compared to ones that are more straightforward. Roberts and Roussou (2003) and van Gelderen (2011) proposed more specific rules that describe a motivation to interpret a phrase as a head (6), and a target of movement as a base position (7).

(6) *Head Preference Principle* (van Gelderen 2011: 15) :

Be a head, rather than a phrase.

(7) *Late Merge Principle* (van Gelderen 2011: 17; following Roberts and Roussou 2003):

Merge as late as possible.

According to van Gelderen, these principles govern historical processes and reinforce the general line of progression in (8).

(8) *Reduction cycle* (van Gelderen 2011: p.6)

Phrase > head > clitic > affix > Ø

Since reduction is motivated by economy, it is expected to be unidirectional, which means reduced semantic functions could only be restored if they are encoded by new morphemes. Renewal is in itself motivated if it provides a simplified structure for a semantic function that is expressed by lexical means.

2.2 A reflexive-intensive cycle?

The main claim of this paper is that the formation of anaphors and intensifiers corresponds to motivated steps of reduction and renewal, which I base on three types of evidence. I will highlight the main points here before moving to present the data in the following section. First, I show that both directionalities in the anaphor-intensifier shift conform to economy: intensifier-to-anaphor processes turn a phrase into a head, while anaphor-to-intensifier processes reduce a pronominal suffix to agreement marking.

Second, I will argue that expanding the historical scope of investigation beyond these processes reveals a cyclic application of compounding and reduction. For example, the history of French, like that of English, includes compounding between a pronoun and an intensifier *même*, which brings about the anaphor *x-même* (Waltereit 2012). Like other Romance intensifiers, *même* is a derivative of the Latin intensifier *ipse*, which had earlier pronominal phases (König and Siemund 1999; Weiss 2009; Carlier and De Mulder 2010). In the other direction, *x-même* has replaced the monomorphemic variant as the common intensifier. Taken together, these changes demonstrate two cycles, seen in Figure 3.

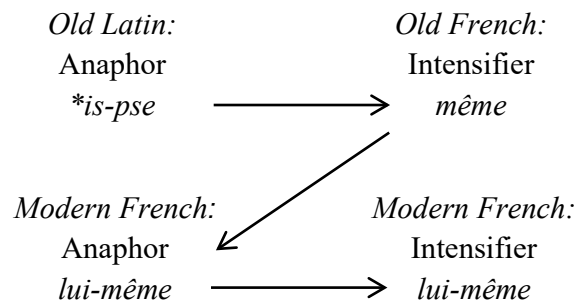


Figure 3: Reflexive-intensive cycle in French

We learn further from Arabic and German that intensifiers may reduce further into modifiers meaning ‘same’ or ‘even’, which are respective developments of the intensifiers *nafs-x* and *selbst* (Eckardt 2001; Bassel in preparation; Kayam 2024). Both of these meanings are also attested for *même*, but they have arrived as a bundle with the intensifier from Latin. Based on the chronology in Arabic and German, we may conclude that these particles are a continuation of the shift from anaphor to intensifier, which suggests the progression in (9).

(9) Anaphor > intensifier > focus particle, ‘same’

The third line of evidence arrives from a parallel process that reduces anaphors to voice markers and possibly to zero. This process, illustrated in (10), has already received a cyclic analysis in the literature (Kemmer 1993; Maddox 2021), but has so far been discussed in separation from the anaphor-intensifier shift.

(10) *Reflexive to middle (following Kemmer 1993):*

Anaphor > clitic > middle voice > ∅

The most obvious relation between these processes is that anaphors that reduce to voice markers through the process in (10) often regenerate based on intensifiers and focus particles, the outcomes of the process in (9). Combining the two together forms the cycle in Figure 4.

