

Evidence for cyclicity in complex reflexive anaphors

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Diachronic studies of the English *-self* anaphor observe that its source is an early *self*-intensifier (as in *the queen herself came*), compounded with a pronoun to reduce ambiguity in the third person. This paper suggests that this change is part of a cycle, where the pronoun-*self* compounding is a stage of renewal. The proposal is based on (i) etymological studies of Indo-European languages, showing that intensifiers like Germanic *self* and Latin *ipse* reveal traces of earlier cycles of compounding with a pronominal element; (ii) typological surveys relating complex reflexives, simple reflexives and middle morphology in a cyclic process; and (iii) historical research from Semitic languages, showing that the meaning of body-part expressions has evolved from the lexical source to reflexive meaning to intensifier. Reduction is shown to proceed in two paths corresponding to the distinct prosodic patterns exhibited by reflexives and intensifiers, resulting in verbal morphemes or zero anaphora in the former case, and heavier focus particles in the latter. The analysis places reflexivity on a par with other cyclic processes in language change, and explains the cross-linguistic variation in reflexive strategies, where different forms such as Arabic *nafs-x*, English *x-self*, French *se-*, zero anaphora, German *selbst* etc. correspond to different stages in the cycle.

1. Introduction

Many documented processes of semantic change are known to be unidirectional and cyclic in nature. These include the formation of tense and aspect marking (Tauli 1956, Bybee, et al. 1994, Krug 2011, van Gelderen 2011) progressive to imperfective (Deo 2015), negation (Jespersen 1917, Givón 1978, Zeijlstra 2004, Dahl 1979, Hansen 2011, Bar-Asher Siegal & De Clercq 2019, Bar-Asher Siegal 2020), definiteness (Lyons 1999), pronouns to agreement markers (Greenberg 1978, Fuß 2005, van Gelderen 2011, Maddox 2021), the morphological architecture of languages (synthetic vs. analytic, Hodge 1970), pronoun-copula shift (Katz 1996), definiteness and person marking (van Gelderen 2011) and the emergence of modal verbs (Gergel 2009, Marušič & Žaucer 2016, Chatzopoulou 2019), among others.

Such processes typically begin with an independent word taking on a certain grammatical function and proceeds with loss of prosodic stress and phonetic reduction, potentially down to zero; reduction is followed by a renewal of the same grammatical function with different linguistic material, which sets out a new cycle of gradual reduction.

This pattern is found both in grammaticalization processes, which originate in lexical elements, and in language change processes where a grammatical element is reanalyzed as another grammatical element, which Andersen (2008) terms ‘Regrammation’.

From a theoretical perspective, works from the last decades take cyclicity in language change to reflect cognitive constraints known as Economy Principles, like the Transparency Principle requiring derivations to be minimally complex (Lightfoot 1979), the Head Preference Principle (Van Gelderen 2004) which favors analyzing elements as heads rather than phrases, and the principle of upward reanalysis (Roberts and Roussou 2003), which reflects a preference for a higher merging position to a lower merge followed by movement (also known as Late Merge Principle). A general scheme for a cycle of reduction is given in (1).

(1) Reduction cycle (van Gelderen 2011: p.6)

(a) Morphosyntactic change:

phrase > word/head > clitic > affix > Ø

(b) Semantic change:

adjunct > argument > (argument) > agreement > Ø

Examples of language change processes following from the Head Preference Principle, according to van Gelderen (2011: p.14), are demonstrative pronouns reanalyzed as complementizers, negative adverbs as negation markers, adverbs as aspect markers, full pronouns as agreement. Upward reanalysis is taken to underlie the change from lexical heads to functional heads and to higher functional heads.

The current paper argues for a cyclic analysis of the emergence of reflexives and intensifiers, which would locate it among the many other known processes of language change, some of which are listed above. A cyclic approach to reflexives and intensifiers would therefore provide further support to Economy Principles while allowing to derive a variety of different reflexive strategies from one process while predicting its stages from general mechanisms of grammar.

The *x-self* anaphor, demonstrated in (2), is reported to emerge via compounding of a pronoun and an independent *self* modifier, which resembles the modern complex intensifier in (3) in meaning and distribution. Such modifiers were used in Old English, among other contexts, to raise an inference of local coreference on 3rd person object pronouns, as shown in (4).

(2) *The queen invited **herself** to the party.*

- (3) (a) *The Queen **herself** came to the party.*
 (b) *The queen came to the party **herself**.*

- (4) *þæt he sealde hine sylfne for us*
 that he gave him.ACC self.ACC for us
 ‘that he gave himself for us.’

My main claim in this paper is that the compounding of is a stage of renewal, which generally occurs after an older complex anaphor lost its pronominal status. The proposed cycle is stated in (5).

- (5) (a) a compound of a pronominal element and a lexical item is reanalyzed as a reflexive anaphor
 (b) The compound reflexive extends to intensive uses under narrow focus
 (c) The multifunctional form enters two independent paths of reduction:
 i. Complex reflexive > simple reflexive > voice marker > Ø
 ii. Complex intensifier > simple intensifier > focus particle
 (d) The reduced intensifier is compounded with a pronoun and reanalyzed as a reflexive anaphor

The typology of reflexive strategies in Faltz (1985) divides complex reflexives into ‘head reflexives’, composed of a nominal head – often, names of body parts – and a pronominal modifier and ‘adjunct reflexive’, where an intensifier modifies a pronoun. Under a cyclic account, the two prototypes reflect different stages in the reflexive cycle, alongside simplex anaphors like Romance *se*, focus particles like Latin *ipse* and Germanic *self*, zero anaphors and verbal strategies.

I rely on the following evidence: In Germanic and Romance languages, reconstruction studies trace back the intensifiers *self* and *ipse* to older reflexive forms, while documented changes reveal a shift from reflexive pronouns to voice markers (Section 2); in Middle English and Early Modern French, the complex anaphor extends to intensive meaning and replaces the already attested simple intensifier; In Hebrew and Arabic, the reflexive meaning is shown to have preceded the intensive meaning in the grammaticalization of the lexical item *nafs*- ‘soul’ (Section 3). An outline for the suggested process and the motivation for the different stages is given in Section 4 and a conclusion in Section 5.

2. Evidence for cyclicity

The forming of *x-self* is investigated since at least Penning (1875), under the general understanding that it originated from an independent *self* modifier compounded with a pronoun

(Mitchell 1979, Keenan 1994, 2002, König & Siemund 1996, 2000c, van Gelderen 1996, 2000 i.a). Old English had no specified reflexive form and its simple pronouns were used to express local coreference as well as disjoint reference in object position, giving rise to potentially ambiguous constructions as in (6).

