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Notes on the history of reciprocal NP-strategies in Semitic languages in a typological perspective*

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Among Semitic reciprocal constructions, a division is seen between two types: 1) two-unit constructions, with two components, each filling a different argument position of the verb, and 2) one-unit constructions, with an anaphora that co-refers with the subject (that must be plural) and occupies only the non-subject position required by the verb. The goal of this paper is to explain how these constructions developed, specifically: 1) how did the various types of two-unit constructions evolve? and 2) could diachronic chains be identified in order to explain the development of the one-unit constructions from the two-unit constructions? Previous work on question (1) focuses on the range of phrases that tend to develop into reciprocal markers. Such accounts, however, do not explain how these constructions developed the specific meanings they have. I argue that consideration of the semantics of these constructions is crucial for understanding their evolution. Instead of ‘reciprocal constructions’ it is better to see them as denoting ‘unspecified relations’. As for (2), various attempts have been made to explain such processes focusing on Indo-European languages, which do not capture the Semitic developments; therefore I propose an alternative hypothesis, according to which the one-unit constructions result from a reanalysis of the two-unit constructions.

Keywords: reciprocal constructions, unspecified pronouns, typology, grammaticalization, reanalysis, agreement, Semitic languages

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1. Introduction

Reciprocal constructions are often defined as a grammatical means for encoding symmetric relations (Lichtenberk 1985:21, Kemmer 1993:102, Nedjalkov 2007a:6). A symmetric relation, in turn, is defined as a relation in which there are two participants (A and B), and A stands to B in the same relation as B to A. The current paper focuses on reciprocal constructions that have received various designations by scholars: nominal strategies (König & Kokutani 2006), pronominal strategies (Nedjalkov 2007a:12) and NP-strategies (Evans 2008). Constructions are included here based on two criteria:

- I. They share the same range of uses (§2);
- II. The encoding is non-verbal, i.e., verbs in the relevant constructions are transitive (unlike verbal encoding of reciprocity). Thus, (1a), a reciprocal sentence, which denotes a symmetric relation between its participants, has the same predicate and argument structure as (1b):

- (1) a. James and Beth love each other.
- b. James loves Beth.

I use the term NP-strategies, since the relevant expressions, which constitute the constructions, always fill the positions of the NP-arguments of the verb. Other terms designate subtypes of such constructions.

The current study focuses on Semitic, with parallels from other families to show broader typological implications. After presenting several types of constructions and classifications according to formal characteristics, this paper deals with the most basic historical question: how do such constructions evolve?

The structure of the paper is as follows: after describing the semantics of the constructions under discussion (§2), I introduce various common types of reciprocal NP-strategies in Semitic, tracing their evolution from certain constructions that also have a reciprocal reading (§3) and the development of others (§4). This study also sheds light on the synchronic syntax of reciprocal NP-strategies, in Semitic and non-Semitic languages (§5). §6 presents a different path of development, and §7 concludes.

2. The semantics of reciprocal NP-strategies — preliminary observations

I challenge and ultimately modify the common assumption in the typological literature that reciprocal constructions encode symmetric relations. As will become clear this discussion will turn out to be instrumental for understanding the evolution of many of the relevant NP-strategies.

It has been repeatedly noted that cross-linguistically the same NP-expressions that encode symmetric relations (e.g., English *each other*) express other relations where strong reciprocity is impossible (Fiengo & Lasnik 1973, Dougherty 1974, Lichtenberk 1985, Dalrymple et al. 1998, Williams 1991, Beck 2001, Haas 2010, Evans et al. 2011). For example, the following sentence does not express a symmetric relation:

- (2) They were hiding behind each other.

Such examples are common among ancient languages as well:

- (3) Ancient Greek:

οὐκ ἀθρό-ους ἀναβιβάζ-ων, ἀλλὰ κατὰ μέρ-η
 NEG in.MASS-M.PL.ACC advance.PTCP.M.SG.NOM but by division-N.PL.ACC
πυκν-οὺς ἐπ' ἀλλήλ-οις
 crowded-ADJ.M.PL.ACC after=RECP-M.DAT
 “They did not make the attack en masse, but by divisions in close order,
 following each other.” (Appian, *Punic Wars*, 18: 126)

- (4) Akkadian:

2 *kakkabān-i rab-ūt-i... arki aḫāmeš išarrū*
 two stars-GEN big-PL-GEN after RECP flash.DUR.3.M.PL
 “Two great shooting stars flash, one after the other.”
 (Thompson Rep. 202 r. 4, Neo Assyrian)

- (5) Jewish Babylonian Aramaic:

manḥī a-hādāde
 place.PRS.PASS.3m.PL ON-RECP
 “They are placed on top of each other.” (B. *Meši'a* 25a)

Considering (5), if X is on top of Y, then Y cannot be on top of X. The reciprocal expression *hādāde* conveys that X is on top of Y, Y is on top of Z and so on, not a symmetrical relation.

Dalrymple et al. (1998) and others have surveyed the logical relations expressed by so-called reciprocal pronouns in English. Taking the sentences in (6) from Dalrymple et al. (1998), each has different truth conditions with regard to the number of pairs that should exhibit the relation expressed by their predicates.

- (6) a. House of Commons etiquette requires legislators to address only the speaker of the House and refer to each other indirectly.
 b. “The captain,” said the pirates, staring at each other in surprise.
 c. Five Boston pitchers sat alongside each other.

In (6a) there must be a symmetric relation between each possible pair; each of the pirates in (6b) should stare at one of the other pirates (and perhaps also be stared at), but not necessarily at every pirate; in (6c) all of the pitchers must be sitting in a line, and each must be sitting either next to one other pitcher (on the two ends) or next to two others (in the middle).

Moreover, sentences have different truth conditions in different contexts. Compare (7a) in two different contexts (7b–c):

- (7) a. They will wake each other up.
 b. I never put my twins in the same crib, because they will wake each other up [i.e., it is sufficient that only one of them will wake up the other].
 c. They made an agreement that they will wake each other up [understood as in taking turns to sleep].

The truth conditions of (7b) do not include a symmetric relation, while those of (7c) do.

In some languages the same expressions are used in reciprocal contexts and in casuistic laws. For example, in Biblical Hebrew (§3.2.2), the two elements *ʾiš-rē-ēhû* “man-his.fellow,” are used both in reciprocal contexts (8a) and in casuistic laws (8b). In the latter only one person does something to the other:

- (8) a. *way-yahăziqû ʾiš bē-rōš rē-ēhû*
 and-hold.IPF.3.M.PL man in-head.of fellow-POSS.3.M.SG
 “Then each man grabbed his opponent by the head.” (2 Sam. 2:16)
 b. *wē-kī yāzid ʾiš ʾal rē-ēhû*
 and-when act.presumptuously.IPF.3.M.SG man on fellow-POSS.3.M.SG
lēhorg-ô bē-ʾormâ
 kill.INF-ACC.3.M.SG in-cunning
 “If someone acts presumptuously toward someone else, so as to kill him with cunning...” (Exod. 21:14)

While all the other logical relations that the NP-strategies cover are well attested, only some of the Semitic constructions show up in casuistic laws. In §3.3 I argue that, based on the origin of the NP-strategy, the use of this strategy in such laws can be predicted.

I do not provide a complete semantic account for these strategies, but note some crucial observations. This suggests the following characteristics for all of the relationships described thus far:

- (9) For a given set:
 a. All members of the set should participate, as one of the arguments of the relation denoted by the predicate with another member of the set.

- b. It is crucially important for the interpretation of the sentences that it is immaterial which member of the set takes which role in the relation; it is only the number of applications of the relations between members of the set that matters.

These requirements fit the following descriptive portrayal of the function of these constructions, which we will designate ‘unspecified constructions’ and the pronouns and anaphors used in these constructions ‘unspecified pronouns/anaphoras’:

- (10) Unspecified constructions: expressions used in relations between two (defined) sets (or more) without specifying which set occupies which position.

These relations are defined between ‘sets’ since the reciprocity can be a relation between groups, not just individuals, as in the following Akkadian sentence:

- (11) *nišē māt Aššur māt Karduniaš itti*
 people.of country.of Assyria country.of Babylonia with
aḫāmeš ibballū
 RECP mingle.3.M.PL.DUR
 “The people of Assyria and Babylonia mingle with each other.”
 (CT 34 39 ii 37, NA)

The formula in (12a) captures this definition for the set A with two or more members and the relation R. For reasons that will become clear later I also provide in (12b) the truth conditions when the set A has only two members:

- (12) a. $|A| \geq 2$ and $\forall x \in A \exists y \in A (x \neq y \wedge (Rxy \vee Ryx))$
 b. $|A| = 2$ and $\exists x, y \in A (x \neq y \wedge Rxy)$

(12a) states that for a given set A, for each member of the set, it is true that it is a member of a subset of two members of the set A, standing in the relation R. (12a), however, does not account for how the specific meaning of a sentence is determined, an issue beyond our concern here. Still, such constructions only necessitate that each member of the set stands in a single relation to another member. Although this is necessarily true for all of the sentences with these pronouns, these are not sufficient conditions to capture only true sentences in many cases. As example (7) demonstrates, the given context determines the specific meaning of a given sentence, and a full semantic account would require an explanation of how it is specified. Thus (12) represents the basic meaning of the NP-strategies, further specified and strengthened in each context. Having this assumption, I will argue in this paper, illuminates the origin of the reciprocal NP-strategies.

While typological discussions begin with prototypical symmetric relations and examine which constructions denote them (Lichtenberk 1985, Kemmer 1993)

and consequently consider their usage in asymmetric relations as an “extended use of a reciprocal marker” (Nedjalkov 2007a:9), I argue for the opposite position: At least for historical discussions, one should examine the entire range of functions of the NP-strategies and see their evolution in this larger context. Accordingly, semantically speaking, symmetric relations constitute only one subtype of the unspecified relations.

Although I call these constructions ‘unspecified constructions’ and the pronouns that appear in such constructions ‘unspecified pronouns’, I still also use the common terms ‘reciprocal constructions’ and ‘reciprocal pronouns’ interchangeably, as these constructions express prototypical symmetric relations too.

3. Types of reciprocal NP-strategies in Semitic languages

Among the constructions found in Semitic, a significant division is seen between two types:¹

- I. Two-unit constructions: constructions with two components, each filling a different argument position of the verb.
- II. One-unit constructions: constructions with a one-unit expression, which co-refers with plural subjects and occupies only the non-subject position as required by the verb, i.e., the forms analyzed as anaphors in Government and Binding, where anaphors in this framework are variables that have to be bound in their governing category. (When referring to these expressions I will use the term anaphora.)