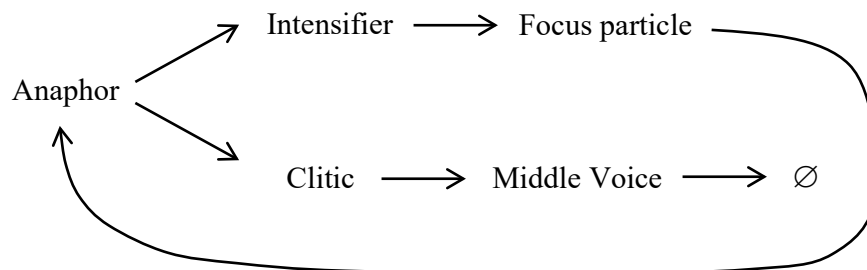


Figure 4: A reflexive-intensive cycle

Old English pronouns were unlimited in reference and could express local coreference and disjointness, as the context requires. The contribution of *self* morphemes in such environments is reducing this ambiguity by making the coreferential reading more accessible than the disjoint one. In this capacity, *self* became a common addition to coreferential pronouns, with a rise of 750% in corpora frequency between the years 1250 and 1700 CE. (Keenan 1994; Peitsara 1997; Lange 2001). Throughout this period, *self* turned from an inflected adjective into a fixed nominal head and gradually became more dependent on the pronoun. Instances of pronoun-*self* combinations before and after this change are seen in (13-14).

(13) Old English:

ac wundorlice swyðe geeadmedde Crist **hine sylfne**.
 but wondrously much humiliated Christ him.ACC self.3SG.ACC
 ‘But Christ humiliated himself greatly.’ (Faltz 1977: 54)

(14) Middle English:

Hys ryzt hand vp he lyfte and blessed **hym-self** stedfastly.
 his right hand up he lifted and blessed him-self steadfastly
 ‘He lifted his right hand up and blessed himself steadfastly.’ (Keenan 2002)

Given the rising frequency, it is highly economical to interpret pronoun-*self* strings as compounds, which turns them from phrases to a heads, as seen in (15)

(15) *Intensifier to anaphor*:

[DP [D him] [AP self]] > [DP himself]

This process was previously taken to explain the homophony between anaphors and intensifiers across languages (Kemmer 1993; Heine 1999; König and Siemund 2000b), alongside the possibility of a parallel development. However, in Bassel (2024, in preparation) I argued that a reversed path of change is also attested.

3.2 Anaphors to intensifiers

The following subsections show evidence for anaphoric forms that predate their intensive counterparts. Section (3.2.1) focuses on *nafs-x* in Hebrew and Arabic and shows that its intensive meaning was not available before the anaphoric one emerged. Section 3.2.2 will then show that changes that took place in Germanic and Romance languages before and after the intensifier-to-anaphor process reinforce the directionality found in Semitic languages.

3.2.1 Semitic languages

Semitic anaphors belong to a class of anaphors that contain body-part expressions, known as ‘head reflexives’ due to Faltz (1977). A few examples are listed below, all have a parallel use as intensifiers.

Modern Hebrew	Palestinian Arabic	Standard Arabic	Amharic (Leslau 1995)
<i>acm-i</i> ‘my bone’	<i>ḥal-I</i> ‘my state’	<i>naḥs-i</i> ‘my soul’	<i>ras-e</i> ‘my head’

Table 1: Body-part reflexives/intensifiers in Semitic languages

Given what is known from English, it is natural to assume that these expressions start out as intensifiers and proceed to become anaphors. However, corpus data that probes into the use of *naḥs-x* anaphors before they became a primary reflexive strategy does not support this directionality.

In Bassel (2023) I focused on two corpora, chosen for their size and accessibility: the Qur’an, which shows the use of *naḥs-x* in one of the earliest sources of Classical Arabic, and the Hebrew Bible, which features an even earlier use of the cognate *naḥš-x*. The details of the corpora are listed below.

(16) *Data sources (Bassel 2023):*

- (a) Biblical Hebrew, 1st millennium BCE, 306,757 words
- (b) Qur’anic Arabic, 7th century CE, 77,797 words

If the directionality in which *naḥs-x* emerged matches the one observed for *x-self*, we expect to find intensive uses of the *naḥs* morpheme in its basic form prior to the anaphoric use. Alternatively, we should find the compounded form in intensive contexts at least as early as it occurs in anaphoric contexts.