(6) Old English:

- (a) *hine he beweraÐ mid wæpnum*
 him he defended with weapons
 ‘he defended himself with weapons’ (König and Siemund 2000c: 7)

- (b) *swa hwa swa eadmedaÐ hine.*
 whoever humiliate.PRES him
 ‘whoever humiliates him/himself’ (Faltz 1985: 16)

- (c) *Ða behydde Adam hine & his wif eac swa dyde.*
 and hide A. him and his wife in.addition same did
 “and Adam hid himself and his wife did the same” (König and Siemund 2000c: 32a)

The Old English *self*, demonstrated in (7), is considered to have a similar distribution and interpretation to that of the Modern English complex intensifier, which König & Siemund (1996, 2000a) describe as centering an entity within a set of contextual alternatives.

- (7) *for heo seolf ne cunne.*
 because they self NEG can
 ‘because they themselves cannot’ (van Gelderen 1996: 5)

Among other contexts, the intensifier was used to disambiguate pronouns in object position and create an inference of local coreference. This is the case in the sentences in (8).¹

- (8) (a) *Judas hine selfne aheng.*
 J. him.ACC self.ACC hang
 ‘Judas hung himself.’ (Visser 1966 p.423)

- (b) *ac wundorlice swyðe geeadmedde Crist hine sylfne.*
 but wondrously much humiliated Christ him.ACC self.ACC

¹ Since only third-person pronouns are ambiguous in terms of reference, they are considered the site of emergence for reflexive forms, which then spread to first and second person pronouns via analogy. Comrie (1981: p.6) phrases this as a universal, stating that “if a language has distinct reflexive pronouns in the 1st or 2nd person, then it has distinct reflexive pronouns in the 3rd person”.

‘But Christ humiliated himself greatly.’

(Faltz 1985: 54)

Quantitative analyses reveal an increasing frequency of *self* adjunction in local binding contexts (Keenan 1994; Peitsara 1997; Lange 2001), from 0.16/1000 words around 1250 CE to 1.20/1000 words in 1700 CE. The frequency of the reflexive use of simple pronouns, without *self*, dropped during the same period from 1.31 to 0.02 per 1000 words.

Similar processes are shown to have taken place in many other Germanic languages such as Old Norse, Norwegian and Dutch, with a varying division of labor between bare reflexives and intensifiers (Faltz 1985; König and Siemund 2000b; Hole and König 2002). The observation that polysemy between intensifiers and reflexives is common across unrelated languages (König, Siemund and Töpper 2013) was taken to result from this unidirectional process.

The shift from intensifier to reflexive is often taken to reflect a “general path” among the many languages where the two forms are linked. Accordingly, it is included in various typological models of semantic change, including Kemmer (1993), Heine (1999) and König & Siemund (2000c), quoted below.

(9) {‘head’/‘body’/‘soul’/‘breath’} → emphatic self → reflexive noun → middle marker...

(part of a figure in Kemmer 1993: p.197)

(10) Nominal → Emphatic → Reflexive → Reciprocal → Middle → Passive (Heine 1999: p.7)

(11) ‘body parts’ → (intensifiers) → reflexive anaphors (König and Siemund 2000a: 31)

Kemmer’s model includes later stages of change, where reflexive pronouns turn into markers of middle voice in a cyclic process. For example, in the areal reflexive system of Nilo-Saharan languages, forms with a lexical source ‘body’ are used as complex reflexives (including a pronominal element), intensifiers and middle markers. In particular, Kaoli exhibits two reflexive strategies (verbal and nominal) which are both based on body part expressions: the suffix -ε, a reduced form of the stem *ro* ‘body’, and the anaphor *kööm-* lit. ‘body’.

(12) *òjùkù köömε = òjùk-ε*

paint body paint-REFL

‘he painted himself (with mud)’

(Kemmer 1993: 112)

In Indo-European languages, the Proto Germanic reflexive **sik* is shown to be related with particles involved in middle semantics throughout the three branches of the Germanic

family (1993: p.182); the Latin reflexive pronoun *sē* also became a middle marker, parallel to the disappearance of an older middle marking *-r*. Maddox (2021) characterized this process as a subtype of the object agreement cycle (van Gelderen 2011), whereby a stage of renewal is observed when such middle constructions appear with a new reflexive pronoun. This phenomena, known as clitic doubling, is demonstrated from Middle Spanish in (13).

- (13) *si es necçessario que el onbre se ame a si mismo mas que*
 if is necessary that the man REFL 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)

Evidence from reconstruction studies imply that the various cognates of *-self* or *-même* reflect earlier stages in the same cycle. Old English *self* is presented as a derivative of Gothic *silba*, Germanic **selbaz* and Proto Indo European **s(w)e-bh(o)*, which are linked with earlier pronominal elements. **s(w)e-bh(o)* is hypothesized to be related with the Proto Indo-European reflexive **s(w)e* (Lehmann 1986) or with other pronominal forms, such as *sē* (Skeat 1893) or **se-* (Orel 2003), though this remains conjectural.²³ The pronoun **s(w)e*, which some derive from a lexical source expressing kinship relation as in **swesor* ‘sister’ and **swekuros* ‘father-in-law’ (Mezger 1948, Szemerényi 1964, Erhart 1970), is also considered to be the source of the Latin *sē* (Brugmann and Delbrück 1893, Hahn 1963, Shields 1998, Petit 1999).⁴

The origin of the Latin intensifier *ipse*, the source for French *même*, Spanish *mismo*, Italian *stesso* and other Romance intensifiers, is claimed with more certainty to be linked with an earlier anaphor. Sihler (1995) reconstructs *ipse* to a Proto Indo European compound **is-pse*, where *is* is a third person pronoun and *pse* an unclear element. Old Latin reveals the pronominal component in its full paradigm, quoted below in Table 1, where the prefix inflects for gender, number and case, before the first person masculine form *i-* was extended to all numbers and genders (Weiss 2009).

² Petit (1999) suggests, mainly based on Greek data, that an opposition between **se-* and **swe-* was used to distinguish between anaphoric and reflexive pronouns, respectively (1999: 157–159).

³ Debates on whether **swe* had a reflexive meaning or it is a later development are ongoing (Puddu, Torro et al. 0000).

⁴ Lehmann (1992) argues that **s(e)we-* was an adjectival stem with the meaning of ‘good, pleasant, dear.’

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

Table 1: Declinations of *ipse* in Plautus (Old Latin, Weiss 2009: p.346)

The structure and meaning of **-pse* is debated, with some scholars interpreting it as an emphatic marker (Monteil 1992, quoted in Toro et al.) or as a compound between an intensive particle *-pe* and a pronominal element derived from the Proto Indo European deictic pronoun **so*, or an Old Latin anaphoric pronoun *sam* (Berenguer 2000, De Vann 2008, Weiss 2009). De Vann (2015) derives *ipse* from a Proto Italic compound **so-pe-so* ‘self’, which was “replaced by the pronoun **e/i-pe-so* of which Old Latin *eapse*, *eumpse*, *eampse*, *eāpse* preserve” (2013: 46).