Akkadian, for example, has both types. The two-unit construction consists of a repetition of *aḥum* “brother,” while the one-unit type contains variants of *aḥāmiš/aḥāiš*. The former was predominant in the earlier dialects (13a), while the latter developed only in Middle Babylonian and Middle Assyrian (13b) (Bar-Asher Siegal 2011).

- (13) a. Old Akkadian:
urkatam aḥ-um ana aḥ-im lā inappuš
 afterwards brother-NOM to brother-GEN NEG make.a.claim.DUR.3.SG
 “Afterwards one will not make a claim against the other.” (TCL 19 63:45)
- b. Late Babylonian:
aḥāmeš ippalū
 RECP pay.DUR.3.M.PL
 “They will compensate each other.” (Dar 321:29)

1. See Haspelmath’s (2007) division between ‘bipartite anaphor’ and ‘single-part anaphor’

Classical Arabic uses only the two-unit construction, consisting of the repetition of *baʿḍ* “some” (14a) (with a possessive pronominal suffix attached to the first unit, agreeing with the participants of the reciprocal relation). This construction also appears in the modern standard language (14b), but in addition to two other constructions: a one-unit construction with the first element only (14c), and an apparent two-unit construction, with only one pronoun marked for case and a second caseless pronoun (14d).

- (14) a. Classical Arabic:
danā baʿḍ-u-hum min baʿḍ-in
 approach.PST.3.M.SG some-NOM-POSS.3.M.PL from some-GEN.IND
 “They approached each other.” (AS 161, Kremers 1997: 31)
- b. Standard Arabic:
qāla baʿḍ-u-hum li baʿḍ-in
 say.PST.3.M.SG some-NOM-POSS.3.M.PL to some-GEN.INDF
 “They said to each other...” (Cantarino 1975: 137)
- c. Standard Arabic:
muraddidīna ʿalā masāmiʿ-i baʿḍ-i-him ḥikāyāt-i
 repeat.AP.M.PL.ACC ON ear.PL-GEN some-GEN-POSS.3.M.PL story-PL.GEN
l-ʿayyām-i wa-l-layāl-ī
 DEF-day.PL-GEN and-DEF.night.PL-GEN
 “Retelling [*lit.* repeating to the ears of] to one another stories of the days and nights...” (Cantarino 1975: 137)
- d. Standard Arabic:
tuʿazzizāni baʿḍ-a-humā l- baʿḍ
 strengthen.IMP.F.DU some-ACC-POSS.3.DU DEF-some
 “They strengthen each other.” (Kremers 1997: 55)

Likewise, Syriac employs both a two-unit construction, consisting of the repetition of *ḥad* “one” (15a) and a one-unit construction with the form *ḥadādē* (15b):

- (15) a. Syriac:
mallel[u] reʿw-ātā ḥad ʿam ḥad
 speak.PST.3.M.PL shepherd-PL one.M with one.M
 “The shepherds spoke with each other.” (Luke 2:15)
- b. Syriac:
mšahlp-īn rēḥāy-hon men da-ḥdādē
 different-M.PL smell.POSS.3.M.PL from of.RECP
 “Their smells are different from each other.” (Life of Simon Stylites 382:8)

Historically, while the two-unit constructions in Semitic resulted from grammaticalization of NPs to become reciprocal constructions, the anaphors of the one-unit constructions developed from two-unit constructions and not directly from

nominal expressions. The shift from two-unit constructions to one-unit constructions is well attested cross-linguistically. Compare, for example *one...another* in English to *einander* in German. My goal is to better understand the mechanism behind these developments, aiming at answering these questions:

- I. How did the various types of two-unit constructions evolve?
- II. Could diachronic chains be offered in order to explain the development of the one-unit constructions from the two-unit constructions?

Question (I) has been treated in the literature, focusing on the range of the phrases that tend to develop into reciprocal markers (Heine & Kuteva 2002:92, Heine & Miyashita 2008:177–182, Nedjalkov 2007b:155). Such accounts, however, do not explain how these constructions developed the specific meanings they have. I argue (§§3.1–3.2) that consideration of the semantics, as in §2, is crucial for understanding the evolution of the Semitic constructions. As for question (II), various attempts have been made to explain such processes focusing on Indo-European languages, especially for Germanic (§3.2.3.1, §4.1). These proposals, however, do not fit the Semitic developments; therefore I propose an alternative hypothesis (§4.3). I also offer evidence of a parallel process in Italian. I begin with different types of two-unit constructions found among the Semitic languages, accompanied by hypotheses for their developments as expressions of unspecified relations. Figure 1 provides the range of construction types, all but one (constructions with universal quantifiers) found in Semitic. Their organization is relevant to the origin of the use of these structures to express unspecified relations.

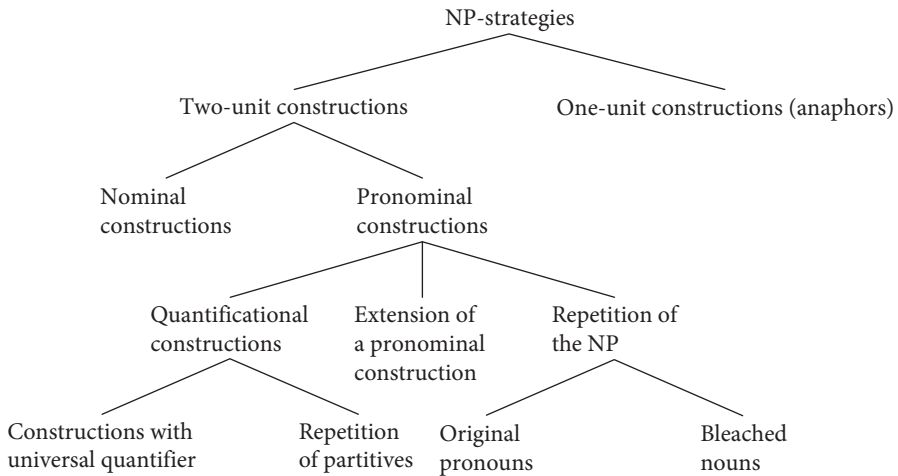


Figure 1. The range of construction types used to express unspecified relations.

3.1 Two-unit constructions: A nominal construction, a pre-grammaticalized structure

A well-known phenomenon in Indo-European and other families (Nedjalkov 2007b: 154, Plank 2008: 359, Haas 2010: 11, Evans 2008: 64) is a repetition of nouns without a specification of the particular referent of each of its tokens. This repetition may express reciprocal relations (among other relations), as in the following Latin proverb:

- (16) *hom-o hom-ini lup-us est*
 Man-NOM.SG man-DAT.SG wolf-NOM.SG be.PRS.3.SG
 “Man is wolf to man.”

Nedjalkov (2007b) and Haas (2010) comment that this type of construction is mainly used in generic contexts. However, as we shall see among the Semitic languages, and beyond that, this is a wider phenomenon, as such repetitions are used also with referential expressions. For example, reciprocity indicated by a repetition of nouns is found in Biblical Hebrew:

- (17) *wat-ta'ārōk isrā'el ū-pēlišṭ-īm ma'ārākā liqra't ma'ārākā*
 and-lead.IPF.3.F.SG Israel and-Philistine-PL battle toward battle
 “Israel and the Philistines were drawing up their lines facing each other [*lit.*
 line of battle against line of battle].” (1 Sam. 17:21)

This structure is not a two-unit construction in the literal sense, as it does not contain any component unique to this construction. It is not even a grammaticalized construction for expressing unspecified relations but rather a compositional way of expressing such relations. Since the function of the relevant NP-strategies is to express relations between two sets without specifying which set occupies which position (as discussed in §2), a repetition of a noun in contexts where each token of the noun clearly has a different referent (otherwise a reflexive pronoun should appear) is therefore expected for this function (Plank 2008: 359). It must be noted, however, that the truth conditions of (16) are stronger than what is formulated in (12). However, with definite descriptions of plural nouns the truth conditions are the same, as in the following sentences. Consider example (18), which can be read in several ways:

- (18) *The boys fed the boys and the girls fed the girls.*

This sentence can be true even if in a given set of boys and girls only some of the boys fed all the other boys and some of the girls fed all the other girls. In certain circumstances it can mean, of course, that all the boys were fed, and that the feeding was done by the boys (and similarly about the girls), or that all of the boys and

girls were divided into pairs of the same gender and participated in a reciprocal feeding. Interestingly, although the definite article with plural expressions implies maximality, in this case the maximality is in the entire clause. Thus, for the sentence to be true, all boys should be either the feeders or should be fed. The truth conditions of a repetition of definite plural expressions are, accordingly, similar to what has been formulated in (12). As noted above, (12a) states that for a given set A, for each member of the set, it is true that it is a member of a subset of two members of the set A, standing in the relation R. Accordingly, a repetition of a noun indicates this semantic relation in the following way:

- (19) [For a given set of individuals denoted by NP, every individual is part of a pair in which] — NP R NP

As the following sections will demonstrate, assuming that unspecified constructions consist of the elements “NP R NP” sheds light on the existing constructions in the Semitic languages. As for the first part of (19), which is in brackets, it is beyond the scope of the current paper to demonstrate how it is achieved in a compositional way. In the case of a set with only two members, however, the formula of NP R NP directly represents (12b). As we shall see, it is possible that these constructions grammaticalized for cases where the reciprocity holds between two sets only. Once it grammaticalizes, the same construction is used with larger sets as well.

In light of the above, example (20) from Akkadian, which does not necessarily express symmetric relations, is also an NP-strategy expressing unspecified relations:

- (20) Old Babylonian:
qaqqar-um eli qaqqar-um² utelli
 surface-NOM over surface-NOM high.DUR.3.SG
 “How much higher is one level [of water in the water clock] than the other level?” (TMB 26 50:3)

Negative sentences have only reciprocal readings:

- (21) Late Babylonian, Achaemenid:
awil-u eli awil-i mimma el-išu
 person-NOM to person-GEN thing NEG-have.PST.3.SG
 “They do not owe each other a thing.” (MDP 24 328:8)

This is actually a logical deduction: even if in positive sentences each noun/pronoun picks only one unspecified referent, in negative sentences, with a wide scope

2. Concerning the nominative case, see Bar-Asher Siegal (2011: 28 n. 24) and Evans (2008: 64) for a similar phenomenon in Bangla.

negation (taken as a sentential negation), each of the nouns must pick both. (22) illustrates this:

- (22) a. “It is not true that one of the two did R to the other one.”
 This sentence is semantically equivalent to:
 “The two persons did not do R to each other.”
- b. Formally, the following three formulae are semantically equivalent for the set A that contains only the two members a, b: $A=\{a, b\}$:
- i. $|A| \geq 2$ and $\forall x \in A \sim \exists y \in A (x \neq y \wedge (Rxy \vee Ryx))$
 - ii. $\sim(Rab \vee Rba)$
 - iii. $\sim Rab \wedge \sim Rba$

The connection between the reciprocal expressions and repetitions of two nominal expressions is seen in other related constructions:³ the pairs of pronouns *one another* with the antecedent in the sentence (*dogs*) replace the repetition of the NP *dog*:

- (23) a. They entered the room, dog after dog.
 b. These dogs entered the room one after the other.