Surprisingly, none of these options is realized in the data. A search of the respective lexemes *neḥš* (נֶחֶשׁ) and *naḥs* (نَفس) in the Bible and the Qur’an retrieved no intensive uses, although *naḥs* does have a common ‘same’ use in contemporary Arabic, illustrated in (25).

(17) *Modern Standard Arabic:*

naḥs l-baḥr wa-š-šāt

same the-sea and-the-coast

‘the same sea and coast’ (Haya Zaatry, حدود ووعود ‘borders and promises’, line 3)

The contexts in which the basic lexemes occur in both sources suggest that the readings available for them in the relevant periods were those of their lexical meanings, mainly ‘soul’ and

‘life’, alongside an indefinite pronoun reading, which emerges under determiners (e.g., *kol neṗēš* ‘everyone’). When searched with pronominal suffixes, Hebrew *nap̄š-x* showed 97 anaphoric instances (0.31/1000w) and zero intensive ones, while Arabic *naḡs-x* turned up 148 anaphoric instances (1.9/1000w) and 9 intensive ones (0.12/1000w). The number of instances and frequencies are listed in Table 2.

		Anaphoric use		Intensive use	
		Instances	Frequency	Instance	Frequency
<i>neṗēš</i> (נפש)	Base	0		0	
	Suffixed	97	0.31	0	
<i>naḡs</i> (نفس)	Base	0		0	
	Suffixed	148	1.90	9	0.12

Table 2: Anaphoric and intensive occurrences of *neṗēš/naḡs* and frequency for 1000 words

The significant gap seen in Arabic between anaphoric and intensive uses of *naḡs-x* is also found in the Jewish Babylonian dialect of Aramaic. Bar-Asher Siegal (2013) reports a regular use of the suffixed form *nap̄ša-x* as an anaphor referring to humans, alongside what he refers to as a rare use as an adnominal intensifier, which does not exceed two dozen instances. This difference is unexpected if the intensifier use predated the anaphoric use, or even if both emerged together (Anghelescu 2011).

To verify this, in Bassel (in preparation) I compared the anaphor-intensifier ratio in the Qur’an with two corpora that include both forms as a grammatical convention: EnTenTen21 corpus of Modern English, and the historical corpus of the Hebrew Mishna, a Rabbinic Hebrew text from the second century CE. For the EnTenTen21 corpus, I collected all pronoun-*self* expressions and sorted them into post-nominal, post-verbal, and post-prepositional. I classified post-nominal instances as intensifiers and post-prepositional and post-verbal as anaphors, knowing that the latter data set also includes adverbial intensifiers. The results were 0.452/1000w for anaphors and 0.088/1000w for intensifiers, which is a significantly lower gap compared to that found in the Qur’an ($X^2(1, N = 2650) = 61.213, p < .001$).

For the Hebrew Mishna, I classified all instances of *acm-x* according to their meaning in context and found a balanced proportion of 29 anaphors and 32 intensifiers. This comparison suggests that the low proportion of intensive instances of Qur’anic *naḡf-x* indicates that this meaning was not available when the anaphoric convention emerged.

Despite showing a reversed directionality compared to English, these findings point to another economically motivated process, which resonates with well-known paths of reduction. The pronominal component in the anaphor is reduced to agreement marking, which turns the

anaphor from an entity (type *e*) to a modifier (type $\langle e, e \rangle$). Reduction proceeds when the agreement suffix is reduced completely, as seen for the pre-nominal *nafs* modifier shown in (17). The full path of reduction is given in (18).

(18) *Anaphor to intensifier*:

Pronoun > agreement > \emptyset

This proposal does not automatically extend to other Semitic languages, since there is also a possibility for intensifiers to develop directly from body terms through mechanisms of semantic widening. I focused on Arabic since it clearly shows that intensifier uses of the suffixed form arrive after the anaphoric convention is in an advance stage of development, and this might be true for cognates of *nafs-x* in a broader sense. The upcoming subsection will show evidence for this trajectory in the history of Germanic and Romance languages.