It is therefore quite safe to describe **is-pse* as a complex anaphor which lost its phi-features and became an intensifier and a focus particle. The meaning of *ipse* is described in Sihler’s grammar as ‘same, exactly, very’ and “sometimes a reflexive” (1995: p.394), which might be a trace of a previous use as a reflexive anaphor.

The anaphoric origin of both *ipse* and *self* implies that the compounding between pronoun and intensifier, which is so well known from Germanic and Romance languages, is not the onset the cycle, but a stage of renewal. The internal construction of the intensifiers targeted by these processes appears to be indicative of earlier cycles of the same compounding process. Furthermore, it seems that the two common reflexive strategies in this family – pronoun-*self* compounds and *se-* clitization – are derived from the same source which is traced back to ancient complex anaphors.

Two questions are in order if intensive-reflexive cycles are indeed attested: First, how is it that reduction takes place in two parallel paths, leading to verbal affixes and zero anaphors on the one hand, and to intensive forms with more linguistic material on the other? Second, assuming that these cycles begin with a lexical item, which of the grammatical functions (reflexive or intensifier) is the initial trigger for the process?

The dual course of reduction is explained by the multifunctionality of complex anaphors as intensifiers, and the contrast in their prosodic status: Reflexive anaphors are

arguments and are known to avoid stress (Ahn 2014), which makes them sensitive to phonetic reduction followed by reanalysis as clitics and affixes, as known from subject and object agreement cycles (Fuß 2005, van Gelderen 2011 i.a.). In contrast, intensive occurrences of the same form take narrow focus and therefore maintain independence, though their pronominal elements are sensitive to reduction since they are semantically vacuous (Eckardt 2006).

The second question cannot be answered within Indo-European. While *ipse* reveals several cycles of compounding, there is no information on a possible lexical source. The structure of **is-pse* and the range of meanings in its successors implies it was used both as an intensifier and a reflexive, but that cannot be verified or put into chronological order. In the case of **s(w)e*, a possible lexical source remains in debate, along with its status as a reflexive pronoun.

In the next section, I investigate the Semitic reflexive *nafs*- which has a transparent lexical source ‘soul’, and which is used in various dialects of Arabic and Aramaic as a reflexive anaphor, an intensifier and a modifier meaning ‘same’. I show that data from periods before *nafs*-x became a grammatical standard indicate that, at least in this case, the reflexive meaning preceded the intensive meaning, pointing to the following directionality:

(14) *body part* → *reflexive* → *intensifier* → ‘same’

In the stated process, semantic change is not due to compounding, which is already attested in the lexical source meaning ‘x’s soul’. Rather, the emergence of the reflexive meaning is due to reanalysis of the lexical construct, while the shift to intensifier is a process of semantic widening.

If the directionality suggested above indeed exists, it would resolve an independent questions regarding the spreading of the complex forms from the reflexive to the intensifier in English and French. The emergence of the anaphors *x-self* in English and *x-même* in French through compounding of dative/genitive pronouns with the intensifiers *self*, *même* ‘very, same, self’ was followed by a respective shift of the intensifier from simple to complex form, which has yet to be completed in French. This has not happened in other Germanic languages, where simple intensifiers are generally maintained (e.g. German *selbst*), and is unjustified from a morpho-semantic perspective. The intensifier has no pronominal status both as an independent morpheme and in its complex version, which makes the addition of the pronominal element semantically vacuous and hence unmotivated.

Farr (1905), Mitchel (1979), Keenan (1994; 2002) and van Gelderen (2000) explain this change via non-thematic pleonastic pronouns, like *hine* in (15), which are claimed to take part in the formation of the compounded form in both its meanings. Pleonastic pronouns were commonly used with Old English intransitive verbs, mainly those of body motion.

(15) *bewende Nero hine to Paulum.*

turn N. him.ACC to P.DAT

‘Nero turned to Paul.’

(König and Siemund 2000c: fn 11)

Such pronouns are reported to disappear from the English grammar parallel to the emergence of *x-self*, which according to the cited authors, indicates that they were reanalyzed as part of the complex form. A similar process could have lead to the emergence of the complex intensifier in environments like (16).

(16) *He næs na ofslagen, ac he him sylf gewat...*

he be.NEG NEG killed but he him self depart

‘He was not slain, but he departed (died) on his own...’

(König and Siemund 2000c: 48)

The pleonastic pronouns explanation is more plausible in the case of the complex intensifier than the reflexive, since complex reflexives are known to target verbs that are transitive and canonically other-directed (Kemmer 2005, Haspelmath 2007, Ariel 2008), i.e. not the typical environment for pleonastic pronouns. For this and other reasons, König & Siemund (2000c) analyze the reflexive as a combination of the intensive morpheme with a referential pronoun, while leaving open the question of the transition to complex intensifiers.

This change becomes predictable given the path in (14). If complex reflexive forms can extend to express an intensive meaning, it explains the emergence of complex intensifiers alongside the older independent ones. Since the simple and the complex intensifier have the same meaning, competition can lead to the elimination of the older form. In Modern French, this process is still ongoing and an adnominal use of simple *même* is currently considered archaic but grammatical.

Integrating all the information presented so far for Romance languages and their predecessors reveals the following cycle in the emergence of the French reflexive *x-même*: (i) compounding of *is* and *pse*, (ii) reduction to *ipse*, (iii) compounding and reduction as a focus-intensifier, (iv) renewal via compounding with a modern dative pronoun and (v) the reflexive extends to intensive meaning.

(17) Stages in the evolution of the French complex reflexive/intensifier:

<i>*is-pse</i>	>	<i>ipse</i>	>	<i>*metipsisimus</i>	>	<i>mesmes</i>	>	<i>même</i>	>
complex anaphor		intensifier		‘the same’		intensifier / ‘same’			
<i>lui-même</i>	>	<i>lui-même</i>							
complex anaphor		intensifier							

Evidence to the cyclic nature of the intensive to reflexive process is therefore found in Germanic, Romance and Nilo-Saharan languages. The following section turns to data from Semitic languages in order to characterise the onset of the cycle.

3. A reflexive-intensive cycle

The cross-linguistic polysemy between reflexives and intensifiers, combined with the highly detailed historical analysis of reflexives in Germanic and Romance languages, brought scholars to assume a causal relation between the change from intensifier to reflexive to their relation in surface form (e.g. König & Siemund 1996 and subsequent work). In the previous section, it was shown that data from older periods reveals that reflexive meaning was probably attested in previous stages of the intensive morphemes. This raised the question of which of the grammatical functions was the original trigger for the cycle. Assuming that the hypothesized cycle is a grammaticalization process that begins with a lexical item, the answer requires further etymological information on **pse* and **s(w)e*, which is not available. I therefore turn to the Semitic reflexive *nafs-x*, which has a more immediate lexical source: ‘soul of x’.