Considering (24a), from Old Babylonian, in light of the semantics of these expressions, it becomes insignificant that is not a ‘real’ reciprocal sentence (for it is most likely that only one king defeats the other). It is equally unimportant that (24b) from Jewish Babylonian Aramaic does not necessarily describe mutual visits. Such sentences are still relevant for our current discussion, due to the way unspecified nouns express relations between different sets. In both cases a repetition of a nominal expression conveys these relations (as is also reflected in the English translation).

- (24) a. Old Babylonian:
šarr-um šarr-am ina kakk-i idâk=ma
 king-NOM king-ACC in battle-GEN defeat.DUR.3.SG =and
 “One king will defeat the other in battle.” (YOS 10, 56ii37)
- b. Jewish Babylonian Aramaic:
nəše ləgabbe nəše šəkīḥ-ī d-āzl-ī gabr-e
 women to women find.PTCP.PASS-PL REL-go.PTCP-PL man-PL
ləgabbe gabr-e lā šəkīḥ-ī d-āzl-ī
 to man-PL NEG find.PTCP.PASS-PL REL-go.PTCP-PL
 “Women visit each other frequently; men do not visit each other frequently.” (Yebam. 26a)

My hypothesis is that most NP-strategies grammaticalized from a repetition of two nouns. Before turning to this larger idea, Plank (2008: 359) importantly warrants:

3. The semantic relations between the constructions are beyond our concern; cf. Beck (2007).

“A more general drawback of the strategy of identical NP repetition is that it does not work when the participants in a reciprocal relation are differently categorized: from ‘earl(s) hated queen(s)’, it is asking for too much to infer that the same relation also obtained in reverse between the same referents.” This drawback, I would argue, is a motivation behind the grammaticalization of some of the NP-strategies.

3.2 Two-unit constructions: Pronominal constructions

This category includes grammaticalized constructions of unspecified pronouns, consisting of two pronominal expressions that fill the two argument positions of the predicate. Pronouns in this context are taken in the general sense of free forms whose interpretation depends on another referential element, namely, the antecedent. The antecedent in the case of the unspecified relations is the set participating in the relation described by the verb.

This broader category of pronominal constructions can be subdivided into several other types according to formal distinctions, related to the origins of the components of these constructions.

3.2.1 *Repetition of the same NP twice*

Similar to the previous category, the relation between the participants is marked with a repetition of NPs. Unlike in those §3.1, these constructions contain repetitions of various types of pronominal expressions.

3.2.1.1 *Repetition of pronouns*

The repeated elements function otherwise as pronouns in the grammar, such as demonstratives and indefinite pronouns (as defined by Haspelmath 1997). For example, consider the use of indefinite pronouns in the Judeo-Arabic Moroccan dialect of Tafilalt (25), proximal demonstratives in Aramaic dialects (26) and in Mishnaic Hebrew (27) and the cardinal number “one” in other dialects of Aramaic (28) and various other languages (Nedjalkov & Geniušienė 2007:426), which functions in other contexts as an indefinite pronoun.

- (25) Judeo-Arabic Moroccan dialect of Tafilalt:

muħmməd u-musa ʔaw si l-si kadu

Muhammad and-Moses give PST.3.M.PL someone to-someone gift

“Muhammad and Moses gave each other a gift.”

- (26) Biblical Aramaic (Official Aramaic):

wə-ʔarkubb-āt-ēh dāʔ lə-dāʔ nāqš-ān

and-knees-PL-POSS.3.M.SG DEM.F.SG TO-DEM.F.SG strike.PTCP-F.PL

“And his knees were striking one another.”

(Dan. 5:6)

(27) Mishnaic Hebrew:

'en dān-īn lō' ze 'ēt ze
 NEG judge.PTCP-M.PL NEG DEM.M.SG ACC DEM.M.SG
 "They should not judge each other" (t. *Sanh.* 5:4)

(28) Galilean Aramaic (Western Late Aramaic):

'innūn pālīg-īn ḥdā 'al ḥdā
 they be.at.variance.M.PL one.F on one.F
 "They are at variance with each other." (y. *Ḥal.* 3:2)

This type of construction relies on the previous construction of a repetition of two nominal expressions (§3.1), as pronouns appear instead of repeating the expressions themselves. (29) provides a scheme of such constructions (for a detailed syntactic analysis, see §4.3).

(29) NP_A Verb NP_A => NP_A — Pronoun_i ∈_A Verb Pronoun_j ∈_A

Accordingly, the historical development merely pertains to ordinary pronouns (demonstratives, indefinite pronouns, etc.), as it is again the expected syntactic configuration. As the various pronouns demonstrate, they are in most cases in the singular, which suggests that these constructions grammaticalized, as noted earlier, for unspecified relations for sets with only two members (as in 12b). Moreover, the strategy of repetition of nouns has a drawback (§3.1), namely, such a strategy cannot be used when the participants of the unspecified relation are of different categories. When using pronouns, this problem is solved, as they are read in a distributive fashion.

With pronouns marked for number and gender it is possible to capture finer relations in the configuration of the number of the participants, such as the distinction between (30a) and (30b) from Mishnaic Hebrew:

(30) Mishnaic Hebrew:

- a. *haś-šōkēr 'et hā-'ummān-īn wě-ḥiṭ'ū*
 DEF-hire.PTCP.M.SG ACC DEF-craftsman-M.PL and-deceive.PST.3.M.PL
ze 'et ze
 DEM.M.SG ACC DEM.M.SG
 "If one hires craftsmen and they deceived one another." (B. *Meṣiṣa* 6:1)
- b. *šēttē ḥābūr-ōt bi-zman šem-mi-qṣāt-ān rō'īm*
 two.F.PL group-PL in-time REL-from-few-POSS.3.F.PL see.PTCP-M.PL
ēllū 'et ēllū
 DEM.PL ACC DEM.PL
 "If two separate parties... if some members of each party are able to see some members of the other company..." (Ber. 7:5)

While the antecedents of the pronouns in both sentences represent plural entities (“craftsmen” and “two parties,” respectively), only (30b) contains a plural demonstrative. The reason is that (30a) describes a reciprocal relationship between individuals (two craftsmen), whereas (30b) describes the reciprocal relationship between sets (two parties). This is therefore not morphological but semantic agreement, since the target of the agreement is controlled by the actual number of members within each set participating in the reciprocal relation (cf. Glinert 1989: 69 in the context of Modern Hebrew and Heine & Miyashita 2008: 169–170).

On this account of the origin of such constructions, I assume that pronominal constructions, in which the two pronominal expressions are not the same (i.e., pairs such as *one...another* in English or *exad-hašeni* “one-the second” in Modern Hebrew, as discussed in §5), developed in the same way. In fact the semantics of these constructions (see (12)) contain the distinctness requirement ($x \neq y$); the second element in these pairs (i.e., *other*, *second* etc.) expresses this alterity.

3.2.1.2 Repetition of semantically bleached nouns

The pre-grammaticalized construction (§3.1) is likely the source for constructions consisting of a repetition of nouns which have bleached semantically. Note the following examples:

- (31) a. Akkadian:
innašqū *aḥ-u* *aḥ-i*⁴
 kiss.ING.PST.3.M.PL brother-NOM brother-GEN
 “They began to kiss each other.”
 (En. El. III132, Neo Assyrian [Standard Babylonian])
- b. Amharic:
ars bā-ras-aččən *annəṭṭala*
 head in-head-POSS.1.PL fight.NEG.JUSSIVE.1PL.REC
 “Let us not fight with each other.” (Leslau 2000: 27)

Considering (31a) it is reasonable to posit the following stages of grammaticalization of the pronouns:

- I. Originally there was no single word dedicated to expressing reciprocity, and the word *aḥum* “brother” was used only in contexts in which the literal meaning of “brother” was relevant.
- II. The semantics of *aḥum* later bleached, and it became a pronoun.

4. The genitive is unexpected. See Bar-Asher Siegal (2011: 24 n. 7) and Von Soden (1931: 186–187 n.1).

It is conceivable that this process began when *aḥum* was used in contexts such as the following:

- (32) Standard Babylonian:
bīt-u itti bīt-i inakkir aḥ-u aḥ-a
 house-NOM with house-GEN hostile.DUR.3.M.SG brother-NOM brother-ACC
idāk
 kill.DUR.3.M.SG
 “Family will turn hostile against family, brother will kill brother.”
 (KAR 148:13)

This relatively late example shows a context in which the original meaning of “brother” is still relevant, but a more general translation is also possible: “one will kill the other.” At an early stage, *aḥum* was most likely to have been used only for people, retaining the gender distinction, as in the following example with *aḥāt* “sister”:

- (33) *aḥāt aḥāt-am ina puzr-i awāti umma;*
 sister sister-ACC in secret-GEN word DSM
 “You (F.PL) are saying secretly to each other...” (Kraus AbB 1 135:22)

Once grammaticalized, *aḥum* can refer to animals (34a) and inanimate objects (34b):

- (34) a. Neo Assyrian:
[šumma er-û] aḥ-u aḥ-i issū=ma
 COND eagle.PL.NOM brother-NOM brother-GEN call.DUR.3.MP =and
 “When eagles call each other...” (CT 39, [Plate] 25, Sm1376:9).⁵
- b. Old Babylonian:
aḥ-um aḥ-am idris
 brother-NOM brother-ACC press.PST.3.SG
 “[two gates...] one presses the other” (YOS 10 24:7)

Another somewhat expected development is the lack of gender agreement. A clear example with a feminine antecedent has yet to be found.⁶

5. This example is in Standard Babylonian, a literary dialect that imitates the classical period of Old Babylonian.

6. Due to the rarity of discourse situations with solely feminine referents, it is hard to find such examples. There is, however, a possible relevant example from Middle Babylonian (Bar-Asher Siegal 2011: 30).