3.2.2 Germanic and Romance languages

Romance anaphors typically pattern with English in combining pronominal elements with existing intensifiers such as French *même*, Spanish *mismo*, or Italian *stesso*, which reflects the familiar path from intensifier to anaphor. However, there is some evidence that these intensifiers have an anaphor in their background, which mirrors the change seen in Arabic.

Romance intensifiers trace back to the Latin intensifier *ipse* (König and Siemund 1999), which originally showed inflection for case, number, and gender, as seen in the attested forms in Table 3.

	Singular			Plural		
	Ms.	Fm.	Neut.	Ms.	Fm.	Neut.
Nom.	<i>ipse</i>	<i>eapse</i>	<i>ipsum</i>	<i>ipsī</i>	<i>eaepsae</i>	<i>ipsa</i>
Acc.	<i>ipsum</i>	<i>eampse</i>	<i>ipsum</i>	<i>ipsōs</i>	<i>ipsās</i>	<i>ipsa</i>
Dat.	<i>ipsī</i>	<i>lpsī</i>	<i>ipsī</i>	<i>ipsīs</i>	<i>ipsīs</i>	<i>ipsīs</i>
Abl.	<i>eōpse</i>	<i>eāpse</i>	<i>ipsō</i>	<i>ipsīs</i>	<i>ipsīs</i>	<i>ipsīs</i>
Gen.	<i>ipsīus</i>	<i>ipsīus</i>	<i>ipsīus</i>	<i>ipsōrum</i>	<i>ipsārum</i>	<i>ipsōrum</i>

Table 3: Declinations of *ipse* in Plautus (Old Latin, Weiss 2009: p.346)

According to Weiss (2009), the inflection paradigm of *ipse* in Old Latin suggests that it is a fusion between an anaphoric demonstrative pronoun *is* and a particle *pse*. Toro, Orqueda, and Inostroza (2022) describe pronominal *ipse* as a long-distance anaphor which shares its sources

with the Old Latin anaphor *se*. Some authors argue further that *-pse* itself is a compound containing a *se* pronoun (Berenguer 2000; De Vann 2008; Weiss 2009).

Regardless of the exact meaning of early *ipse*, it is a complex pronoun by its morphological analysis, which suggests that all Romance intensifiers have a complex pronoun in their history. The path from *ipse* to modern intensifiers differs between languages and seems to include further iterations of compounding with pronominal elements (e.g., *iste*, *memet*) and emphasizing expressions (Harris 1974; Carlier and De Mulder 2010; Hertenberg 2011; Lüdtke 2015).

There are similar hypotheses with respect to the history of the Germanic intensifier *self*, which is assumed in the reconstruction literature to share a Proto-Indo-European source with the Latin forms *ipse* and *se* (Brugmann and Delbrück 1893; Skeat 1893; Mezger 1948; Hahn 1963; Szemerényi 1964; Erhart 1970; Shields 1998; Petit 1999; Orel 2003). This analysis remains speculative, but English also shows an anaphor-to-intensifier directionality in more recent stages.

Starting 1250 CE, the *x-self* compound has extended from the anaphoric use to the intensifier, at the expense of the existing monomorphemic *self* (Farr 1905). This shift is unmotivated from a morpho-semantic perspective, since the intensifier has no pronominal status in either version, which makes the pronominal component semantically vacuous. It is nonetheless predictable given the data from Semitic languages, since it realizes the same meaning extension seen for *nafs-x*. In my understanding, the anaphoric form extends to the intensifier because anaphors have the semantic capacity to generate intensive meanings.