Reflexive anaphors based on lexemes meaning ‘soul’ are quite common cross-linguistically (Faltz 1985; François 2008), and particularly in Semitic languages. Counterparts of *nafs-* are documented since the 7th century BCE in Egyptian Aramaic (Muraoka and Porten 2015), and are also found in Classical Mandaic (Macuch 1965), Classical Arabic, Iraqi Arabic, Syrian Arabic, Egyptian Arabic, Syriac Aramaic, Christian Palestinian Aramaic, Neo-West Aramaic, Biblical Hebrew, Ge‘ez, Tigré, Tigrinya and Modern Standard Arabic (Rubin 2005). The following data illustrates the use of *nafs* in Modern Standard Arabic as a reflexive, intensifier and a modifier meaning ‘same’.

(18)(a) Reflexive:

<i>taxajjalu</i>	<i>al-ḥamḍ</i>	<i>an-nawawi</i>	<i>wa-huwwa</i>	<i>yansaxu</i>	<i>nafs-a-hu</i>
imagine	the-acid	the-nuclear	and-3SG.M	copies	self-ACC-3SG.M
<i>fī</i>	<i>waqt</i>	<i>inqisām</i>	<i>al-xalīya-ti</i>		
in	time	split	the-cell-GEN		

‘Imagine DNA copying itself at the time of cell division.’

(web example)

(b) Intensive:

sa’uṭdu-ka min al-jahīmi nafs-i-hi.

bring.1SG-2SG.M from the-hell.GEN self-GEN-3SG.M

‘I will bring you back from hell itself.’

(web example)

(c) ‘same’:

naḥs l-baḥr wa-š-šāṭ

same the-sea and-the-coast

‘the same sea and coast’

(Haya Zaatry, حدود ووعود ‘borders and promises’)

In Bassel (forthcoming) I present a synchronic examination of two stages in different languages, in large corpora that enable a quantitative analysis: The Hebrew Bible (Biblical Hebrew, 306,757 words, first millennium BCE) and the Qur’an (Classical Arabic, 77,797 words, 609-632 CE).

Both sources are dated to periods before the lexeme’s grammatical uses became conventionalized: The Bible is claimed to feature sporadic reflexive uses of the lexeme *neḥēš* (*naḥš-* in construct state), alongside other body-part expressions such as *qereḥ* ‘innards’, *lēb* ‘heart’ and *rōš* ‘head’.⁵ (Gesenius 1813, Joüon 1923, Sarfatti 1992, Jones 2017). Its lexical meanings range between the act of breathing, the concept of life, the center of emotions and mytonymic uses denoting living beings (Urbach 1975).⁶ The Arabic cognate *naḥs* is likewise documented in Pre-Islamic Arabic with the meanings ‘soul’, ‘life’ and ‘breath’ (Seidensticker 1992, quoted in Angheliescu 2011). In the Qur’an, traditional grammarians analyze *naḥs-* (among 8 other lexemes) as a “*tawkiḍ*” (توكيد) ‘emphasizer’, used to reduce vagueness (Al-Anbari 1886), while modern scholars point to reflexive instances (Blachère 1959: 58, quoted in Angheliescu 2011, Kayam forthcoming). Grammars based on texts from the 9th century list *naḥs-* as the

⁵ Gesenius (1813) notes that the *naḥš-* retains its lexical meaning, signaling the spiritual nature of the reflexive action. Joüon & Muraoka (1991) reject a reflexive analysis of *naḥš-* based on this restriction, but the two analyses are not in fact contradictory, since this state of affairs is characteristic of early stages of semantic change. For example, the well-documented case study of the English *going to* evolving from a motion construction to future tense, maintained a restriction to subjects that can initiate motion at early stages of semantic change (Bybee et al.1994). A similar process is described in Bar-Asher Siegal (2020b) for the Biblical Hebrew reciprocal construction *ʾiš-ʾāḥīw* and *ʾiš-rēʾēhū*, which literally mean ‘a man – brother of his’ or ‘a man – friend of his’ (respectively), but can in some stages of Hebrew be used to describe inanimate objects.

⁶ These concepts are often co-signified by lexemes originally related with the act of breathing (François 2008 p.187).

reflexive anaphor of Classical Arabic (Fischer 1975), which means the Qur’anic text has preceded this convention by at most 200 years.⁷

A quantitative analysis of both sources, designed to evaluate the stage that *nepēš/naḥs* is in with respect to each grammatical function, revealed that the reflexive use is attested in both corpora, while an intensive use is missing or marginally attested. The results are summarized in Tables 2-3.

Meaning		Instances	Freq.	Example
soul	disjoint	355	1.16	<i>rabbīm ōmrīm lə-nāp̄šī</i> ‘many say of my soul’
	coreferential	54	0.17	<i>‘innīnū nāp̄šēnū</i> ‘(we) tortured our souls’
life	disjoint	181	0.59	<i>qah-nā ’et nāp̄šī</i> ‘take my life’
	coreferential	42	0.14	<i>malltū nāp̄šəkem</i> ‘save your lives’
throat	disjoint	2	0.01	<i>kī bā ’ū mayīm ’ad nāp̄ēš</i> ‘for water came unto the throat’
person	disjoint	120	0.39	<i>’im nep̄ēš ’aḥaṭ teḥēṭā’ bi-šgāgāh</i> ‘if a person sins through error’
total		754		

Table 2: The distribution of meanings and reference type of *nep̄ēš* in the Bible (number of instances and frequency per 1000 words)

Meaning		Instances	Freq.	Example
soul	disjoint	47	0.6	<i>bimā lā tahwā anḥusukumu</i> ‘what your souls do not desire’
	coreferential	89	1.14	<i>zalamtum anḥusakum</i> ‘you have wronged your souls’
person		56	0.72	<i>wa-id qataltum naḥsan</i> ‘when you kill a person’
life	disjoint	17	0.2	<i>n-naḥsa bin-naḥsi wal-’ayna bil-’ayni</i> ‘a life for a life and an eye for an eye’
	coreferential	0	0	---

⁷ Qur’anic Arabic features a reflexive verb template ISTAF’ALA. In Biblical Hebrew, transitive verbs appearing in the basic templates PA’AL and PI’EL take on a reflexive meaning when occurring in NIF’AL and HITPA’EL. Doron (2003) argues based on Modern Hebrew that the contrasts between templates code Agentivity and Voice. Further distinctions are found in Ahdout (2021). See also evidence from acquisition in Berman (1993).