3.2.2 Extension of a pronominal construction

Similar to what has been suggested in (19), (12a) can be expressed also in the following way:

- (35) [For a given set of individuals denoted by NP, every individual is part of a pair in which] — someone R someone

The semantics of these pronouns, as described earlier, is ‘de facto’ an extension of propositions with one set of unspecified referents, where various indefinite pronominal expressions are used. In fact, once again, the formula “someone R someone” better represents (12b), which is the case when the unspecified relation is held between two participants only. In light of this, a construction comprised of two indefinite pronouns is expected, as in (25) in the Judeo-Arabic Moroccan dialect of Tafilalt.

Similarly, in Biblical Hebrew the first component *’iš* “man” is a regular indefinite pronoun:

- (36) Biblical Hebrew:
’iš kī yiddōr neder la-Yahwe
 man when VOW.IPF.3.M.SG VOW to-the.Lord
 “When someone makes a vow to the Lord...” (Num. 30:3)

The extension of the use of the indefinite pronoun is accompanied by the addition of a second different correlative component (marking the distinctness requirement): either *’āḥīw* “his brother” (as in (37)) or *rē’ēhū* “his fellow,” both nouns with a genitive suffix pronoun referring to the first component, i.e., *’iš* “man.”

- (37) *wē-’iš ’āḥ-īw lō’ yidḥāqū*
 and-man brother-POSS.3.M.SG NEG prod.IPF.3.M.PL
 “They do not jostle each other.” (Joel 2:8)

The supplement of a correlative presumably began when *’āḥīw/rē’ēhū*, otherwise nouns with full lexical content, were used in contexts such as:

- (38) *wē-hirgū ’iš ’et ’āḥ-īw wē-’iš ’et*
 and-kill.IMP.2.M.PL man ACC brother-POSS.3.M.SG and-man ACC
rē’-ēhū wē-’iš ’et qērōb-ō
 fellow-POSS.3.M.SG and-man ACC neighbor-POSS.3.M.SG
 “Each of you should kill his brother, his friend and his neighbor.”
 (Exod. 32:27)

(38) provides a context in which the original meaning of “brother” is relevant. Since the list of “brother,” “friend” and “neighbor” seems to reflect “everyone,” it was probably perceived, at least in other contexts, as a general expression for such

a relation. Consequently, at first only *ʾiš* was used as an indefinite pronoun with various other participants (“brother,” “fellow,” etc.), but with time *ʾāḥīw/rēʿehū* also became part of such expressions and started to function as indefinite pronouns.

At an early stage such expressions were likely used to designate only human beings, as in Middle Aramaic.⁷ Biblical Hebrew, however, exhibits a further stage in the grammaticalization process, as these expressions also refer to animals (39) and even inanimate objects (40):

- (39) *way-yittēn ʾiš bitr-ô liqraʿt rēʿ-ēhū*
 and-give.IPF.3.M.SG man cut-POSS.3.M.SG towards fellow-POSS.3.M.SG
 “And he arranged the halves (of a heifer, a goat and a ram, each three years old, along with a dove and a young pigeon) opposite each other.”
 (Gen. 15:9–10)

- (40) *ḥāmēš ha-yērī-ōt tihēyenā ḥōbēr-ōt ʾiššā ʿel ʾāḥōt-āh*
 five.F.PL DEF-curtain-F.PL be.IPF.3.F.PL join.PTCP-F.PL woman to
 sister-POSS.3.F.SG
 “The five curtains should join each other.”
 (Exod. 26:3)

3.2.3 Quantificational constructions

This category includes constructions with at least one quantifier as one of the elements constituting the construction.

3.2.3.1 Constructions with a universal quantifier

Previous studies, such as Plank (2008) and Haas (2010), focus mostly on constructions with a universal quantifier, such as *each* in English, as one of the elements. It is not difficult to propose that sentence (41b) derives from (41a):

- (41) a. Each one of them saw the other.
 b. They saw each other.

Only in the early stages of English was a reanalysis of *each* as part of the anaphor possible, when *each* as a quantifier could be floated and appear immediately before *other*. This is illustrated in the following example, cited by Haas (2010: 70):

- (42) *And there vppon they cast eche to other their gloves...*
 (Helsinki Corpus, ME IV [1420–1500])

7. The Aramaic translator of the Pentateuch, Onkelos, regularly translated Biblical expressions containing *ʾiš* “man” and *ʾāḥīw* “his brother” with the corresponding Aramaic words: *gābar* and *ʾāʿhohī*. The translation deviates from the Hebrew, and uses the cardinal number “one,” when the participants of the relations are inanimate objects (for example, in the translation for sentence (40)). A similar phenomenon is found in Mishnaic Hebrew (Bar-Asher Siegal 2012: §4.3).

While (41a) and (41b) are likely related historically, at the synchronic semantic level they are different. Sentence (41a), with its universal quantifier, is not an unspecified construction, as defined in (12). Thus, the similarity between the sentences holds properly only in sentences with two sets of participants in the reciprocal relation.⁸ With a larger number of participants, while the *each other* construction as in (41b) allows for ‘weak distributivity,’ constructions such as those in (41a) do not allow for such a reading (Williams 1991). Compare (43a) and (43b):

- (43) a. The children were kissing each other.
 b. Each child was kissing the other.

While (43b) requires strong distributivity, that every child was a *kisser* of each and every other child, (43a) could be true even with weak distributivity, as it describes events in which some of the children were only the receivers of kisses, but not necessarily kissed by all of the other children. Thus, the grammaticalization of a one-unit construction such as *each other* from constructions with a universal quantifier involves a semantic shift.

Such a construction appears to be unattested in Semitic; the discussion of their origin, however, raises the question whether the discussed diachronic changes involve a semantic shift.

3.2.3.2 *Constructions with partitives*

Although not a quantifier in the strict sense, the closest strategy found in the Semitic languages is the repetition of a partitive in Arabic (see (14)). This construction should probably be understood similarly to constructions with a repetition of pronouns (§3.2.1.1). Once again this development can be understood in light of nominal constructions (§3.1):

- (44) NP_A Verb NP_A => NP_A — SOME-OF-NP_A Verb SOME-OF-NP_A

Similar to the explanation for the constructions with the repetition of indefinite pronouns, (44) is a natural reading of (12a) and in fact this is the only construction that indicates that the set whose members participate in the unspecified relations may contain more than two members. Accordingly, a reciprocal reading can be attained because, logically speaking, the quantifier *SOME* is used also to imply the exhaustion of the set (i.e., when it is more natural to use the quantifier *ALL*).

8. Dougherty (1974) and Heim et al. (1991: 70), who argue for a synchronic relation between the constructions in (41), admit that this relation is demonstrated properly in sentences with only two sets of participants.

3.3 Intermediate summary and a further observation

There are two possible sources for the two-unit constructions:

- (45) a. They evolved from the repetition of two nominal expressions. Instead of a repetition of the nouns themselves, pronouns appear (this category includes repetitions of partitives, original pronouns and bleached nouns).
- b. Or, they are a further development of a pre-existing indefinite pronoun, either by repeating it (Moroccan Arabic, in (25)), or with the addition of a correlative (Biblical Hebrew, in (37)). Thus, schematically, there are two constructions:
- I. SOMEONE Verb SOMEONE
- II. NP_A — Pronoun_i ∈_A Verb Pronoun_j ∈_A

There is a clear difference: while (II) requires an antecedent, (I) does not. Consequently, the expectation is that in contexts without an antecedent, (II) will be unavailable and (I) will be available.⁹ This difference is crucial to the viability of these constructions with casuistic laws. Laws by their nature are impersonal and therefore appear without antecedents, as they state possible relations between two unspecified members of the legal community. Accordingly, only constructions of type (I) are expected to be available for expressing such laws. That this expectation is indeed met can be seen by comparing Biblical and Mishnaic Hebrew. As illustrated in (8), Biblical Hebrew has type (II), and the pronominal construction is used both in reciprocal constructions and in casuistic laws. In Mishnaic Hebrew, where type (I) is the regular construction for expressing unspecified relations, repetition of the demonstratives (27, 30a–b) is not used in casuistic laws. An alternative construction is used for this in Mishnaic Hebrew (Bar-Asher Siegal 2012).

4. The diachronic development from a two-unit to a one-unit construction

4.1 Previous proposals

Since it is often possible to trace the phonological derivation of the one-unit construction from the two-unit construction in some languages, while an explanation for the opposing direction is not as readily available, I propose this as the direction

9. In constructions (II) and (I), when there is an antecedent, it restricts the domain for which the indefinite pronouns are relevant.

of development and look for motivations. As noted, this is the process found in the history of Akkadian, Arabic and Aramaic (see (13)–(15) above).

The only explanation I am aware of is Visser's proposal (1963: 445), reformulated by Haas (2010: 83–86), namely that the one-unit formula is a reduced clause functioning as an afterthought:

- (46) a. The knights hugged; one hugged another.
 b. The knights hugged_i; one *e*₁ another.
 c. The knights hugged one another.

While this is plausible, it is likely only for a language like English, in which verbal reciprocity is unmarked morphologically. In other languages, the form of the verb in both clauses is not the same, and therefore the omission of the second verb is less likely. Moreover, as discussed in Siloni (2002, 2012) and Bar-Asher (2009), an equivalent of the third stage (46c) is ungrammatical in many documented languages (based on the results of Nedjalkov & Geniušienė's 2007 cross-linguistic questionnaire) since they are monovalent, as illustrated in (47b) with an example from Modern Hebrew:

- (47) a. *ha-'abir-im hitnašqu exad nišeq et ha-šeni*
 DEF-knight-PL kiss.RECP.PST.3.PL one.M kiss.PST.3.M ACC DEF-second.M
 The knights hugged; one hugged another
 b. **ha-'abir-im hitnašqu exad et ha-šeni*
 DEF-knight-PL kiss.RECP.PST.3.PL one.M ACC DEF-second.M
 Intended reading: "The knights hugged each other."

Thus, an alternative proposal is needed for families, like Semitic, that encode reciprocity verbally. I begin by noting the different syntactic behaviors of the one-unit and two-unit constructions in Akkadian, similar to all other languages that have both types of constructions.