There is still a question of why, given two possible forms of intensifiers, the complex form was preferred over the more economic monomorphemic version. There seems to be an arbitrary component to this process: In English, the complex intensifier fully replaced the simple variant, but other Germanic languages retained their monomorphemic intensifiers, such as German *selbst*, Danish *selv*, or Norwegian *själv*. This variability is unexpected from an economical standpoint, which predicts that a more simple form would be preferred categorically out of two semantic equivalents.

The fact that this shift happened for English nonetheless suggests that the complex intensifier is not entirely equivalent to the simple variant. More specifically, it suggests that speakers were motivated to renew the agreement marking of the intensifier, which was reduced in the course of the compounding process and retained only the number distinction (*self-selves*). A richer agreement could have played a role in facilitating the connection between the intensifier and the head, as recently demonstrated for verb-subject agreement (Keshev and

Meltzer-Asscher 2024). This is particularly relevant for adverbial intensifiers, which occur in a distance from their antecedent, as illustrated by the following Modern English example.

(19) The queen signed the letters herself.

Evidence for a similar transition to complex intensifiers are found in French. A search of Frantext corpus of French literature shows that, in Middle French, the form *mesme*, occurs as an intensifier and as modifiers meaning ‘even’ and ‘same’. By the 19th century, its reduced successor *même* is still used as ‘even’ and ‘same’, alongside a regular use as part of the complex anaphor *x-même*. At this stage, the monomorphemic *même* is the common choice for an intensifier, but there are also instances of the complex variant, mainly for adverbial intensifiers. The following quotes show both forms used in the same sentence, the simple *même* as an adnominal intensifier and the complex *lui-même* as an adverbial one.

(20) **Soliman même** n'a tant d'éclat, que parce que le poète lui a donné quelques traits de la générosité du chevalier : ainsi le principal héros infidèle **emprunte lui-même** sa majesté du christianisme

‘Suleiman himself has so much brilliance only because the poet has given him some traits of the knight's generosity: thus the principal infidel hero borrows himself his majesty from Christianity.’

(François-René de Chateaubriand, 1828, “Génie du christianisme”, p.192)

In contemporary French, *même* and *x-même* are both in use as adnominal intensifiers, as illustrated in the following attested examples. French speakers I consulted with reported that the monomorphemic variant sounds more formal.

(21) Ne pas confondre imposte et oculus. Ce dernier est une ouverture vitrée aux formes variées, pratiquée dans **la porte même**.

‘Do not confuse imposte and oculus. The latter is a glass opening featured in the door itself.’

(www.m-habitat.fr/portes/elements-d-une-porte/l-imposte-d-une-porte-2786_A)

(22) La certification A2P prend en compte **la porte elle-même** mais aussi la serrure.

‘A2P certification takes into account the door itself but also the lock.’

(www.futura-sciences.com/maison/questions-reponses/bricolage-porte-blindee-choisir-4254)

Considering these facts together, the emergence of anaphors, intensifiers, and ‘same’ particles in French is in line with the progression suggested for Arabic in the previous

subsection. The crucial difference is that French inherits an intensifier bundled with adjectival ‘same’ meaning from Latin, while Arabic starts the process from a lexical source and acquires the intensive and ‘same’ meanings at later stages. Table 4 summarizes.

Anaphor		Intensifier		‘same’
Qur’anic Arabic: <i>nafs-x</i>		>	Classical Arabic: <i>nafs-x</i>	> Modern Standard Arabic: <i>nafs</i>
			Middle French: <i>mesme</i>	~ Middle French: <i>mesme</i>
Early Modern French: <i>x-même</i>		>	Modern French: <i>x-même</i>	

Table 4: Anaphors, intensifier and ‘same’ in the history of Arabic and French

To conclude, the path from intensifiers to anaphors is well-documented, and yet there is also evidence for a path from anaphors to intensifiers, which proceeds to focus and identity particles.

3.3 Anaphors to middle markers

The previous subsections introduced shifts between intensifiers and anaphors in both directions. The current one will center on the common link between anaphors and markers of middle voice (Faltz 1977, Kemmer 1993) and highlight intersections between these processes.