reflexive	59	0.76	<i>wa-lā tukh'rijūna anfusakum min diyārikum</i> 'and shall not drive one another from your dwellings'
breath	2	0.02	<i>ṣubḥi idā tanaffas</i> 'by the breath of morning'
intensive	9	0.12	<i>ubaddila-hu min-til'qāi nafsī</i> 'change it myself'
total	279		

Table 3: The distribution of meanings and reference type of *nafs* in the Qur'an (number of instances and frequency per 1000 words)

The two corpora seem to reflect two different (synchronic) stages in the emergence of the reflexive use of the 'soul' lexeme. The Biblical *nap̄š-* is used to express coreference in 96 instances, but such uses are licensed by the lexical meanings 'soul' or 'life', as in the phrase 'assra 'isār 'al nap̄šāh 'put a ban on her soul', which conveys a spiritual action (19). The Qur'an features more coreferential uses of *nafs-* than disjoint uses, and includes cases where the lexical meaning is reduced. An example is given in (20), where the conjunction *lā yastaṭī'ū-na naṣra-kum wa-lā anfusahum yaṣsurū-na* 'cannot help you nor their souls/themselves' invites a pronominal interpretation of the *nafs-* expression.

- (19) *wə- 'im bēyṭ 'iš-āh, nādārā, 'ō 'assra 'isār*
 and-if house.of man-GEN.3SG.F vow.3SG.F or forbid.3SG.F ban
'al nap̄š-āh bi-švu'ā.
 on soul.of- 3SG.F in-oath
 And if a woman vowed in her husband's house, or bound {herself/her soul} by a bond with an oath. (Numbers 30.11)

- (20) *wa-allaḏīna tad'ūna min dūn-i-hi lā yastaṭī'ū-na*
 and-those.that invoke.2SG from without-GEN-3SG.M NEG can-3PL.M
naṣra-kum wa-lā anfus-a-hum yaṣsurū-na.
 help.3PL.M-2PL.M and-NEG soul.PL-ACC-3PL.M help-3PL
 'But those you call upon besides him, are unable to help you,
 and indeed to help themselves' (Qur'an 7.197)

As stated, no canonical uses of *nafs-* as an adnominal or adverbial intensifier were found in either source, but at least 9 instances of Qur'anic *nafs-* seem to contribute an intensive

meaning, i.e. referring to possible alternatives to an entity, as with *an‘āmuhum wa-anfusuhum* ‘their cattle and themselves’ (lit: their cattle and their souls) in (21).

- (21) *a-wa-lam yaraw annā nasūqu l-mā’a ilā l-arḍi*
 and-NEG see.3PL we drive.1PL the-water-ACC to the-earth
l-juruḥi fa-nuxriju bihi zar‘-an ta’kulu min-hu
 the-barren and-eject.1PL with.it seed-PL.ACC eat.3PL from-3SG
an‘ām-u-hum wa-anfus-u-hum afa-lā yubṣirūna
 cattle-NOM-GEN.3PL.M and-soul.PL-NOM-GEN.3PL then-NEG see.3PL
 ‘Have they not seen how we lead the water to the barren land and therewith bring
 forth crops whereof their cattle eat, and they themselves? Will they not then see’
 (Qur’an 32.27)

The meaning ‘same’ is unattested and is probably a later development. The coreferential use in both corpora and the intensive use in the Qur’an are all restricted to human beings, which indicates that the lexemes are in an ongoing process of grammaticalization. As shown in (18), there is no such restriction on *nafs* in Modern Standard Arabic.

A chronological analysis of the various uses of *nafs* in the Qur’an provides further indication for a change in progress. Table 4 summarizes the frequency of coreferential uses of *nafs*, reflexive uses (also included in the coreferential instance) and intensive uses in the generally accepted chronological periods suggested by Zanjānī (1353/1935) (quoted in Karimi-Nia 2013) and Nöldeke (1860). It shows a clear rise in frequency of the reflexive use, typical of a period of semantic change. The intensive use remains infrequent and is only attested in the stage where the reflexive use becomes relatively independent of the lexical meaning.

	Mecca	Mecca I	Mecca II	Medina III
coreferential	0.43	1.91	2.23	2.39
reflexive	0	0.96	0.77	1.02
intensive	0	0.41	0.24	0.44

Table 4: Frequency of meaning components per 1,000 words
 (coreferential readings include reflexive readings)

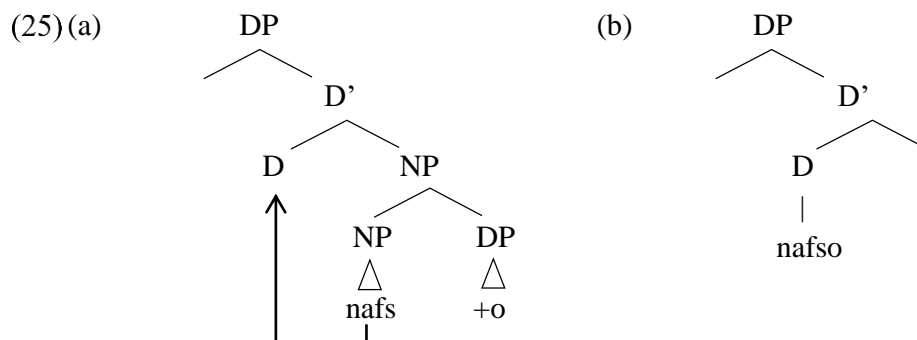
A possible explanation for this distribution of meanings is that intensive use is licensed once *nafs*- has undergone reanalysis as a reflexive pronoun (which is independent from the lexical content), though the corpus is not large enough to determine this with certainty. A

Successive stages of the cycle renew the complex anaphor out of compounding of a pronominal element and another lexical item or an older intensifier which lost its pronominal features. A theoretical advantage of the proposal in (24) is that it generates the cross-linguistic verity of reflexive strategies, including head reflexives, adjunct reflexives, simple anaphors, reflexive verbs (Faltz 1985, Kemmer 1993). The remainder of the section specifies the motivations for each stage.

4.1 Stage I: reanalysis

The first stage of the process is a reanalysis resulting in syntactic and semantic simplification. Following the classical definition of grammaticalization, I assume the point of departure involves a lexical item, but this does not have to be the case across all languages.

In the common case where body parts names are recruited for the initial stage, a lexical NP is reanalyzed as a D head, respecting both the Head Preference Principle and upward reanalysis (Roberts & Roussou 2003, van Gelderen 2004). The change in the *nafs*-reflexives, and other head reflexives in the Semitic construct state (an N-N compound possessive construction), is given in (25), based on a traditional analysis of the construct state as involving raising from N to D. From a semantic perspective, reanalysis reduces the denotation of the construction from two entities {x, x's soul} projecting two sets of phi-features to one entity with one set of features agreeing with its antecedent.