4.2 The distribution of one-unit and two-unit constructions

While the Akkadian one-unit anaphora *aḫāmiš* appears in the same clause as its antecedent, the two-unit constructions, with the repetition of *aḫum*, are used only when the antecedents are not part of the clause. Thus, the subjects of clauses with *aḫāmiš* are the parties participating in the reciprocal relations. They appear either separately (and coordinated) (48a), or as a group whose members participate in such relations (48b):

- (48) a. *šumma surd-û u ārib-u itti aḫāmiš šalt-a*
 COND raven-NOM and falcon-NOM with RECP fight-ACC

īpušū=ma

do.PST.3.M.PL=and

“If a falcon and a raven fight, and...” (CT39 30:35)

b. *māt-āt-i ana aḥeiš iqabbûni*

country-F.PL-OBL to RECP say.DUR.3.M.PL

“The countries say to each other...” (Craig ARBT 1 26:8 NA)

With the two-unit constructions, the nominal representations of the participants in the reciprocal relations are not the subject of the clause. In most cases, the first element between the two pronominal expressions is the subject in the nominative (*aḥum*), while the second element fills the slot of the other argument in the sentence and appears in the appropriate case, as in (49–50):

(49) *aḥ-um eli aḥ-im mimma ul išu*
 brother-NOM toward brother-GEN something NEG have.PST.3.SG
 “No one has a claim upon the other.” (PBS 8/1 81:17, Old Babylonian)

(50) *atta u nakir-ka taṣṣabbatāma aḥ-um*
 you and enemy-2MSG.POSS get.into.fight.DUR.2.M.SG brother-NOM
aḥ-am ušamqat
 brother-ACC destroy.DUR.3.SG
 “You and your enemy will get into a fight, and one will destroy the other.”
 (YOS 10 50:8, Old Babylonian)

Although antecedents are not the subject in two-unit constructions, they can still appear as the topic:

(51) *atta u nakri-ka aḥ-um ina pāni aḥ-im*
 you and enemy-POSS.2.M.SG brother-NOM from brother-GEN
udappar
 withdraw.DUR.3SG
 “You and your enemy will withdraw from each other.”
 (YOS 10 47:81, Old Babylonian)

The fact that “you and your enemy” in (51) functions as the topic and not as the subject is indicated by the form of the verb (3.M.SG rather than 2.PL), which agrees with the reciprocal pronoun. This can be demonstrated by contrasting (52) with (53). With a verbal encoding of the reciprocity, the verb in (53) is 1.PL, unlike the singular verbal adjective in (52):

(52) *ištu pānānumma anāku u kâti awîl-um ana awîl-im paqid*
 since formerly I and you man-NOM to man-GEN VADJ.trust
 “For some time now our relationship had been such that one trusted the other [*lit.* I and you trusted man to man].” (TCL 17 31:8 f, Old Babylonian)

- (53) *inūma anāku u kâti ina GN nuštât-û*
 when I and you in GN see.RECP.PST.1.PL-SBJV
 “When you and I saw each other in GN...” (PBS 7 108:10, Old Babylonian)

While the components of the two-unit constructions, *aḥum-aḥam*, fill the argument positions of the verb (subject, object and oblique), the one-unit anaphora, *aḥāmiš*, occupies all the arguments selected by the verb but never the subject position.

In conclusion, the two types of constructions differ not only in the number of components they comprise, but also in the way each construction expresses unspecified relations with respect to the following characteristics:

- (54) a. In two-unit constructions:
- i. Each pronominal expression fills a different argument selected by the predicate (subject, object, etc.).
 - ii. Each of the arguments selected by the predicate is filled with a pronominal expression.
 - iii. The participants of the relation themselves, if mentioned, are not part of the grammatical relations and therefore may only appear as the topic of the sentence.
- b. In one-unit constructions:
- i. The anaphora co-occurs with the sets that participate in the reciprocal relations.
 - ii. The participants in the relation hold the subject position, and the anaphora occupies the position of the other argument of the predicate.

Thus, an analysis arguing that one-unit constructions derive historically from the two-unit constructions should explain not only the merging of the two forms into one, but also the shift in grammatical relations between the various components of the sentence.

In the previous Akkadian examples of constructions with two independent pronominal elements, *aḥum* occupies the subject position and the verb, expectedly, is singular. Rarely, however, there are plural verbs:

- (55) a. *aḥ-um aḥ-am lā ibaqqarū*
 brother-NOM brother-ACC NEG raise.a.claim.DUR 3.M.PL
 “None should raise claims against the other.”
 (YOS 8 99:19f, Old Babylonian)
- b. *aḥum aḥam ina mē lā*
 brother-NOM brother-ACC concerning water.OBL NEG

udarrasū

treat.opressively.DUR.3.M.PL

“One should not treat the other oppressively on account of the water.”

(TCL 7 23:29, Old Babylonian)

Such Akkadian sentences evoke the standard construction of Biblical Hebrew, with a plural verb despite the fact that the NPs in all syntactic positions are morphologically singular:

(56) *way-yahāziqū* *’iš bē-rōš* *rē’-ēhū*

and-hold.IPF.3.M.PL man in-head.of fellow-POSS.3.M.SG

“Each man grabbed his opponent by the head.”

(2 Sam. 2:16)

Thus, the reciprocal pronouns in Biblical Hebrew (and many other languages) are different from both standard *aḥum-aḥam* and *aḥāmiš*. While at first the various combinations seem to be instances of a two-unit construction, verbal agreement is (almost) always plural and thus the first pronoun does not seem to hold the subject position.

Such hybrid constructions are known from other languages. Furthermore, with this type of construction in languages with morphological case, both the topic and the first element of the reciprocal pronouns are in the nominative, as is the case in Icelandic:

(57) *Þeir elska hvor annan*

they.NOM love.3.PL.IND one.NOM other.ACC

“They love each other.”

(Everaert 1999: 69)

I propose first a historical account for the three types of constructions in the following order:

(58) two-unit construction > hybrid construction > one-unit construction.

In principle, as will become clear, since the final stage is the result of a reanalysis, the two-unit constructions can already be reanalyzed and turned into one-unit anaphors without an intermediate stage.

4.3 The diachronic development of the NP-strategies

I suggest the following structures for the three stages of development of the NP-strategies:

{NP ₁ , NP ₂ ...NP _n .NOM}	verb.SG	reciprocal-pronoun ₁ .NOM.SG	reciprocal-pronoun ₂ .ACC.SG
Topic		Subject	Object

Figure 2. Stage I: Two-unit constructions.

The topic is in brackets as it is optional. When it does appear, though, it is in the nominative, which may be attributed either to the fact that in Semitic languages with morphologically overt cases, the case for the topic (which is never the subject) is also nominative; or alternatively, it could also be attributed to the fact that it has the same referent as the subject of the sentence. This explanation is valid beyond Semitic and may account for similar occurrences cross-linguistically.¹⁰

In the second stage, the only formal change is that the verb is plural:

{NP ₁ , NP ₂ , ... NP _n .NOM}	verb.PL	reciprocal-pronoun ₁ .NOM.SG	reciprocal-pronoun ₂ .ACC.SG
Topic		Subject	Object

Figure 3. Stage II: Hybrid constructions.

While one might assume that the plural agreement reflects a reanalysis of the nominative topic as the subject, it seems to have come about for a different reason. This could illustrate the well-known phenomenon of semantic rather than morphological agreement (Corbett 2006: 155–160); in the case of reciprocals, this confusion is due to the fact that part of the definition of a reciprocal relation is that more than one set occupies the subject position. As shown in (55), this phenomenon is already evident in Akkadian. Similarly, in Biblical Hebrew the verb is in the plural, even in the case of a repetition of the same noun phrase in two different positions in the sentence, where there is clearly no other antecedent (§3.1).

- (59) *ki gibbôr bē-gibbôr kāšālū*
 as warrior in-warrior stumble.PRF.3.M.PL
 “One warrior will stumble over another.” (Jer. 46:12)

It is impossible to explain the plural verb in (59) as a reanalysis of the topic as the subject of the clause. Hence, the motivation behind the plural form of the verb must be seen as semantic and not as a reflection of a different syntactic relation in the clause. This hybrid construction is likewise found in Standard Arabic in sentences with two-unit constructions, and we note a similar development in Arabic. Compare (60) with (61). In both, the speakers participate in the reciprocal relations. In Modern Standard Arabic the verb is in the 1.PL:

- (60) *linusā‘ida ba‘ḏ-u-na ba‘ḏ-an*
 assist.SBJV.1.C.PL some-NOM-POSS.1.C.PL some-ACC.INDF
 “Let us assist each other.” (ar-ar.facebook.com/tohelpachother)

10. Everaert (1990–1: 298–300) considers this use of the nominative in left dislocation structures to be evidence for the hypothesis that in Icelandic (and in other languages), the nominative case is “lack of case,” since this is a position of non-case-assignment. This matter deserves independent examination.

In the classical period, in the Qur'an, the verb agrees with the *ba'd-* and is 3.M.SG:

- (61) *rabb-anā stamta'a ba'd-u-na bi-ba'd-in*
 lord-POSS.1.PL 3.M.SG.PST.make.profit some-NOM.1.PL in-some-GEN.INDF
 "Our Lord! We made profit from each other." (6: 128)

Example (61) from the classical period exemplifies stage I, with *ba'd-* as the grammatical subject. In example (60), from Modern Standard Arabic, the speakers, in a reciprocal relation, are the grammatical subject (stage III, below), or at least in control of semantic agreement (stage II).

In all the above examples, the verb either proceeds or follows both elements of the construction. The Jewish Neo-Aramaic Dialect of Challa furnishes an example with a plural verb form standing in between the two elements:

- (62) *xa lu mšabohe 'al-xé*
 one COP.3.PL praise.PRF to-one
 "One is praising the other." (Fassberg 2010: 48)

Since the two elements of the construction are separated, one can assume that one part is the subject and the other the object; thus this is another example of stage II and accordingly another instance of semantic agreement.

A similar development can be traced in the history of Italian.¹¹ The 13th–14th-century Italian expression *l'uno l'altro* occurs as a two-unit construction, with a verb in the singular form (thus, *l'uno* is the subject and *l'altro* the object). The two elements can be separated, or they may occur together in post-verbal position.

- (63) a. *Quando lo amico ama la sua amica per*
 when DEF friend.M.SG love.PRS.3SG DEF POSS.3.M.SG friend.F.SG for
dilettazone, e quella ama lui per utilità, non
 pleasure and DEM.F.SG love.PRS.3.SG him for convenience NEG
ama l'uno l'altro per diritto bene
 love.PRS.3SG DEF=one-M.SG DEF=other-M.SG for right good
 "When the friend loves his girlfriend for pleasure and she loves him out
 of convenience, the one does not love the other for the right reason."
 (Tesoro volg (XIII))
- b. *perche queste due cose seguita l'una*
 because DEM.F.PL two thing.FEM.PL follow.PRS.3.SG DEF=one.F.SG

11. The data (and the translations) are taken from Vezzosi (2010). Vezzosi follows Plank (2008) in assuming that *un* in Italian is similar to the English distributor *each*, a similarity that was never shown.

l'altra *igualmente.*

DEF=other.F.SG equally

“Because these two things follow each other equally...”