The hypothesis that anaphors evolve into middle markers, mostly associated with Kemmer (1993), is based on observations that languages unrelated as German (Germanic), Pangwa (Bantu), and Guugu Yimidhirr (Australian) show identity between these morphemes. In other languages, such as Russian (Slavic) and Surselvan (Romance), the middle marker is a reduced variant of the anaphor. A transition from anaphors into middle markers is economic at the level of the VP, since it turns a verb phrase to a verb head. Certain languages lose the overt middle marker, like Modern English, which marks the end of the cycle. This progression is compatible with the general course of reduction seen in (23).

(23) *Anaphor to Middle Voice:*

Pronoun > clitic > affix > Ø

On the semantic level, the shift from anaphor to middle is a rise in the level of abstraction, from coreference to indistinguishability between event participants. For a verb with two prototypical roles, a causer and an affectee, an anaphor assigns both roles to the same entity, while middle voice contracts them into one role that does not clearly satisfy either prototype. This difference is reflected in the anaphor’s independent status as an

argument, which allows it to take on focus, be part of a coordination structure, and generate proxy readings that refer to statues or pictures, among other diagnostics (Ruigendijk and Schumacher 2020; Maddox 2021; Bassel 2024). The fact that middle markers lack these capacities explains the observation that languages often follow this transition with a renewal of the anaphoric form.

Romance languages present a case in point. Latin featured two distinct constructions: an anaphor *sē* showing characteristics of an independent DP, and a middle marker *-r* used in a verity of change-of-state events featuring one entity (Kemmer 1993). In the shift to Romance languages, successors of the *sē* anaphor gradually replaced the middle marker across its various uses (Hatcher 1942), and new anaphors emerged from combinations of pronouns and intensifiers (Kemmer 1993; Waltereit 2012; Maddox 2021). The following example from Spanish demonstrates a co-occurrence of a *se* middle marker and a renewed anaphor *si mismo* (24), which indicates that the older anaphor completed the cycle (at least in this context).

(24) *Middle Spanish:*

si es necçessario que el onbre **se** ame a **si mismo** mas que
 if is necessary that the man MIDDLE loves ACC REFL very more than
 a los otros onbres.
 ACC the other men

‘...if it is necessary that one love himself more than others.’ (Maddox 2021: 47)

Kemmer presents a similar cycle in Nilo-Saharan languages, which employ body-part morphemes as anaphors, intensifiers, and middle markers (Crazzolara 1955; Kemmer 1993). In particular, cognates of the body-part morpheme *rô* ‘body’ are used across Nilo-Saharan as anaphors and intensifiers, with reduced variants surfacing as verbal affixes. One of these suffixes is found in Àcoólî, where *rô* has been reduced into a single vowel -ε. Àcoólî also includes a renewed compound based on the morpheme *kööm* ‘body’, used as an anaphor and an intensifier. The following sentences show the middle marker and the anaphor side by side (25a), and an intensifier use of the same form (25b).

(25) (a) òjùkù **kööm-ε** = òjùk-ε

paint body-3SG.M paint-MIDDLE

‘he painted himself (with mud)’

(Kemmer 1993: 112)

(b) aan ki **kööm-a**

I with body-1SG

‘I myself’

These examples demonstrate that the reduction of anaphors into verbal affixes could lead to regeneration via compounding between a pronominal element – which renews the referential capacity – and a morpheme recruited to mark local coreference. The possible sources for coreference markers are existing intensifiers and lexical items such as body terms.

3.4 The cycle

The processes outlined above demonstrate three economically motivated shifts, repeated below: a compounding of a pronoun and an intensifier that produces an anaphor (26), a reduction of anaphors to intensifiers (27), and another course of reduction to middle marker (28).