4.2 Stage II: Extension

The extension from complex anaphor to complex intensifier is attested in Classical Arabic and Jewish Babylonian Aramaic, where a restricted intensive use of *nafs*-/naṣṣa- is found parallel to an advanced reflexive use of the same form.

A similar extension can be seen in Middle English and Early Modern French, where complex intensifiers replace the simple intensifiers following the emergence of the reflexive anaphor. This change could be motivated by the fact that the independent intensifiers had

focus particle uses such as ‘even’ and ‘same’, while the complex form is specifically used to target entities.

I refer to this step as *extension* rather than *widening* following a line of analyses that take(s) the *self* morpheme to denote identity between individuals, from which both the reflexive and the intensive meanings are derived (Moravcsik 1972; Eckardt 2001; Hole 2006; König and Gast 2006; Reuland and Winter 2009). From this perspective, the intensifier differs from the reflexive anaphor in that it is used as a modifier rather than argument, and in that it interacts with focus.

4.3 Stage III: Reduction

As the complex reflexive develops two distinct grammatical function – reflexive anaphor and intensifier – two parallel courses of reduction may take place.

In its reflexive use, the complex form loses the stress that characterizes full NPs, in accordance with other anaphoric elements, which by definition, refer to entities given in context (Schwarzschild 1999; Ahn 2014). This is typical of object pronouns and described in details by Kemmer (1993) for various Germanic, Romance and Nilo-Saharan languages and by Maddox (2021) for the shift from Latin to Spanish. The reduction is both phonetic and semantic: phonetically, multimorphemic constructions turn monomorphemic, vowels become shorter and the anaphor becomes a bound morpheme; from a semantic perspective, the anaphor loses its status as an independent syntactic and semantic argument.

Simple anaphors across languages vary in this respect, which indicates that they are in different stages of reduction. This can be observed in the ability of such elements to be coordinated with another argument and give rise to proxy readings referring to a representation of an entity rather than the entity itself. The variation is demonstrated below: the sentences in (26) show that the Latin *sē* anaphor can be coordinated with the first person singular pronoun *mē*, while the Spanish *se* cannot, and (27) displays the lack of proxy interpretation of Dutch *zich*, comparing to English *self*.

- (26) (a) *mē et sē hisce impedivit nuptiis!* (Latin) (Maddox 2021: 23a-b)
 me and self this shackled marriage
 ‘He shackled me and himself in this marriage!’

- (b) **Me y se aprisionó en este matrimonio* (Modern Spanish)
 me and self imprisoned in this marriage

- (27) (a) *All of a sudden Ringo started undressing himself.*

✓Reflexive reading / ✓Proxy reading

(Jackendoff 1992: 9)

- (b) *Plotseling begon Ringo zich te ontkleden*
 suddenly began:3SG R. self to undress.3SG
 ‘All of a sudden Ringo started undressing.’

✓Reflexive reading / *Proxy reading

(Marelj and Reuland 2013: fn 6)

A final stage of reduction is demonstrated by zero-anaphora construction, as in the Modern English (28), which correspond to simple anaphor construction in other Germanic language, as shown in the German counterparts in (29).

- (28) (a) *The sea calmed.*

- (b) *The clouds are moving.*

- (29) (a) *Das Meer beruhigt sich.*

the sea calm REFL

‘The sea calmed.’

- (b) *Die Wolken bewegen sich.*

the clouds move REFL

‘The clouds are moving.’

Reduction affects the meaning of reflexive constructions, such that they be used productively to reflexivize any transitive verb, but rather give rise to general middle voice readings. At this stage, many languages employ complex anaphors as a parallel reflexive strategy, which generates the interpretations which are blocked for the simple anaphors.

The second course of reduction affects the complex form in its intensive use. Since intensifiers take narrow focus, they often maintain their prosodic independence and do not turn into bound morphemes. This stage is observed in etymological studies of Germanic and Romance intensifiers, which analyze them as derived from constructions containing a pronominal element. The Latin *ipse* is the clearer case, with the source **is-pse* which reveals one and possibly two cycles of compounding (with some analyzing **-pse* as a compound of an intensive particle *p-* and a pronominal element).

In the case of intensifiers, reduction mostly affects the pronominal elements, which are semantically vacuous in the modifier use of the compound, and their elimination is therefore modified by form-meaning transparency. This explains the alignment of *ipse* throughout the paradigm which has taken place in Old Latin.

4.4 Stage iv: Renewal

The suggested stage of renewal is a compounding process with similar characteristics to that of the initial stage. It occurs in a system in which the older reflexive lost its argument status and cannot give rise to a productive reflexivization of transitive verbs. The two forms may continue to be used as two distinct strategies, as described by Maddox (2021) for Spanish *se/si mismo*.

The stage of renewal resembles the initial stage of reanalysis, compounding a pronominal element with another lexical item (as in Kaooli) or an older intensifier, the product of reduction under focus (the common strategy in Germanic and Romance languages).

5. Conclusion

This paper suggests a cyclic analysis of complex anaphors, combining the insights of the vast historical literature on reflexives and intensifiers (Keenan 1996, König & Siemund 1996, van Gelderen 2000), Kemmer's observations on reflexivity and middle voice, Faltz's (1985) typological survey of reflexive strategies, and etymological studies of Indo-European languages. The analysis places reflexivity on a par with well-known cyclic processes, and supports the theory of economy principles as constraints on historical change (van Gelderen 2011). Various cross-linguistic reflexive strategies correspond to different stages of the suggested process, as follows: head reflexives are the product of the initial reanalysis; simple reflexives are spread across the process of phonetic and semantic reduction without focus, with some of them turning voice markers and give rise to verbal strategies; zero anaphors mark the most advanced stage of reduction; adjunct reflexives emerge out of the stage of renewal, where intensive modifiers are recruited to create new complex anaphors.

Bibliography

- Abū 'Abd Allāh al-Zanjānī, 1353. *Tārīkh Al-Qur'ān*. Cairo: Lajnat al-Ta'līf wa'l-Tarjuma bi'l-Qāhira.
- Ahdout, Odellia. 2021. "Deverbal Nouns in Modern Hebrew: Between Grammar and Competition. PhD Dissertation,," Humboldt Universität zu Berlin.
- Ahn, Byron Thomas. 2014. "Giving Reflexivity a Voice: Twin Reflexives in English."
- Andersen, Henning. 2008. "Grammaticalization in a Speaker-Oriented." *Grammatical Change and Linguistic Theory: The Rosendal Papers* 113: 11.