(Andrea Cappellano (XIV))

There are only a few examples in texts from the 13th century of two-unit constructions demonstrating signs characteristic of stage II, as *l'uno l'altro* occurs with a plural verb; this, though, only occurs if the set participating in the relation is in the topic position, as seen in example (64). Such a pattern, however, becomes very frequent in 14th-century texts.

(64) *La prima ragione si è, che le cose della natura*

DEF first reason REFL be.3.SG REL DEF thing.F.PL of.DEF nature

generano l' una l' altra ...

generate.PRS.3PL DEF one.FEM.SG DEF other-F.SG

“The first reason is that the things of nature each generates the other.”

(Egidio Romano (volg., 1288))

Finally, one encounters a shift to a construction with the following changes: 1) the verb is regularly found in a plural form; 2) at the end of the 14th century, the elided form for the first element gradually began to appear: *l'un l'altro*; 3) with complements, the preposition governs only the second element:

(65) a. *perché facciamo l'un l'altro tapini ...*

because make.PRS.1PL DEF=one.M.SG DEF=other.M.SG miserable.M.PL

“Because we make each other miserable...”

(Bioardo Lib. 1 can. 2.17 ('400))

b. *il veder la miseria l'un dell'altro*

DET see.INF DEF misery DEF=one-M.SG of.DEF=other.M.SG

e l'avarsi compassione l'un all'altro

and DEF=have.INF.REFL pity DEF=one.M.SG to.DEF=other.M.SG

“Seeing each other's misery and pitying each other...”

(Firenzuola Ragionamenti Giorn. 1 nov. 1.4 (500))

This last stage is similar to contemporary Italian, discussed in §5.

The last stage is a typical example of a topic reanalyzed as a subject. Consequently, the two separate pronouns are conceived of as one unit, namely, the one-unit reciprocal anaphora:

{NP ₁ , NP ₂ ...NP _n .NOM}	verb.PL	reciprocal-pronoun ₁ .reciprocal-pronoun ₂ .ACC.DU/PL
Subject		Object

Figure 4. Stage III: One unit-construction (the reanalysis).

Once there is another subject in the sentence, a ‘reciprocal-pronoun₁’ can no longer be the subject and so it must be analyzed, like ‘reciprocal-pronoun₂’, as part of an expression that produces the reciprocal meaning. As a result, both of the original pronominal expressions fill the same syntactic position. It is more accurate to describe it as follows, indicating that at this stage there is only one element filling the object position:

{NP ₁ , NP ₂ ...NP _n .NOM}	verb.PL	RECP.ACC.PL
Subject		Object

Figure 5. Stage III: One unit-construction with an anaphora.

Clearly there are various changes that are taking place in the final stage:

- (66) a. A shift from two-unit to one-unit (univerbation)
 b. A change of number for the pronominal expressions (singular => plural)
 c. A change of cases (loss of the nominative element)

In previous analyses (Plank 2008, Haas 2010) the univerbation seems to be led by the formal aspect (and not by the meaning or the syntax), and the reanalysis of the two units as one is merely due to their syntactic proximity. In contrast, I argue that once the topic is reanalyzed as the subject of the clause, this reanalysis is a **necessary** result, since the two units hold the same syntactic position. Accordingly, while the previous analyses hold that univerbation is the only characteristic that marks a construction as stage III, our current line of reasoning maintains that each characteristic of this stage (66a–c) serves as a sign for a construction to be considered as stage III. Even one indication is enough; it is expected that not all will be formally expressed at once. I now show the formal expressions of each of the characteristics of stage III, and how our analysis changes the perception of data from several languages.

4.3.1 *Univerbation*

A shift to stage III anticipates an increasing frequency of use of these constructions, and such conditions lead to phonological reduction (Bybee 2003:615–617, *inter alios*). Indeed cross-linguistically one encounters phonological fusions by which two-unit constructions become one-unit constructions. As both forms occupy one syntactic position, they are primed for such a fusion; such a shift fits the phenomenon of univerbation. Andersen (1987) subdivides this process as follows: morphological univerbation (loss of morpheme boundaries), prosodic univerbation (stress shift) and segmental levelling (phonological reduction).

Among the Semitic languages, morphological univerbation, which also includes prosodic and segmental changes as well, is well attested. In the Old

Babylonian texts from Susa, for example, the one-unit anaphora is *aḥmaḥam/im* or *aḥmāmam/im*. The former is clearly a fusion of the older two-unit construction (a repetition of *aḥum*, 13a). The elision of the second /ḥ/ in the second form seems to be a result of haplology: *aḥmaḥam* > *aḥmaḥam* > *aḥmāmam*, as seems to be the case also with the Syriac form (15b) *ḥadḥad > *ḥadḥad+ē* > *ḥədādē* (with the addition of the plural marker; see §4.3.2). In both instances, the loss of the consonant results in a lengthening of the next vowel.

In addition to univerbation, Semitic languages exhibit two other ways in which two-unit constructions become one-unit constructions.

1) **Deletion** — elision of one of the elements of the two-unit construction:

At stage III, two forms fill one syntactic position. Consequently an elision of one of these forms, as in the Standard Arabic example (14c), is easily explained¹²:

(67) *baʿd -u-humā li baʿd-an* > *li- baʿd-him*

2) **Frozen forms**:

Such formulae seem to have two separate elements, but synchronically do not function as two-unit constructions. In Amharic the pronominal expression consists of the repetition of the element *ras* “head” (31b) in the following formula:

(68) *ars bā +ras + pronominal* (plural) suffix agreeing with the subject

The element *bā* was originally the preposition *bā* “in”; however, this function has been lost, and it appears in all constructions, regardless of their semantics.

Similarly, the formula in Arabic, as expressed in (14d), seems to be an intermediate, frozen stage in the shift from two-unit to one-unit constructions, since only the first element has inflection that matches the syntax of the sentence. A similar phenomenon occurs in Kannada (Bhat 1978: 44–45). On my analysis, frozen expressions in languages where fusion or elision did not occur, although they do appear as the historical stage with two separated elements, synchronically do not reflect such grammatical relations. We explore this in §5.

It seems to be significant whether the two elements of the two-unit construction are separable or inseparable (cf. Haspelmath 2007: 2113). Earlier, the fact that the two components in the Neo-Aramaic dialect of Challa are separable (62) served as an indication of being at stage II; and in §5, the inseparability of the two components in Hebrew would indicate the shift to stage III. The problem of treating inseparability as a criterion lies in the nature of ancient languages. Usually there is not enough data to determine whether the two components were indeed

12. Bar-Asher Siegal (2011) proposes an example of a similar deletion in Akkadian.

inseparable or simply appeared next to each other in all attested examples; we explore this in §5 for contemporary languages.

4.3.2 Insertion of agreement marker

According to our analysis the shift to a one-unit construction involves a shift in the grammatical number of the pronominal expression. This trait is occasionally reflected by the development of an agreement feature, and it will be demonstrated through the relevant expressions in Mehri. Occasionally Mehri expresses unspecified relations with a repetition of *ṭayt* “one”:

- (69) *yeṭkawḵ ṣəwayr ṭayt ḏar ṭayt*
 throw.IPFV.3.M.SG stone.PL one upon one
 “They throw stones at one another.” (Johnstone 16:2)

The common one-unit anaphora *ṭāṭīday-* likely resulted from a fusion of the repetition of *ṭayt*. Importantly for the current discussion, this one-unit anaphora agrees in number (plural or dual) with its antecedent (Rubin 2010: 50–51):

- (70) a. *āmərō hə-ṭāṭīday-hi*
 say.PRF.3.M.DU to-RECP-DU
 “They (two) said to each other...” (Johnstone 4:17)
- b. *tōli fəhēməm ṭāṭīday-həm*
 then understand.PRF.3.M.PL RECP-3.M.PL
 “Then they understood each other.” (Johnstone 59:14)

Thus, once the one-unit anaphora grammaticalized, it became similar to other pronouns and has the same nominal declension. Thus, it resulted in a dependency between the anaphora and the subject, hence the subject-pronoun agreement.

Similarly, the ending *-ē* in the one-unit anaphors *ḥədādē* (Syriac) and *ḥədāde* (Jewish Babylonian Aramaic) in the Late Eastern Aramaic dialects, originating from a repetition of *ḥad* (stage I), is probably the result of an additional agreement feature. It is either a vestige of a dual form (*-ay > -ē*), or the usual Late Eastern Aramaic plural marker *-ē*:

- (71) *ḥad ḥad > *ḥadḥad > *ḥadḥad > *ḥədād > [ḥədād+ē =>] ḥədādē*

Bar-Asher Siegal (2011:31) proposes a similar explanation for the Akkadian one-unit anaphora. The deletion of one of two components of the two-unit construction and an addition of a plural marker is known from Finnish, too (König & Kokutani 2006: 281).

4.3.3 *Change of case*

As noted, Standard Arabic has a construction with two elements and only the first has case marking (14d). The second is syntactically frozen and always caseless. In Russian, the first is frozen, as the nominative form *drug* appears even when it is unexpected:

- (72) *On ne otičha-et zolot-o i med'*
 he.NOM NEG distinguish.IPFV-3.SG.PRES gold.N-SG.ACC and copper.F.SG.ACC
drug ot drug-a
 friend.NOM from friend-GEN
 "He does not distinguish gold and copper from one another."
 (Knjazev 2007: 688)

In Kirghiz (Nedjalkov 2007b: 156) the reciprocal pronoun generally marks case on the second element; sometimes, though, the case marking is on the first element. Occasionally the personal-possessive marker is added to both elements and the postpositions are usually inserted between the elements.

- (73) a. *biri biri-Ø-n* (Ø = 3.PL, -n = ACC)
 b. *biri-Ø-n biri*
 c. *biri-biri-biz-di* (-biz = 1.PL, -di = ACC)
 d. *biri-biz-di biri-biz*

Icelandic provides another interesting phenomenon, where there is only a shift of case. In addition to the two-unit construction (in 57) with each pronominal expression in a different case, there is another variant (Thráinsson 1979: 129 n. 34) with both elements in the accusative:

- (74) a. *Þeir elska hvor annan*
 they.NOM love.3.PL.IND one.NOM other.ACC
 "They love each other."
 b. *Þeir elska hvorn annan*
 they.NOM love.3.PL.IND one.ACC other.ACC
 "They love each other." (Everaert 1990–1: 283 ex. 14)

Thus, in all these constructions both elements share the same syntactic position, and it is reflected merely with the formal expression of the grammatical relations.