(26) *Intensifier to anaphor*:

[DP [D pronoun] [AP intensifier]] > [DP anaphor]

(27) *Anaphor to intensifier*:

Pronoun > agreement > \emptyset

(28) *Anaphor to Middle Voice*:

Pronoun > clitic > affix > \emptyset

In the sources I based on, the anaphors that interact with intensifiers (27-28) are morphologically different from the ones that reduce to middle markers (28). The former clearly present compounding of a pronoun with an additional morpheme, while the latter are generally considered monomorphemic. Treating these classes as part of the superset “anaphors” allows to combine the three processes into the cycle shown in Figure 4.

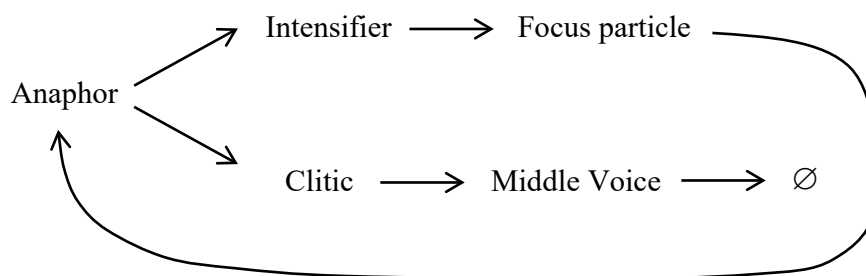


Figure 4: A reflexive-intensive cycle (extended)

Since every step of this process is economically motivated, it is expected to be unidirectional. The cyclic nature follows from the tendency of languages to renew an anaphoric element with particular properties. The history of Romance anaphors showcases

the stages of the proposed cycle, excluding the edges (lexical source and full reduction). Figure 6 demonstrates this for French.

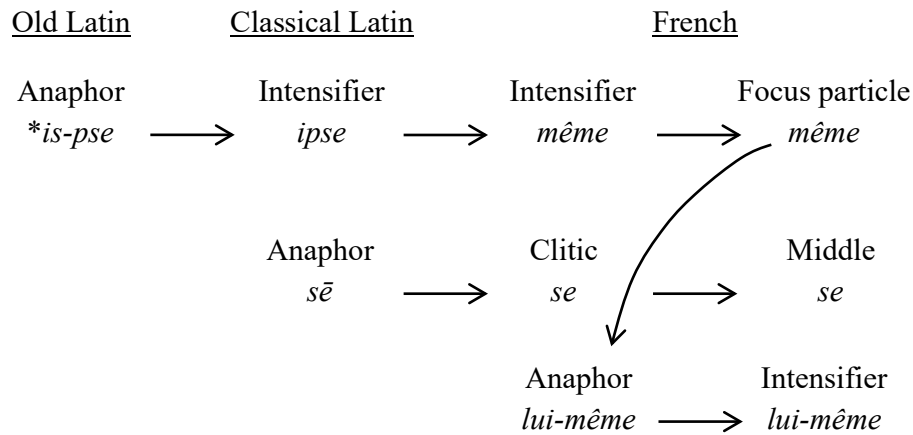


Figure 6: Cyclicity in Latin and French anaphors

The proposed cycle explains the recurrence of this network of elements across unrelated languages, and the differences between anaphors that emerge from a lexical force (Faltz’s “head reflexives”) and ones that are renewed based on an older intensifier.

4. Conclusion

This paper began by introducing three separate processes of language change that involve anaphors, which seemed to have different motivations. Intensifiers turn into anaphors to reduce ambiguity in the third-person, anaphors turn into intensifiers based on shared semantic properties, and reduce to middle markers based on economy.

Two of these processes go in opposite directions (intensifiers to anaphors, anaphors to intensifier) and could have been interpreted as a reversal of the historical process. By considering these procedures as parts of a cycle, we may include all the discussed changes in one process that is unidirectional and cyclic, where each step is explained by economy principles.

This analysis demonstrates the relevance of historical data to challenges in syntactic theory. From a synchronic standpoint, the existence of many different elements that share form and function with anaphors to various extents is a burden that obscures the regularity of pronominal systems. A reflexive-intensive cycle of language change predicts these elements and explains the points of similarity and variation between them.

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