- Angheliescu, Nadia. 2011. "From Lexical to Grammatical: Nafs and Other Identifiers." In *In the Shadow of Arabic: The Centrality of Language to Arabic Culture*, 71–100. Brill.
- Ariel, Mira. 2008. *Pragmatics and Grammar. In the Series Cambridge Textbooks in Linguistics*. Cambridge: Cambridge University Press.
- Bar-Asher Siegal, Elitzur A. 2020a. "A Formal Approach to Reanalysis: The Case of a Negative Counterfactual Marker." *Proceedings of the Linguistic Society of America* 5 (2): 34–50.
- . 2020b. *The NP-Strategy for Expressing Reciprocity: Typology, History, Syntax and Semantics*. Typological Studies in Language. Amsterdam: John Benjamins Publishing House.
- Bar-Asher Siegal, Elitzur, and Karen De Clercq. 2019. "From Negative Cleft to External Negator." In *Cycles in Language Change*, 228–48. Oxford University Press.
- Berenguer, Sánchez. 2000. "Estudio Sobre Las Partículas Indoeuropeas Con Base Consonántica y Laringal." *Lingua* 2 (65).
- Berman, Ruth A. 1993. "Marking of Verb Transitivity by Hebrew-Speaking Children." *Journal of Child Language* 20: 641–641.
- Blachère, Régis. 1959. "Introduction Au Coran." *Maisonneuve*.
- Brugmann, Karl, and Berthold Delbrück. 1893. *Grundriss Der Vergleichenden Grammatik Der Indogermanischen Sprachen:-Bd. Delbrück, Berthold. Vergleichende Syntax Der Indogermanischen Sprachen*. Vol. 3. Trübner.
- Bybee, Joan L, Revere Dale Perkins, and William Pagliuca. 1994. *The Evolution of Grammar: Tense, Aspect, and Modality in the Languages of the World*. Vol. 196. University of Chicago Press Chicago.
- Chatzopoulou, Katerina. 2019. "Conditionals in Greek: Operator Movement & Upward Reanalysis from Ancient to Modern." In .
- Dahl, Östen. 1979. "Typology of Sentence Negation."
- De Vann, Michiel. 2008. *Etymological Dictionary of Latin and the Other Italic Languages*. Vol. 7. Leiden: Brill.
- . 2015. "Reduplicated Demonstratives in Ancient Indo-European Languages." *Transactions of the Philological Society* 113 (1): 38–52.
- Deo, Ashwini. 2015. "The Semantic and Pragmatic Underpinnings of Grammaticalization Paths: The Progressive to Imperfective Shift." *Semantics and Pragmatics* 8: 11–14.
- Doron, Edit. 2003. "Agency and Voice: The Semantics of the Semitic Templates." *Natural Language Semantics* 11: 1–67.
- Eckardt, Regine. 2001. "Reanalysing Selbst." *Natural Language Semantics* 9 (4): 371–412.
- . 2006. *Meaning Change in Grammaticalization: An Enquiry into Semantic Reanalysis*. Oxford University Press.
- Erhart, Adolf. 1970. "Studien Zur Indoeuropäischen Morphologie." *Universita JE Purkyně* 148.
- Faltz, Leonard M. 1985. *Reflexivization: A Study in Universal Syntax*. Routledge.
- Farr, James M. 1905. *Intensives and Reflexives in Anglo-Saxon and Early Middle-English*. JH Furst Company.
- François, Alexandre. 2008. "Semantic Maps and the Typology of Colexification." *From Polysemy to Semantic Change: Towards a Typology of Lexical Semantic Associations* 106: 163–163.
- Fuß, Eric. 2005. *The Rise of Agreement: A Formal Approach to the Syntax and Grammaticalization of Verbal Inflection*. Vol. 81. John Benjamins Publishing.
- Gelderen, Elly van. 1996. "The Emphatic Origin of Reflexives." In *Annual Meeting of the Berkeley Linguistics Society*, 22:106–15.

- . 2000. *A History of English Reflexive Pronouns: Person, Self, and Interpretability*. Vol. 39. John Benjamins Publishing.
- . 2011. *The Linguistic Cycle: Language Change and the Language Faculty*. Oxford University Press.
- Gergel, Remus. 2009. "On a Modal Cycle." *Cyclical Change*, 243–64.
- Gesenius, F H W. 1813. "Gesenius' Hebrew Grammar. Ed. E. Kautzsch, Revised AE Cowley."
- Givón, Talmy. 1978. "Negation in Language: Pragmatics, Function, Ontology." In *Pragmatics*, 69–112. Brill.
- Greenberg, Joseph H. 1978. "How Does a Language Acquire Gender Markers." *Universals of Human Language* 3: 47–82.
- Hahn, Adelaide. 1963. "The Supposed Reflexive Pronoun in Latin." *Transactions and Proceedings of the American Philological Association. Johns Hopkins University Press* 94: 86–112.
- Hansen, Maj-Britt Mosegaard. 2011. "Negative Cycles and Grammaticalization." In *The Oxford Handbook of Grammaticalization*, 570–79. Oxford University Press.
- Haspelmath, Martin. 2007. "A Frequentist Explanation of Some Universals of Reflexive Marking *," no. October 2004: 40–63.
- Heine, Bernd. 1999. "Polysemy Involving Reflexive and Reciprocal Markers in African Languages." In *Reciprocals: Forms and Functions*, edited by Z. Frajzyngier and T.S. Curl, 1–29. Amstersam: Benjamins.
- Hodge, Carleton T. 1970. "The Linguistic Cycle." *Language Sciences* 13 (7): 1–7.
- Hole, Daniel. 2006. "Extra Argumentality – Affectees, Landmarks, and Voice." *Linguistics* 44: 383–424.
- Hole, Daniel, and Ekkehard König. 2002. "Intensifiers and Reflexivity: Eurotype vs. Asiatype." In *Linguistik Jenseits Des Strukturalismus: Akten Des II. Ost-West-Kolloquiums*, 349–68. Tübingen: Narr Francke Attempto Verlag.
- Jackendoff, Ray. 1992. "Mme. Tussaud Meets the Binding Theory." *Natural Language & Linguistic Theory* 10 (1): 1–31.
- Jespersen, Otto. 1917. *Negation in English and Other Languages*. Copenhagen: Høst.
- Jones, Ethan. 2017. "Direct Reflexivity in Biblical Hebrew: A Note on וּפָנָה." *Zeitschrift Fur Die Alttestamentliche Wissenschaft* 129 (3): 411–26.
- Joüon, Paul. 1923. *Grammaire de l'hébreu Biblique*. Gregorian Biblical BookShop.
- Karimi-Nia, Morteza. 2013. "The Historiography of the Qur'an in the Muslim World: The Influence of Theodor Nöldeke." *Journal of Qur'anic Studies* 15 (1): 46–68.
- Katz, Aya. 1996. "Cyclical Grammaticalization and the Cognitive Link between Pronoun and Copula."
- Keenan, Edward. 1994. "Creating Anaphors: An Historical Study of the English Reflexive Pronouns." Ms., UCLA, Los Angeles, Calif.
- . 2002. "Explaining the Creation of Reflexive Pronouns in English." *Topics in English Linguistics* 39: 325–54.
- Kemmer, Suzanne. 1993. *The Middle Voice*. Vol. 23. John Benjamins Publishing.
- . 2005. "Emphatic and Reflexive-Self: Expectations, Viewpoint, and Subjectivity." Edited by Dieter Stein and Susan Wright. *Subjectivity and Subjectivisation: Linguistic Perspectives*, 55–55.
- König, Ekkehard, and Volker Gast. 2006. "Focused Assertion of Identity: A Typology of Intensifiers." *Linguistic Review* 10 (2): 223–76.
- König, Ekkehard, and Peter Siemund. 1996. "On the Development of Reflexive Pronouns in English: A Case Study in Grammaticalization." In *Anglistentag*, 95–108.