Finally, a priori fusion or deletion that creates the one-unit anaphora is more likely if 'reciprocal-pronoun₁' and 'reciprocal-pronoun₂' are juxtaposed, and is more plausible in verb-final (SOV) languages and verb-initial (VSO) languages. Among the Semitic languages with one-unit anaphors, (non-literary) Akkadian is a strict verb-final language (with SOV as the unmarked order) and Arabic is a VSO language. Syriac also has VSO tendencies, despite having free word order

(Nöldeke 2001: 258–259). Mehri, though, has free word order. However, the default word order at the time of the emergence of a one-unit anaphora is not always known; however, further cross-linguistic typological studies will be able to determine the correlation between word order, the shift to stage III and the type of phonological developments involved.

The significance of this goes beyond its historical scope. As shall become clear, stage I and stage III reflect two types of constructions, with two distinct syntactic structures. Previous studies of the NP-strategies have focused on the second type (stage III), which resulted in various statements about reciprocal constructions — statements which if true can only be true about this particular type of reciprocal construction. These are statements such as 1) reciprocal pronouns are never the subject of the sentence (Everaert 1990–1, Nedjalkov 2007b: 154, Brame 1977: 387–390 and Koster 1987 beyond the framework of Government and Binding) and 2) reciprocal pronouns are grammatically plural (Fiengo & Lasnik 1973, Kamp & Reyle 1993). These observations motivated the analysis of such pronominal expressions in Government and Binding as anaphors (Chomsky 1981). Like reflexive pronouns, so must these reciprocals receive their reference from the same clause (and with a particular syntactic configuration). Unlike reflexives, however, reciprocal pronouns supposedly have plural antecedents (Fiengo & Lasnik 1973). Even if these observations are correct (and this has been disputed; see Everaert 1999, Haas 2010: 18–19), our study shows their relevance for expressions in the one-unit constructions only (as Beletti 1982 notes for Italian). In contrast, two-unit constructions, within this framework, function as pronouns and not as anaphors (cf. König & Kokutani 2006). Thus, there is no necessary relation between the semantics of reciprocal constructions and a specific syntactic configuration.

5. The Modern Hebrew and Italian constructions as frozen formulae

My key conclusion is that the shift to stage III is not merely at the formal level (univerbation); it is, rather, first and foremost a shift in terms of the grammatical relations between the components of the constructions. This section illustrates how a better understanding of the various aspects of the grammatical changes assists in recognizing frozen forms. Focusing on constructions from Modern Hebrew and Italian, I argue that despite appearing to contain two-unit pronouns (consisting of the elements *exad* “one” *hašeni* “the second” and *l’un* “the one” *l’altro* “the other,” respectively), structurally speaking, these are in fact one-unit anaphors. The argument for this claim relies on the fact that these constructions exhibit other characteristics of stage III.

Halevy (2011) has noted that in Hebrew the two elements are in one stress unit, which suggests incipient grammaticalization. She claims, however, that since there is no fusion, and since different elements can be inserted between the two components of the construction, the grammaticalization process therefore has not yet been completed (she, however, never defines what exactly is the relevant process of grammaticalization.)

However, in these constructions, the verb must be plural. This indicates that Modern Hebrew is at least at stage II, if not stage III, in the development of the NP-strategies. It is now possible to recognize a shift to this stage based on other indications.

Languages may simultaneously have constructions of different types, as demonstrated by the following pairs:

(75) Modern Hebrew:

- a. *šoš ve-lea (ha)-axat ohevet et ha-šniya*
 Šoš and-Lea DEF-one.F love.PRS.F.SG ACC DEF-second.F
- b. *šoš ve-lea ohavot (a)xat et ha-šniya*
 Šoš and-Lea love.PRS.F.PL one.F ACC DEF-second.F
 “Šoš and Lea love each other.”

(76) Italian:

- a. *(A proposito di quei ragazzi) l'uno non condivide*
 As for DEM.PL guy.PL DEF=one NEG share.PRS.3.SG
le idee dell'altro
 DEF idea.PL of=DEF=other
- b. *Quei ragazzi non condividono le idee l'uno dell'altro*
 DEM.PL guy.PL NEG share.PRS.3.PL DEF idea.PL DEF=one of=DEF=other
 “The guys do not share each other’s ideas.”

An obvious difference is that the verbs in the (a) sentences are singular, while those in the (b) sentences are plural. I now highlight a structural difference between the constructions. Consider the syntactic differences between the various pronouns in Hebrew:

- (77) a. *odadnu_i et ha-ylad-im_j lelamed et ašmam_j*
 encourage.PST.1.PL ACC DEF-child-PL teach.INF ACC REFL.3.M.PL
matematika
 math
 “We encouraged the boys to teach themselves math.”
- b. *odadnu_i et ha-ylad-im_j lelamed otanu_i matematika*
 encourage.PST.1.PL ACC DEF-child-PL teach.INF ACC.1.PL math
 “We encouraged the boys to teach us math.”

- c. **odadnu_i* et *ha-ylad-im_j* *lelamed* et *ašmenu_i*
 encourage.PST.1.PL ACC DEF-child-PL teach.INF ACC REFL.1.PL
 matematika
 math
 Intended meaning: “We encouraged the boys to teach us math.”

As shown in these sentences, only the object of the main clause controls the object of the infinitive clause, requiring that it be a reflexive pronoun. This pronoun agrees in gender and number with its antecedent. Similarly, the following four sentences all have the same intended meaning, as illustrated by the English translation:

- (78) a. (*ha-*)*exad oded* et *ha-šeni* *lelamed*
 (DEF-)one.M encourage.PST.3.M.SG ACC DEF-second.M teach.INF
 et *ašmo* *matematika*
 ACC REFL.3.M.SG math
- b. *(*ha-*)*exad oded* et *ha-šeni* *lelamed*
 (DEF-)one.M encourage.PST.3.M.SG ACC DEF-second.M teach.INF
 et *ašmam* *matematika*
 ACC REFL.3.M.PL math
- c. *hem odedu* (*e*)*xad et ha-šeni* *lelamed et*
 they encourage.PST.3.PL one.M ACC DEF-second.M teach.INF ACC
ašmam *matematika*
 REFL.3.M.PL math
- d. **hem odedu* (*e*)*xad et ha-šeni* *lelamed*
 they encourage.PST.3.PL one.M ACC DEF-second.M teach.INF
 et *ašmo* *matematika*
 ACC REFL.3.M.SG math
 “They encouraged each other to teach themselves math.”

While the agreement in (78a) and the ungrammaticality of (78b) are expected, that (78c) is grammatical and (78d) is not is surprising, considering that the formal grammatical object of this sentence is *hašeni* “the second,” which is morphologically singular, as can also be seen in sentence (78a), and overtly it is the same form in (78a) and (78c). The object of the main clause in (78c) is plural and the plurality of the reflexive pronoun cannot be explained as a case of semantic agreement, since if this were the case, (78b) should also be grammatical, as semantically the sentences are equivalent.

Similar to (78a, c), in Italian each construction shows different agreement with respect to the number of the reflexive pronoun:

- (79) a. *L'uno ha incoraggiato l'altro ad insegnare a se stesso*
 DEF=one encourage.PST.3.SG DEF=other to teach.INF to REFL.3.SG

la matematica

DEF math

- b. *Si sono incoraggiati l'un l'altro ad insegnare*
 they REFL encourage.PST.3.PL DEF=one DEF=other to teach.INF
a se stessi la matematica
 to REFL.3.PL DEF math
 “They encouraged each other to teach themselves math.”

Relating this to the diachronic discussion in §4.3, we see that sentences (78c, 79b) clearly reflect stage III. In §4.3.2, I provided morphological evidence that the grammatical number of the one-unit anaphora is overtly plural, with agreement between the pronoun and its plural subject antecedent. Accordingly, the fact that the reflexive pronouns controlled by the reciprocal pronoun in Hebrew and Italian are plural indicates that these languages, despite their appearances, already have a one-unit construction at stage III. (The two-unit constructions, (75a) and (76a), are, in fact, marked for high register in both languages.)

Several more observations can be made. (Real two-unit constructions will be referred to as the a-sentences and frozen constructions as the b-sentences.) First, another formal difference between the two constructions is that in the regular pronunciation of the b-sentence, the first element *exad* “one.M” and *axat* “one.F” have elided forms without the initial vowel: *xad* and *xat* respectively, a unique pronunciation for pronominal uses of the cardinal number “one.” Similarly, the Italian pronominal expression *uno* elided and is expressed in this construction as *un*. According to the current analysis, the b-sentences represent stage III, and as such, it is only expected that this development would demonstrate the characteristics of univerbation (§4.3.1). Having in mind Halevy’s (2011) observation of prosodic univerbation (stress shift), these unique pronunciations of the cardinal number “one” (e.g., *exad* as *xad* and *l’uno* as *l’un*) exhibit a further manifestation of univerbation at the segmental level (phonological reduction).

Second, in Hebrew in the a-sentences that illustrate stage I, the first element, *exad*, usually appears with a definite article. In the b-sentences, however, a definite article before the first element sounds like an attempt to speak in a higher register, while the article before the second is mandatory (regardless of the semantics). Moreover, changes in case (accusative, or prepositions) appear only before the second element, *hašeni*:

- (80) a. *hem dibru exad al ha-šeni*
 they talk.PST.M.PL one.M about DEF-second.M
 b. **hem dibru ha-šeni al (ha-)exad/ al*
 they talk.PST.M.PL DEF-second.M on (DEF-)one.M on
 (ha)exad ha-šeni

(DEF-)one.M DEF-second.M
 “They talked about each other.”

- (81) a. *Le mie amiche parleranno l’un dell’altro*
 DEF POSS.1.M.SG friend.PL speak.FUT.3.PL DEF-one of=DEF=other
 b. **Le mie amiche parleranno l’altro dell’un*
 DEF POSS.1.M.SG friend.PL speak.FUT.3.PL DEF-one of=DEF=other
 “My friends will speak about each other.”

Third, the two elements in these constructions form a constituent and are inseparable. In Hebrew, the first element *exad* appears either before the case marker (*et* in the accusative) or a preposition. Thus, while the order of the arguments of a verb with three arguments, such as *natan* “he gave,” is usually free (82a), the two elements of the pronominal expression always come together (cf. 82b and 82c; for Italian, see Belletti 1982: 104).

- (82) a. *hem natnu sefer la-more/hem natnu la-more sefer*
 they give.PST.PL book to.DEF-teacher/they give.PST.PL to.DEF-teacher book
 “They gave a book to the teacher.”
 b. *hem natnu exad la-šeni sefer*
 they give.PST.PL one.M to.DEF-second.M book
 “They gave each other a book.”
 c. **hem natnu exad sefer la-šeni*
 they give.PST.PL one.M book to.DEF-second.M
 Intended reading: “They gave each other a book.” (This sentence is grammatical in the non-reciprocal reading: “one of them gave another.”)