- . 2000a. “Intensifiers and Reflexives: A Typological Perspective.” Edited by Z: Frajzyngier and T Curl. Z: *Frajzyngier and T. Curl, Eds, Reflexives. ‘Forms and Functions. Benjamins, Amsterdam*, 41–74.
- . 2000b. “Intensifiers and Reflexives: A Typological Perspective.” In *Reflexives: Form and Function*, edited by Z: Frajzyngier and T Curl. Ams: Benjamins.
- . 2000c. “The Development of Complex Reflexives and Intensifiers in English.” *Diachronica* 17 (1): 39–84. <https://doi.org/10.1075/dia.17.1.04kon>.
- König, Ekkehard, Peter Siemund, and Stephan Töpper. 2013. “Intensifiers and Reflexive Pronouns.” In *The World Atlas of Language Structures Online*, edited by Matthew S. Dryer and Martin Haspelmath. Leipzig: Max Planck Institute for Evolutionary Anthropology. <https://wals.info/chapter/47>.
- Krug, Manfred. 2011. “Auxiliaries and Grammaticalization.” *The Oxford Handbook of Grammaticalization*, 547–58.
- Lange, Claudia. 2001. “Reflexivity and Intensification in Middle English.”
- Lehmann, Winfred Philipp. 1986. *A Gothic Etymological Dictionary*. Brill.
- Lyons, Christopher. 1999. *Definiteness*. Cambridge University Press.
- Macuch, Rudolf. 1965. *Handbook of Classical and Modern Mandaic*. Walter de Gruyter GmbH & Co KG.
- Maddox, Matthew L. 2021. “The Development of SE from Latin to Spanish and the Reflexive Object Cycle.” In *Unraveling the Complexity of SE*, 33–56. Springer.
- Marelj, Marijana, and Eric Reuland. 2013. “Clitic SE in Romance and Slavonic Revisited.” *Current Studies in Slavic Languages*. Amsterdam: Benjamins, 75–88.
- Marušič, Franc, and Rok Žaucer. 2016. “The Modal Cycle vs. Negation in Slovenian.” *Formal Studies in Slovenian Syntax. In Honor of Janez Orešnik*, 167–91.
- Mezger, Fritz. 1948. “IE Se-, Swe-and Derivatives.” *Word* 4 (2): 98–105.
- Mitchell, Bruce. 1979. “Old English ‘Self’: Four Syntactical Notes.” *Neuphilologische Mitteilungen*, 39–45.
- Monteil, Pierre. 1992. *Elementos de Fonética y Morfología Del Latín*. Vol. 19. Universidad de Sevilla.
- Moravcsik, Edith. 1972. “Some Cross-Linguistic Generalizations about Intensifier Constructions.” In *Chicago Linguistic Society*, 8:271–77.
- Muraoka, Takamitsu, and Bezalel Porten. 2015. *A Grammar of Egyptian Aramaic*. Brill.
- Nöldeke, Th. 1909. “The History Of He Qur’ān.” *Göttingen, 1860, II Ed. Rev. by Schwally, F. Leipzig*.
- Orel, Vladimir E. 2003. *A Handbook of Germanic Etymology*. Brill Leiden.
- Peitsara, Kirsti. 1997. “The Development of Reflexive Strategies in English.” *Topics in English Linguistics* 24: 277–370.
- Penning, Gerhard E. 1875. *A History of the Reflective Pronouns in the English Language*. H. Frese.
- Petit, Daniel. 1999. * *Sue-En Grec Ancien: La Famille Du Pronom Réfléchi*. Vol. 79. Linguistique Grecque et Comparaison Indo-Européenne. Peeters Publishers..
- Reuland, Eric, and Yoad Winter. 2009. “Binding without Identity: Towards a Unified Semantics for Bound and Exempt Anaphors.” In *Discourse Anaphora and Anaphor Resolution Colloquium*, 69–79. Springer.
- Roberts, Ian, and Anna Roussou. 2003. *Syntactic Change: A Minimalist Approach to Grammaticalization*. Cambridge University Press.
- Rubin, Aaron D. 2005. *Studies in Semitic Grammaticalization*. Brill.
- Sarfatti, Gad Ben Ami. 1992. “Reflexive Pronouns and Pronouns of Identity in Hebrew/ הכינוי החוזר וכינוי הזהות בעברית.” *לשוננו: כתב-עת לחקר הלשון העברית והתחומים הסמוכים לה*, 51–341.

- Schwarzschild, Roger. 1999. "GIVENness, AvoidF and Other Constraints on the Placement of Accent." *Natural Language Semantics* 7 (2): 141–77.
- Shields, Kenneth. 1998. "On the Indo-European Reflexive." *Journal of Indo-European Studies* 26 (1/2): 121.
- Sihler, Andrew. 1995. "New Comparative Grammar of Greek and Latin Oxford." *New Comparative Grammar of Greek and Latin*.
- Skeat, Walter William. 1893. *An Etymological Dictionary of the English Language*. Clarendon Press.
- Szemerényi, Oswald. 1964. "Structuralism and Substratum Indo-Europeans and Semites in the Ancient near East." *Lingua* 13: 1–29.
- Tauli, Valter. 1956. "The Origin of Affixes." *Finnisch-Ugrische Forschungen* 1956 (32): 170–225.
- Urbach, Ephraim Elimelech. 1975. *The Sages*. Vol. 1. Magnes Press Jerusalem.
- Van Gelderen, Elly. 2004. "Economy, Innovation, and Prescriptivism: From Spec to Head and Head to Head." *The Journal of Comparative Germanic Linguistics* 7 (1): 59–98.
- Visser, F Th. 1966. *An Historical Syntax of the English Language*. Brill Archive.
- Weiss, M. 2009. "Outline of the Historical and Comparative Grammar of Latin. Ann Arbor."
- Weiss, Michael L. 2009. *Outline of the Historical and Comparative Grammar of Latin*. Beech Stave Press.
- Zeijlstra, Hedde. 2004. *Sentential Negation and Negative Concord*. Netherlands Graduate School of Linguistics.