Only in one case can another NP stand between the two components: if within a prepositional phrase there is another NP standing in a possessive relationship to the pronominal expression, then *exad* may appear right before the preposition, as in (83):

- (83) *šney ha-gis-im yad’u exad al ma’as-av*
 both DEF-brother.in.law-PL know.PST.PL one.M on deed-PL.POSS.3.M.SG
šel ha-šeni
 of DEF-second.M
 “The two brothers-in-law knew about the affairs of each other.”
 (<http://www.haaretz.co.il/news/law/1.1659732>)

Even in this case, however, it sounds as if (83) belongs to a higher register (as the use of the pronominal possessive suffix indicates as well), and therefore it is probably the adnominal possessive construction of the a-type. The standard construction would be as in (84) (for Italian, see Belletti 1982).

- (84) *ani ve-yadid šeli šiyarnu male male al ha-yaday-im*
 I and-friend POSS.1.SG draw.1.PL much much on DEF-hand-PL
exad šel ha-šeni
 one.M of DEF-second.M

“A friend of mine and I drew a lot on each other’s hands.”

(<http://www.stips.co.il/singleask.asp?stipid=480452>)

These observations lead us to the following preliminary conclusions concerning these constructions in Hebrew and Italian:

- (85) i. The pronominal expression is plural (as indicated by the verbal agreement and the control of agreement with reflexive pronouns).
 ii. The two parts of the pronominal expression form a constituent.
 iii. They show formal indications of univerbation (as indicated by the change of stress and by the elision in the first element: *exad* > *xad*, *uno* > *un*).
 iv. Only the second elements *hašeni*, *l’altro* are overtly associated with the grammatical relations of the sentence (as indicated by the location of cases and prepositions).

One can thus view the two elements, *exad ... hašeni/l’un ... l’altro*, as discontinuous sequences of one constituent (cf. Belletti 1982), whose cores are *hašeni* and *l’altro* (they receive case / the definite article / prepositions), with *exad/l’un* joining and losing their independence even at the phonological level. From a historical point of view, both languages experienced a similar, relatively covert development of a shift from a two-unit to a one-unit construction.

6. From one-unit to two-unit constructions

The above discussions follow the development of two-unit to one-unit constructions in various Semitic languages. This raises the question of whether there are similar developments in the opposite direction, from one-unit to two-unit constructions. A relevant example can be found in the idiolects of some speakers of the Jewish Neo-Aramaic of Arbel. While speakers of this dialect use *dixle* — the one-unit anaphora found in many of the Neo Aramaic dialects in the area — for some it is only the second component in a two-unit construction, where *xa* “one” is the first element:

- (86) *mxélu* *xá l-dixle*
 beat.PST.3.PL one TO-RECP
 “They beat one another.” (Khan 1999:223)¹³

How did this construction emerge? Without specific historical data, there are two possible explanations. On the one hand, the two-unit construction may have evolved from the addition of the first element *xa* to *dixle*, probably under the influence of Modern Hebrew, or this construction could be seen as a reflection of a very old phenomenon. For this hypothesis consider the following details, which are important for the reconstruction of this two-unit construction: 1) the one-unit anaphora in the NENA [=North Eastern Neo-Aramaic] dialects is historically related to the Syriac anaphora *ḥadādē* (15b), which in turn derives from *ḥadḥadē, a fusion of a repetition of *ḥad* “one” + an agreement marker; 2) the form *xa* is the cardinal number “one” in the NENA dialects. (The final /d/ of the Late Aramaic form of the cardinal number *ḥad* “one” apocopated.) Therefore, the two-unit construction consisting of *xa* and *dixle* may have resulted from a reanalysis of the components of the one-unit anaphora as a two-unit construction:

- (87) *ḥadḥadē > *xadxadē > *xadxalē > *xa dxalē > *xa dæxalē > *xa dixle*

The last developments are the expected phonological changes in classical Aramaic: 1) shortening of unstressed vowels and 2) addition of a short vowel in a sequence of two schwas. Regardless of whether the *xa dixle* pair is the result of an addition of *xa*, or a reanalysis of *xadixle, it nonetheless represents the unusual shift from a one-unit to a two-unit construction.

7. Conclusions

The goal of this paper was to present various answers to the broad historical question of how reciprocal constructions evolve. In order to answer this question it was crucial to distinguish between the one-unit and two-unit constructions, and then to demonstrate that the one-unit and the two-unit constructions are different in terms of their syntactic structure (§4.3).

13. Khan (1999) interviewed various informants and found a clear distinction between informant L and the others. L had a different background from the other informants (Khan, p.c.). He lived in Jerusalem and spoke Neo-Aramaic and Arabic, whereas others came from rural villages and spoke Neo-Aramaic and Kurdish. L was more influenced by Modern Hebrew (in one example, mentioned by Khan (example 85 above), *xá-l-dixle* was syntactically a one-unit construction for L).

I argued that there are two sources for the two-unit reciprocal constructions in Semitic: 1) a pre-grammaticalized nominal construction, and 2) an extension of a pronominal construction (§3). In addition it was demonstrated that the grammaticalizations of such constructions are better understood when considering them as denoting ‘unspecified relations’ (defined in §2).

As for the one-unit anaphors, there are two different processes for their developments: 1) in Indo-European languages there is a reanalysis of constructions with universal quantifiers (§3.2.3.1), and 2) in Semitic and in other languages as well this construction developed from a reanalysis of two-unit constructions denoting unspecified relations (§4.3). Although the result of both processes is the same, in (1) there is also a semantic shift (§3.2.3). The fact that different constructions develop into a similar strategy to express the unspecified relations naturally leads to the conclusion that the one-unit construction is a semantically independent strategy to express this function, regardless of its origin. The semantics of the one-unit construction, therefore, must be understood in its own right.

Furthermore, another conclusion from the data presented in this paper is that the one-unit anaphors, at least in Semitic, always developed from previous two-unit constructions. It would be interesting in further studies to examine whether in other languages there are anaphors that grammaticalize directly from nominal expressions without the intermediate stage of a two-unit construction.

Despite this direction of development, in §6 it became clear that while the change from two-unit to one-unit occurs more often, the opposite direction occurs as well. Considering the aforementioned need to explain the syntax and the semantics of the one-unit and the two-unit constructions separately, it is not surprising that the development can go in both directions, as each strategy has its own independent compositional way to express unspecified relations.

The possible non-Semitic parallels that were mentioned throughout the paper open the door to broader historical and typological work on these constructions.

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Résumé

Parmi les constructions réciproques des langues sémitiques il existe une division centrale entre deux types: 1) les constructions à deux composantes, chacune d'entre elles occupant une position argumentale différente; 2) les constructions à une composante, où celle-ci occupe une position non-sujet régie par le verbe et partage les traits de nombre pluriel avec le sujet. L'objectif de cet article est de comprendre le mécanisme du développement de ces constructions et de répondre aux questions suivantes: 1) comment ont évolué les différents sous-types de constructions à deux composantes? 2) Peut-on expliquer le développement de la construction à une composante à partir de celle à deux composantes à travers les changements diachroniques? La première question a déjà été abordée dans la littérature, visant la portée des stratégies conceptuelles qui ont tendance à se développer en marqueurs réciproques. Or, de telles descriptions n'expliquent pas comment les constructions ont acquis leurs sens spécifiques. Dans la présente communication je propose qu'il est essentiel de prendre en compte la sémantique de ces constructions afin de comprendre l'évolution des constructions sémitiques. Plus précisément, je proposerai qu'à la place de 'constructions réciproques' il est plus approprié de les considérer comme des constructions à 'relations non-spécifiées' (la sémantique exacte sera définie et formalisée dans la communication). Quant à la deuxième question, de multiples tentatives ont été faites auparavant pour expliquer de tels processus, se concentrant sur les langues indo-européennes. Or, ces propositions ne sont pas compatibles avec les langues sémitiques, et je proposerai donc une hypothèse alternative. Cette étude s'intéresse aux langues sémitiques, et comprend quelques démonstrations parallèles provenant d'autres familles de langues (notamment les langues indo-européennes). Celles-ci permettent de voir l'intérêt et les limites d'une étude typologique plus fouillée sur ce thème.

Zusammenfassung

Die semitische Sprachfamilie erlaubt für den Ausdruck von Reziprozität zwei grundsätzlich verschiedene Konstruktionstypen: 1) Zweiteilige Konstruktionen: Diese enthalten zwei Komponenten, welche je unterschiedliche Positionen in der Argumentstruktur des Verbs besetzen; 2) Einteilige Konstruktionen: Diese enthalten ein einziges Element, welches mit Pluralsubjekten koreferiert und die vom Prädikat selektierte nicht-Subjekt Position besetzt. Ziel dieser Arbeit ist es, anhand folgender Leitfragen die Entstehungsmechanismen dieser beiden Konstruktionen zu erforschen: 1) Wie entwickelten sich die verschiedenen Formen der zweiteiligen Konstruktionen? 2) Kann eine diachronische Verschiebung die Entwicklung von einteiliger hin zu zweiteiliger Konstruktion erklären? Auf die erste Frage wird in der Literatur vor allem in Hinblick darauf eingegangen, welche Elemente sich zu Reziprozitätsmarkern

entwickeln. Beschreibungen dieser Art erklären jedoch nicht, wie sich die spezielle Bedeutung der Konstruktionen entwickelt hat. Im vorliegenden Artikel wird die These vertreten, dass es für das Verständnis der Entstehung der semitischen Reziprok-Konstruktion wesentlich ist, auch deren Semantik zu berücksichtigen. Insbesondere wird argumentiert, dass die fraglichen Konstruktionen besser als 'unspezifizierte Relationen' anstatt als 'reziproke Konstruktionen' aufzufassen sind (eine genaue formale Semantik wird im Folgenden definiert). Hinsichtlich der zweiten Frage wurden bereits zahlreiche Versuche unternommen, die relevanten Prozesse zu analysieren, wobei der Schwerpunkt hier auf den indogermanischen Sprachen liegt. Diese Erklärungsversuche sind jedoch nicht auf das Semitische übertragbar, sodass in dieser Arbeit ein alternativer Erklärungsversuch unternommen wird. Obgleich die vorliegende Studie ihren Schwerpunkt auf die semitischen Sprachen legt, werden gelegentlich Parallelen zu anderen Sprachfamilien — hauptsächlich der indogermanischen — aufgezeigt. Zweck dieser gelegentlichen parallelen Betrachtungsweise ist es, auf die Möglichkeiten und Aussichten einer umfassenderen typologischen Studie hinzuweisen.

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